

Smith Kim

From: Smith Kim
Sent: Friday, 13 May 2011 5:52 PM
To: s.73 irrelevant information
Subject: RE: Extension notices for seismic amendments

That's fine. I've sent the extension notices through earlier.
Enjoy the field next week and I look forward to your comments on or before the 17th.

From: s.73 irrelevant information
Sent: Friday, 13 May 2011 5:50 PM
To: Smith Kim
CC: s.73 irrelevant information
Subject: RE: Extension notices for seismic amendments

Hi Kim,

My apologies, but I am unable to have full comments through this afternoon on the amendments as discussed.

Please accept this email as a formal request for DERM to extend the decision by 20 business days.

As discussed I will be working from the field next week however will have intermittent phone reception and will be on emails in the evening.

I will liaise with the necessary parties here to ensure that we provide you with the necessary information by Tuesday 17th. Apologies again on the delay with this, but I believe it is necessary to ensure we provide a complete response.

If there are any issues please don't hesitate to contact either s.73 irrelevant information or myself.

Hope you have a good weekend.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

Release

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]**Sent:** Friday, 13 May 2011 4:13 PM**To:** [redacted]
s.73 irrelevant information**Cc:** [redacted]
Subject: Extension notices for seismic amendments

[redacted]
Section 78B(2) RTI Act

I've extended the decision by an additional 20 business days for [redacted] ATP806, [redacted] and [redacted] as requested by QGC. The review and appeal guideline has been attached also for your reference.

<[redacted] s.73 irrelevant information
s.73 irrelevant information ATP806 OME EOT to 100611.pdf> [redacted] s.73 irrelevant information

<<is-bi-review-and-appeal-court[1].pdf>>

I'll await QGC's submission as discussed earlier today.

Thanks,

Kim

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

+-----+
Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water
+-----+

BG Energy Holdings Limited

Registered in England & Wales No: 3763515 Registered address:

100 Thames Valley Park Drive

Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

EHP RTI DL Release

Smith Kim

From: Smith Kim
Sent: Thursday, 12 May 2011 4:51 PM
To: s.73 irrelevant information
Cc: Nand Parma
Subject: RE: ATP 806 tracks in PPZ of Cat B ESA
Follow Up Flag: Follow up
Flag Status: Red

s.73 irrelevant information

I've talked this enquiry through with the delegate and ESA/GIS assessor. This request (upgrading access tracks in Cat B protection zones) and QGC's request to permit all petroleum activities in Cat C ESA protection zones cannot be supported by DERM without further information (types of infrastructure, impacts on EVs, ruling out other alternatives, GPS coordinates etc). DERM has historically inserted a table with GPS coordinates into the EA.

A pre-lodgement meeting would be recommended prior to any application being made so that DERM could provide advice on the likelihood of any approval and conditions.

s.73 irrelevant information

Thanks
Kim

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

From: s.73 irrelevant information
Sent: Thursday, 12 May 2011 1:55 PM
To: Smith Kim
Subject: RE: ATP 806 tracks in PPZ of Cat B ESA

Hi Kim,

I note that while I was discussing this with you I referenced ATP 806 EA, however after reading through the EA's again, I believe it would be beneficial to include this in the other amendments (ATP s.73 irrelevant information) you are progressing for us also. Is it possible to include this in those amendments also?

QGC requests that DERM includes a condition that permits access tracks within the primary protection zone of Category B ESA's? If the administering authority would prefer, this could apply only to Endangered Regional Ecosystems, in which case there would be justification for having the endangered regional ecosystems listed separately in the Environmentally sensitive area table in the EA's.

Can this exemption be applied to the Category C (excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves) ESA's also?

QGC propose that the table in the EA reads as follows:

Category B ESAs including 'Endangered' regional ecosystems	No petroleum activities other than seismic activities permitted.	No petroleum activities other than seismic and the construction of access tracks permitted.	Limited petroleum activities permitted subject to conditions 4A and 4B
Category C ESAs excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves	No petroleum activities other than seismic activities permitted.	No petroleum activities other than seismic and the construction of access tracks permitted	Limited petroleum activities permitted subject to conditions 4A and 4B

If DERM prefers, reference to further condition/s in the EA as follows could be included:

Condition 1

Where an access track is to be constructed within the primary protection zone of a Category B and/or Category C ESA (excluding 'Of Concern' regional ecosystems, state forests and Timber Reserves), the holder of this EA must be able to demonstrate that no reasonable or practical alternative exists and that any disturbance to land occurs only in the upgrading of existing access tracks within the primary protection zone or the construction of access tracks within previously disturbed areas within the primary protection zone.

Condition 2

Condition 1 does not authorise the construction of access through undisturbed areas within the primary protection zone.

I realise that DERM may propose alternate conditions to those suggested and welcome the opportunity to negotiate an acceptable outcome.

I look forward to your response.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]

Sent: Thursday, 12 May 2011 12:49 PM

Release

To: [redacted] irrelevant information

Subject: ATP 806 tracks in PPZ of Cat B ESA

s.73 irrelevant information can you please send me an email with the gist of your request (tracks is primary protection zones of cat b ESA) this morning so that I can file it with the amendment docs?

Thanks
Kim

Kimberley Smith

Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

+-----+
Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

+-----+

BG Energy Holdings Limited

Registered in England & Wales No: 3763515 Registered address:

100 Thames Valley Park Drive

Reading, Berkshire RG6 1PT UK

Telephone: +44 (0)118 935 3222

Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business,
BG

Energy Holdings Limited accepts no liability or responsibility for

Release

it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

EHP RTI DL Release

Release

Smith Kim**From:** Smith Kim**Sent:** Thursday, 7 April 2011 9:32 AM**To:** s.73 irrelevant information**Cc:** Nand Parma; Drew David**Subject:** RE: Extension notices and Draft conditions s.73 irrelevant information ATP806; s.73 irrelevant information

s.73 irrelevant information DERM notes that the new timeframe for QGC's comments in the 15th April, and yes there will probably be an additional extension notice required.

Thanks
Kim

From: s.73 irrelevant information**Sent:** Wednesday, 6 April 2011 3:45 PM**To:** Smith Kim**Cc:** s.73 irrelevant information**Subject:** RE: Extension notices and Draft conditions s.73 irrelevant information ATP806; s.73 irrelevant information

Hi Kim,

Thanks for sending the draft EA's and notices through.

Due to some important stakeholders being out of the office and unable to provide comments until next week I will have to request that you extend the review timeframe for the draft EA's to 15th April. I understand this may require the decision date for these applications to be further extended.

Please let me know if there are any issues with this.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]**Sent:** Tuesday, 5 April 2011 4:24 PM**To:** s.73 irrelevant information**Cc:** s.73 irrelevant information**Subject:** Extension notices and Draft conditions s.73 irrelevant information ATP806; s.73 irrelevant information

s.73 irrelevant information

I've attached extension notices and appeal rights for the referenced ATP amendment applications.

If QGC responds to the draft conditions by Monday, the EAs should be issued next week.

Thanks

Kim

s.73 irrelevant information

<<EOT to 20_4_11 ATP806 OME.pdf>>

s.73 irrelevant information

s.73 irrelevant information

> <<is-bi-review-and-appeal-court[1].pdf>>

From: Smith Kim

Sent: Friday, 1 April 2011 4:42 PM

To:

s.73 irrelevant information

Cc:

Subject: Draft noise conditions s.73 irrelevant information ATP806; s.73 irrelevant information

Section 78B(2) RTI Act

Please review the attached draft EA conditions and provide written comments by 8 April 2011 (please advise if more time is required) as follows:

- a) agree with the proposed conditions; or
- b) disagree with the proposed conditions; and
- c) support (b) with reasons."

I have tried to make the conditions as standard as possible across all 4 EAs. The delegate has also requested that QGC have the most current noise conditions for Level 2 petroleum activities. I have attached these conditions as an addendum and would appreciate QGC's comments in the same format as above.

I will forward extension notices next week to allow for the review and negotiation of conditions after you have provided feedback on the approximate time required to review them.

New or changed conditions are highlighted in grey, deleted conditions are shown in strikethrough.

s.73 irrelevant information

s.73 irrelevant information

<< File: Draft Conditions - ATP806 OME.doc >>

s.73 irrelevant information

s.73 irrelevant information

<< File: Noise and Vibration Conditions.doc >>

Thanks

Kim

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

Release

GPO Box 2454, Brisbane, QLD 4001.

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Limited
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Mr [irrelevant information]

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Limited on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 10 business days from 06 April 2011 to a revised decision date of **20 April 2011**.

The extension of time is required for the following reason(s)

- To allow the administering authority and OME Resources Australia Pty Limited time to negotiate environmental authority conditions; and
- To allow the administering authority time to decide the application.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this Notice. This information is intended as a guide only. You may have other legal rights and obligations.

Notice

Notice of extension of decision period

Should you have any queries in relation to this Notice, Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 33390 5609 would be able to assist you.

sch4p4(6) Personal information

Signature

05 APRIL 2011

Date

Parma Nand

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. **(07) 3330 5609**
Fax. (07) 3330 5634

Smith Kim

From: Smith Kim
Sent: Friday, 3 June 2011 4:41 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.
Attachments: Negotiation of Contaminant Release_Veg and Fill conditions.doc

Hi [REDACTED]

I've attached the next round of negotiations for your review.

As discussed, the stimulation condition/s negotiations will need to be reopened if QGC doesn't wish to accept the no contaminant release to waters. The wording of this condition avoids the need for the "no stimulation" condition, leaves it open for an amendment application for stimulation in the future, and will enable QGC to start undertaking the seismic program ASAP.

We'll discuss next week no doubt. [REDACTED] but will be in first thing Tuesday.

Thanks
Kim

From: [REDACTED]
Sent: Thursday, 2 June 2011 8:56 AM
To: Smith Kim
Cc: [REDACTED]
Subject: RE: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi Kim,

Thank you for the response.

There are still some changes that are requested below.

I have included a word document with the conditions with comments included. Further to that I provide the following additional justification/ comments:

- On a number of other EA's held by QGC the adaption of conditions similar to that provided in my previous request has been accepted. Can DERM please consider accepting the re-worded condition 24B as proposed in the attached document? Can you also please confirm that these conditions only apply to ATP 806, 769 and 758, as the conditions for ATP 811 and ATP 688 already included a condition similar to the proposed, and were not requested to be changed?
- For these EA's the complete exclusion of 'clearing vegetation and placement of fill' in the listed circumstances is seen as potentially excessively restrictive to business activities that could be undertaken. The wording of condition 24B (a) where any disturbance in these areas is entirely precluded has the potential to impact limited petroleum activity placement, including but not limited to access roads (however, well and camp sites, as well as other infrastructure could also be affected).
- As an example, the placement of an access track through a stand of vegetation, even if an existing landholder track goes through this area, would appear to possibly breach this condition (24B (a)). i.e.

the removal of any further vegetation for widening could reduce the ecological connectivity further even though there was likely already a low level of ecological connectivity. When placing infrastructure on properties that are sized in the 1000's of acres it is often not always possible to have an access track that will not have to cut through vegetation on the property.

- Often to suit both landholder needs and limit additional disturbance on properties, QGC prefers to use existing access tracks.
- I believe that "potential impacts associated with edge effects" is a statement that could prove difficult to demonstrate compliance with when it would be considered a breach of the condition that there was an increase in 'potential' impacts. How would DERM describe an increase in "potential impacts"
- I have also proposed changes to the erosion and sediment control plan structure proposed. These tenements are focused on exploration (i.e. they are all ATP's), and as such activities in this phase of the exploration are spread out across the tenement; hence some aspects of the plan need not apply to all areas.
- Additionally I propose that condition 24C is changed to have the plan required to be submitted to DERM within 60 days from the date of grant of this EA or following the commencement of activities (whichever is later). This is primarily to allow QGC time to prepare this plan for any existing activities that may trigger the requirement of this plan.

Further to your second email provided yesterday afternoon:

The proposed condition: "Contaminants must not be directly or indirectly released to land or waters except as permitted under this environmental authority," is not accepted for any of the EA's being amended. QGC request that this is changed to include serious or material environmental harm in this condition. The proposed condition to be included is: "Contaminants that are likely to cause serious or material environmental harm, must not be released directly or indirectly to land or waters except as permitted under this environmental authority."

The justification for requesting this re-wording is that where the proposed wording by DERM is applied to field situations, then in the event that one drop of oil falls from a vehicle it could be considered to be non-compliance. This is why serious or material environmental harm should be included to permit a practical approach to the release of contaminants.

Please don't hesitate to contact me if you have any queries with this.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]

Sent: Tuesday, 31 May 2011 1:06 PM

To: [irrelevant information]

Subject: FW: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

s.73 [irrelevant information]

Can you please provide your comments/acceptance of DERM's proposed conditions below which have been drafted to address QGC's concerns. The initial statement has not been changed as ecosystem functioning must be protected.

The E&SCP has been included to ensure that appropriate controls are put in place where dispersible soils will be disturbed.

I'm finalising the EAs today, with the outlook of having them signed off tomorrow if QGC accepts the conditions below.

Thanks

Kim

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils to the greatest practicable extent;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Condition 24 C

An Erosion and Sediment Control Plan which has been **certified** by a **suitably qualified person** must be developed and submitted to DERM prior to the commencement of a petroleum activity(ies) involving the clearing of vegetation or placement of fill on dispersible soils or highly erodible soils in accordance with condition 24B(b).

Condition 24 D

The Erosion and Sediment Control Plan must include but not necessarily be limited to:

- (a) managing and / or diverting uncontaminated stormwater run-off around areas disturbed by the petroleum activity(ies) or where contaminants or wastes are stored or handled that may contribute to contamination of waters;
- (b) ensuring that contaminated stormwater runoff and incident rainfall is collected, treated, reused, or released in accordance with the conditions of this environmental authority;

- (c) roofing or minimising the size of areas where contaminants or wastes are stored or handled;
- (d) revegetating disturbed areas as soon as practicable after the completion of works;
- (e) using materials and or processes (e.g. dry absorbents) to clean up spills that will minimise contamination of waters;
- (f) placing erosion and sediment control structures to minimise erosion of disturbed areas and prevent the contamination of waters;
- (g) an inspection and maintenance program for the erosion and sediment control measures;
- (h) provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from November to April;
- (i) additional erosion and sediment control measures for construction of wells and pipelines on slopes >10%;
- (j) a surface water monitoring program designed to detect impacts from sediment runoff into waters;
- (k) identification of remedial actions required to ensure compliance with the conditions of this environmental authority; and
- (l) details of community consultation strategies and processes to be used in further developing and implementing the Erosion and Sediment Control Plan.

Condition 24 E

The holder of this environmental authority must implement the Erosion and Sediment Control Plan.

Condition 24 F

A copy of the Erosion and Sediment Control Plan must be made available to any potentially affected landholders upon request by that landholder.

From: s.73 irrelevant information
Sent: Wednesday, 25 May 2011 1:33 PM
To: Smith Kim
Cc: s.73 irrelevant information
Subject: RE: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi Kim,

Thank you for fast tracking these amendments and agreeing to pursue the other conditions not related to the seismic project separately.

I have reviewed the EA's and have a final comment/ change request included in the attached s.73 irrelevant information however anticipate that the changes will reflect what is negotiated in the attached EA's.

The change requested is to Condition 24B from ATP 806 EA (different condition numbers in other EA's). I suggest that the opening line to this condition is changed from: "The holder of this environmental authority must not clear vegetation or place fill:" to "The holder of this environmental authority must consider whether it is feasible to avoid clearing, and where viable alternatives exist, must not clear vegetation or place fill:"

The main justification behind this request is that in some areas there is no alternative but clear or place fill on areas that have dispersible soils. This is because dispersible soils can be prevalent in the areas of these tenements and it often becomes near impossible to avoid them at some locations.

Can you please let me know if DERM will agree to this change to the EA's?

s.73 irrelevant information

If you need anything further please let me know.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]

Sent: Friday, 20 May 2011 3:03 PM

To: s.73 irrelevant information

Cc: Nand Parma; Drew David

Subject: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi s.73 irrelevant information

Please find the draft conditions for OME Resources Australia Pty Ltd's seismic amendment for the abovementioned ATPs. I have inserted negotiated conditions from s.73 irrelevant information into these EAs as previously discussed.

<<Rev 4 Draft Conditions - ATP806 OME.doc>> <<s.73 irrelevant information

DERM can finalise these amendments promptly once QGC has provided their acceptance of the draft conditions.

The stimulation component will be addressed through correspondence separate to the seismic amendment process in due course.

Thanks
Kim

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

+-----+
Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water
+-----+

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils to the greatest practicable extent;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Comment [ks1]: DERM believes the term "significantly" adequately provides for the upgrading of existing tracks without breaching this conditions. Simply widening a track would not significantly increase impacts on vegetation/threatening processes. DERM can assess individual cases if there are specific areas where tracks will be upgraded and cause a significant impacts specific to the the listed items.

Comment [ks2]: Deleted "potential" to address QGC's concerns

Comment [ks3]: Condition split so that it does not restrict activities conducted prior to this new EA. Also refer to condition 24G and 24H

Condition 24 C

An Erosion and Sediment Control Plan which has been **certified** by a **suitably qualified person** must be developed and revised:

- (a) prior to the commencement of a petroleum activity(ies) involving the clearing of vegetation or placement of fill on dispersible soils or highly erodible soils; and
- (b) by XXXX [date 60 days from date of grant] for existing petroleum activity(ies) involving clearing of vegetation or placement of fill on dispersible soils or highly erodible soils.

Condition 24 D

The Erosion and Sediment Control Plan must include but not necessarily be limited to:

- (a) managing and / or diverting uncontaminated stormwater run-off around areas disturbed by the petroleum activity(ies) or where contaminants or wastes are stored or handled that may contribute to contamination of waters;
- (b) ensuring that contaminated stormwater runoff and incident rainfall is collected, treated, reused, or released in accordance with the conditions of this environmental authority;
- (c) roofing or minimising the size of areas where contaminants or wastes are stored or handled;
- (d) revegetating disturbed areas as soon as practicable after the completion of works;
- (e) using materials and or processes (e.g. dry absorbents) to clean up spills that will minimise contamination of waters;
- (f) placing erosion and sediment control structures to minimise erosion of disturbed areas and prevent the contamination of waters;
- (g) an inspection and maintenance program for the erosion and sediment control measures;
- (h) provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from November to April;
- (i) additional erosion and sediment control measures for construction of wells and pipelines on slopes >10%;
- (j) a surface water monitoring program designed to detect impacts from sediment runoff into waters;
- (k) identification of remedial actions required to ensure compliance with the conditions of this environmental authority; and
- (l) details of strategies and processes to be used in further developing and implementing the Erosion and Sediment Control Plan.

Comment [ks4]: DERM believes all of these points are relevant to a E&SCP for activities in areas of dispersive soils. The plan is just requiring QGC to identify where E&SC measures are required and where they need to be implemented (i.e. in locations where there is the potential for environmental harm). Remoteness doesn't remove the need to put environmental controls in place.

Comment [ks5]: Changed as requested.

Condition 24 E

The holder of this environmental authority must implement the Erosion and Sediment Control Plan.

Condition 24 F

A copy of the Erosion and Sediment Control Plan must be made available to any potentially affected landholders upon request by that landholder.

Condition 24 G

A copy of the initial Erosion and Sediment Control Plan must be submitted to DERM for review prior to the commencement of new activity(ies) or XXXX [date 60 days of the date of grant of this EA] (whichever is sooner)

Condition 24H

A copy of the Erosion and Sediment Control Plan must be submitted to DERM at any time upon request.

Contaminant Release

Comment [ks6]: This condition has been split into 2

Condition 27 (ATP688) / Condition 22 (ATP811)

Contaminants that are likely to cause environmental harm must not be directly or indirectly released to land.

Comment [ks7]: Using "environmental harm" as the trigger will remove incidental non compliances such as oil drops from a car.

Condition 27B / Condition 22B

Contaminants must not be directly or indirectly released to waters except as permitted under this environmental authority.

Comment [ks8]: Michael, as discussed, DERM will only authorise release of contaminants to waters if they are provided for elsewhere in the EA. IF QGC does not wish to accept this condition, the stimulation conditions will need to be negotiated as part of this amendment.

Release

Smith Kim

From: [REDACTED] s.73 irrelevant information

Sent: Wednesday, 1 June 2011 5:34 PM

To: Smith Kim

Subject: RE: ATP Amendments

Hi Kim,

Thanks, I will get through the comments to the five EA's tomorrow morning.

Cheers,

s.73 irrelevant information [REDACTED]

(
(
EHP RTI DL Release
s.73 irrelevant information

s.73 irrelevant information

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has

been transmitted.

Smith Kim

From: Belford Jim
Sent: Wednesday, 1 June 2011 1:54 PM
To: Smith Kim
Subject: Re: QGC - Level 2 EAs - Frac pond /frac issues

Thanks Kim.

From: Smith Kim
Sent: Wednesday, June 01, 2011 01:21 PM
To: Belford Jim
Subject: RE: QGC - Level 2 EAs - Frac pond /frac issues

Hi Jim,

FYI

Anne thinks we should send a letter or s451 to QGC in the first instance to give them the opportunity to cooperate. She recommended the s451 reason state "its relevant to administration and enforcement of the EP Act and QGC's EAs" as it is merely an information gathering exercise at this stage. If QGC don't submit the info, we then issue the s451 to the contractors as she doesn't believe that the contractors will be incriminated by providing the info.

She also agreed to request 6month fracing schedule from QGC.

Parma or Ahmad can sign off on that corro so you're off the hook.

Cheers
Kim

From: Nand Parma
Sent: Monday, 23 May 2011 9:30 AM
To: Smith Kim
Cc: Drew David
Subject: FW: QGC - Level 2 EAs - Frac pond /frac issues

FYI and noting for future actions as discussed.

Regards
Parma Nand
Team Leader
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5616
Facsmile No: (07) 3330 5634
Email: parma.nand@derm.qld.gov.au
www.derm.qld.gov.au
Department of Environment and Resource Management
GPO Box 2454, Brisbane, QLD 4001.

From: Belford Jim
Sent: Thursday, 19 May 2011 2:54 PM
To: Spalding Rob; Heiner Ian
Cc: Brier Andrew; Harycki Kim; Paton Wendy; Nand Parma; Loveday Chris; Arnold Don; Donohue Ed; Evans

Mark; Wells Melissa; Hill Chris

Subject: QGC - Level 2 EAs - Frac pond /frac issues

Rob / Ian,

FYI, yesterday the P/G unit flagged with me that QGC want level 2 EAs to authorise the construction and establishment of frac ponds. Essentially QGC have submitted amendment applications to the P/G Unit asking that the definition of 'limited petroleum activities' be altered to incorporate the construction / use of frac ponds.

What the P/G unit have rightfully done is to question why QGC would want frac ponds without any EA conditions which specifically authorises fracing activities (these particular EAs are silent on specific fracing conditions).

In DERM's reply to QGC (re 'limited petroleum activities' definition and QGC's frac pond intentions), DERM has put forward to QGC, draft fracing conditions. The rationale is simply: why would DERM accept the conditioning of frac ponds, and then not condition fracing activity and conversely, why would QGC want frac ponds without actually fracing.

Basically, DERM has declined QGC's amendment application relating to frac ponds, without correspondingly including specific fracing conditions. QGC have 'refuted - disagreed' with this course of action.

P/G intention is to send QGC a letter encompassing:

- s 451 notice to QGC - requesting information on who their fracing contractors are.
- Thereafter receiving that info, submit a s 451 notice to those identified fracing contractors as to time/date/place they have fraced on QGC tenures for these specific EAs (this may potentially provide information that QGC have undertaken fracing activities when / where they are not authorised to do so - this would likely generate follow on compliance/enforcement action)
- The letter would also advise QGC that DERM may conduct proactive unannounced inspections of their fracing activities in general.

It is also likely that this process (s 451) may be replicated for other CSG proponents.

In relation to our work, the P/G in their letter to QGC, will reference the fact that DERM can undertake compliance audits of fracing activities. This may influence which fracing activities we want to proactively inspect, depending on the information gained from the s 451 process.

The intention to frac notification form, that DEEDI forward to DERM for information, is also likely to guide they way in which we proactively inspect fracing activities.

I have asked Parma to keep us informed of correspondence etc where compliance is mentioned / used / planned for these matters.

For your general information also, the tenures/ EA's which relate to these specific QGC matters are;

s.73 irrelevant information

PEN200013707, ATP 806

s.73 irrelevant information

Cheers,
Jim

Jim Belford

Director, LNG Enforcement Unit
Regional Service Delivery

Telephone: (07) 33305577 **Facsimile:** (07) 3330 5634 **Mobile:** (6) Personal information

www.derm.qld.gov.au

Department of Environment and Resource Management

Level 7 of 400 George St, Brisbane
GPO Box 2454, Brisbane, Qld, 4001

EHP RTI DL Release

Smith Kim

From: Smith Kim

Sent: Tuesday, 31 May 2011 1:06 PM

To: s.73 irrelevant information

Subject: FW: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

s.73 irrelevant information

Can you please provide your comments/acceptance of DERM's proposed conditions below which have been drafted to address QGC's concerns. The initial statement has not been changed as ecosystem functioning must be protected.

The E&SCP has been included to ensure that appropriate controls are put in place where dispersible soils will be disturbed.

I'm finalising the EAs today, with the outlook of having them signed off tomorrow if QGC accepts the conditions below.

Thanks

Kim

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils to the greatest practicable extent;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Condition 24 C

An Erosion and Sediment Control Plan which has been **certified** by a **suitably qualified person** must be developed and submitted to DERM prior to the commencement of a petroleum activity(ies) involving the clearing of vegetation or placement of fill on dispersible soils or highly erodible soils in accordance with condition 24B(b).

Condition 24 D

The Erosion and Sediment Control Plan must include but not necessarily be limited to:

- (a) managing and / or diverting uncontaminated stormwater run-off around areas disturbed by the petroleum activity(ies) or where contaminants or wastes are stored or handled that may contribute to contamination of waters;
- (b) ensuring that contaminated stormwater runoff and incident rainfall is collected, treated, reused, or released in accordance with the conditions of this environmental authority;
- (c) roofing or minimising the size of areas where contaminants or wastes are stored or handled;
- (d) revegetating disturbed areas as soon as practicable after the completion of works;
- (e) using materials and or processes (e.g. dry absorbents) to clean up spills that will minimise

Release

contamination of waters;

- (f) placing erosion and sediment control structures to minimise erosion of disturbed areas and prevent the contamination of waters;
- (g) an inspection and maintenance program for the erosion and sediment control measures;
- (h) provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from November to April;
- (i) additional erosion and sediment control measures for construction of wells and pipelines on slopes >10%;
- (j) a surface water monitoring program designed to detect impacts from sediment runoff into waters;
- (k) identification of remedial actions required to ensure compliance with the conditions of this environmental authority; and
- (l) details of community consultation strategies and processes to be used in further developing and implementing the Erosion and Sediment Control Plan.

Condition 24 E

The holder of this environmental authority must implement the Erosion and Sediment Control Plan.

Condition 24 F

A copy of the Erosion and Sediment Control Plan must be made available to any potentially affected landholders upon request by that landholder.

From: [redacted] s.73 irrelevant information

Sent: Wednesday, 25 May 2011 1:33 PM

To: Smith Kim

CC: [redacted] s.73 irrelevant information

Subject: RE: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi Kim,

Thank you for fast tracking these amendments and agreeing to pursue the other conditions not related to the seismic project separately.

I have reviewed the EA's and have a final comment/ change request included in the attached. I note I did not receive a copy of the [redacted] s.73 irrelevant information however anticipate that the changes will reflect what is negotiated in the attached EA's.

The change requested is to Condition 24B from ATP 806 EA (different condition numbers in other EA's). I suggest that the opening line to this condition is changed from: "The holder of this environmental authority must not clear vegetation or place fill:" to "The holder of this environmental authority must consider whether it is feasible to avoid clearing, and where viable alternatives exist, must not clear vegetation or place fill:"

The main justification behind this request is that in some areas there is no alternative but clear or place fill on areas that have dispersible soils. This is because dispersible soils can be prevalent in the areas of these tenements and it often becomes near impossible to avoid them at some locations.

Can you please let me know if DERM will agree to this change to the EA's?

[redacted] s.73 irrelevant information

If you need anything further please let me know.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]

Sent: Friday, 20 May 2011 3:03 PM

Top 73 irrelevant information

Cc: Nand Parma; Drew David

Subject: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Section 78B(2) RTI Act

Please find the draft conditions for OME Resources Australia Pty Ltd's seismic amendment for the abovementioned ATPs. I have inserted negotiated conditions from [redacted] into these EAs as previously discussed.

<<Rev 4 Draft Conditions - ATP806 OME.doc>> <s.73 irrelevant information

DERM can finalise these amendments promptly once QGC has provided their acceptance of the draft conditions.

The stimulation component will be addressed through correspondence separate to the seismic amendment process in due course.

Thanks
Kim

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

+-----+

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

s.73 irrelevant information

EHP RTI DL Release

s.73 irrelevant information

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]

Sent: Thursday, 12 May 2011 5:18 PM

To: s.73 irrelevant information

Cc: Broadfoot Angus; Nand Parma

Subject: s.73 irrelevant information for conditions

Importance: High

s.73 irrelevant information please find Rev 3 of draft EA conditions for s.73 irrelevant information. As the remaining 4 EA amendment applications are now at a stage where all changes will be identical, is QGC happy to comment on this draft EA and I will apply those negotiations to the other 4 EAs s.73 irrelevant information ATP806 s.73 irrelevant information? Alternatively, I can edit the other documents and provide a draft for each of them for QGC to comment on.

I have also attached an addendum which includes conditions relevant to stimulation as per conversations with Parma Nand and in accordance with section 312E (2K) and (2L).

Thanks and have a good night,
Kim

Kimberley Smith

Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

From: s.73 irrelevant information
Sent: Tuesday, 10 May 2011 4:32 PM
To: Smith Kim
Cc: s.73 irrelevant information
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions

Hi Kim,

Following on from the below email please find attached the draft conditions with comments from QGC for ATP 806 s.73 irrelevant information

As indicated below; could you please provide QGC with the amended/ reviewed draft conditions for review prior to any finalisation of the EA's?

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: s.73 irrelevant information
Sent: Tuesday, 10 May 2011 3:34 PM
To: Smith Kim
Cc: s.73 irrelevant information
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions

Hi Kim,

Please find attached the draft conditions for (s.73 irrelevant information) with QGC's proposed amendments/ changes included in the document. Where applicable QGC has acknowledged that some changes requested will not be included by DERM, and this is noted in the document.

There are some further changes that have been proposed and QGC is eager to work with DERM to come to acceptable solutions to these requests.

I am working on putting these comments into the additional draft EA's for ATP 806 (s.73 irrelevant information) and will forward these through to you in separate emails.

Can you please review the proposed changes to the conditions, and notify QGC of DERM's proposed action in regards to the amended conditions?

Could you please provide QGC with the amended/ reviewed draft conditions for review prior to any finalisation of the EA?

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]
Sent: Wednesday, 4 May 2011 4:16 PM
To: (s.73 irrelevant information)
Cc: Broadfoot Angus; Drew David
Subject: Seismic Amendment - DERM Rev 2 Draft Conditions
Importance: High

Hi (s.73 irrelevant information)

I have been working on the draft conditions for the Level 2 amendments (s.73 irrelevant information) ATP806 & (s.73 irrelevant information)

I've attached DERM's Rev 2 Draft Conditions for (s.73 irrelevant information) for QGC to review. I haven't had a chance to make these edits within the other EAs but they are all very similar. I've discussed QGC's proposed changes with the delegate. Some changes have been accepted/partially accepted/or rejected. I have included comments on these conditions.

The conditions still being negotiated/not agreed on have remained highlighted for ease of reference. Conditions which have been agreed upon aren't highlighted in this revision.

The remaining contentious points which the delegate has not agreed to are:

Release

- wells within the Cat Bs or protection zones, or overlapping ESAs/protection zones;
- removal of terms "primary and secondary protection zones". (Sorry, but I've talked to our model conditions people and it looks like these terms are here to stay. I have put the ESA requirements into a table though.)
- Offsets are required of level 2's now.

I will send the others through as soon as I have made the changes.

s.73 irrelevant information

Can you please give me an indication of how long QGC will need to review and comment on the changes?

Thanks

Kim

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

BG Energy Holdings Limited

Registered in England & Wales No: 3763515 Registered address:

100 Thames Valley Park Drive

Reading, Berkshire RG6 1PT UK

Telephone: +44 (0)118 935 3222

Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

Release

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

EHP RTI DL Release

Smith Kim

From: Smith Kim
Sent: Friday, 15 July 2011 10:34 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Notices of Extension from 13/07/11.

Attachments: [REDACTED]
[REDACTED] Notice Ext PEN200013707.pdf;
[REDACTED] Notice Ext Amend .pdf; is-bi-review-and-appeal-court.pdf

Hello [REDACTED]

Please find the extension notices for the 5 level 2 amendments and [REDACTED]

The review and appeal guideline is also attached.

Thanks
Kim

Kimberley Smith

Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au
Department of Environment and Resource Management
GPO Box 2454, Brisbane, QLD 4001.

[REDACTED]
s.73 irrelevant information



Notice Ext
(PEN200013707.pdf)

[REDACTED]
s.73 irrelevant information



[REDACTED]
s.73 irrelevant information

is-bi-review-and-appeal-court....

Smith Kim

From: Smith Kim
Sent: Friday, 29 July 2011 4:05 PM
To: s.73 irrelevant information
Subject: Current QGC applications - Extension notices

Attachments: s.73 irrelevant information EOT ATP806.pdf; s.73 irrelevant information
s.73 irrelevant information

s.73 irrelevant information



s.73 irrelevant information

s.73 irrelevant information

s.73 irrelevant information

Please find extension notices for ATP806, s.73 irrelevant information The decision date has been extended by 5 business days as agreed.

I haven't received any of the comments for these EAs as yet, s.73 irrelevant information but it would be great to have these by Tuesday morning.

Have a good weekend.

Thanks
Kim

Smith Kim

From: Smith Kim
Sent: Friday, 6 May 2011 4:09 PM
To: s.73 irrelevant information
Cc: Broadfoot Angus
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions
Follow Up Flag: Follow up
Flag Status: Red
Attachments: s.73 irrelevant information
s.73 irrelevant information; EOT ATP806 to 130511.pdf; s.73 irrelevant information
s.73 irrelevant information

s.73 irrelevant information

I've attached extension notices and the review/appeal provisions for ATP806, s.73 irrelevant information
s.73 irrelevant information seismic amendment applications. I'll wait for QGC's comments on Tuesday, and hopefully we'll be in
a position to grant the approvals by Friday next week.

s.73 irrelevant information

Hope you have a good weekend.
Kim

From: s.73 irrelevant information
Sent: Thursday, 5 May 2011 8:48 AM
To: Smith Kim
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions

Hi Kim,

Thank you for providing the revised draft conditions. I will review these, however as I am in training for the rest of today and Friday, I will endeavour to have comments back to you by Tuesday 10th May if this is acceptable?

I understand this will result in a further extension of time notice for these amendments.

Please let me know if there are any issues with this.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]
Sent: Wednesday, 4 May 2011 4:16 PM
To: [REDACTED]
Cc: [REDACTED] Broadfoot Angus; Drew David
Subject: Seismic Amendment - DERM Rev 2 Draft Conditions
Importance: High

s.73 irrelevant information

I have been working on the draft conditions for the Level 2 amendments [REDACTED] ATP806 &

s.73 irrelevant information

s.73 irrelevant information

The conditions still being negotiated/not agreed on have remained highlighted for ease of reference. Conditions which have been agreed upon aren't highlighted in this revision.

The remaining contentious points which the delegate has not agreed to are:

- wells within the Cat Bs or protection zones, or overlapping ESAs/protection zones;
- removal of terms "primary and secondary protection zones". (Sorry, but I've talked to our model conditions people and it looks like these terms are here to stay. I have put the ESA requirements into a table though.)
- Offsets are required of level 2's now.

I will send the others through as soon as I have made the changes.

<<Rev 2 Draft Conds [REDACTED] doc>>

Can you please give me an indication of how long QGC will need to review and comment on the changes?

Thanks

Kim

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

+-----+
Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water
+-----+

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Limited
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Mr [redacted] irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Limited on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 5 business days from 06 May 2011 to a revised decision date of **13 May 2011**.

The extension of time is required for the following reason(s)

- To allow OME Resources Australia Pty Limited's time to comment on draft Environmental Authority conditions; and
- To allow the administering authority sufficient time to make a properly informed decision on the application.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Notice

Notice of extension of decision period

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.

sch4p4(6) Personal information

Signature

06/05/2011

Date

Parma Nand

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634

EHP RTI DL RE

Smith Kim

From: Smith Kim
Sent: Wednesday, 13 July 2011 9:37 AM
To: s.73 irrelevant information
Cc: s.73 irrelevant information
Subject: RE: QGC, s.73 irrelevant information
Attachments: Rev 5 Draft Conditions - ATP806 OME.doc

s.73 irrelevant information

I have attached the draft for ATP806 as requested.

DERM can extend by another 10bds as requested by QGC, and I'll forward them this week.

Thanks
Kim

From: s.73 irrelevant information
Sent: Tuesday, 12 July 2011 1:27 PM
To: Drew David; Smith Kim
Cc: s.73 irrelevant information
Subject: RE: QGC, s.73 irrelevant information

Hi David/ Kim,

My next email was going to be to Kim about these.

I will be working on a response to the 5 x level 2 EA amendments. However, to assist in this are you able to provide me with a current EA draft for ATP 806 (with **all** conditions as DERM proposes to include) so I can look at the proposed conditions and respond accordingly. As we have done in the past, I am happy to work off one EA for these amendment applications with a view to incorporating changes agreed upon into the other EA's.

s.73 irrelevant information

To allow appropriate time to complete this I request that a further extension of time is applied to the decision date for the applications over ATP s.73 irrelevant information 806 s.73 irrelevant information. Can this extension please be for a period of 10 business days?

Please note that I am out of the office on site from this afternoon, and will be back in the office on Thursday 14th morning.

If there are any issues with this please let me know. I will look to update you on our progress with the response on Friday.

Kind Regards,

s.73 irrelevant information

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

s.73 irrelevant information

Release

s.73 irrelevant information

EHP RTI DL Release

Release



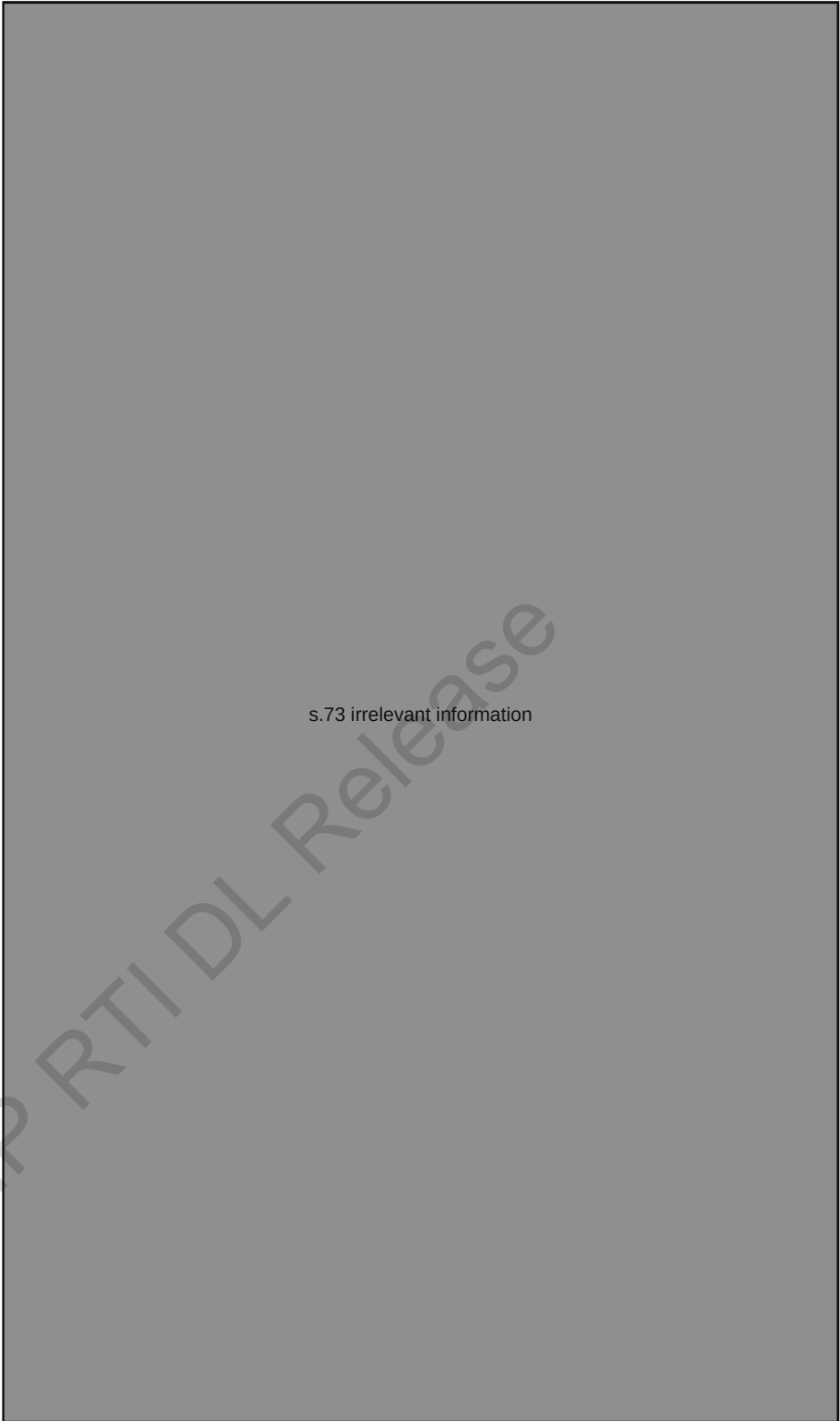
s.73 irrelevant information

Release

s.73 irrelevant information

EHP RTI DL Release

Release



s.73 irrelevant information

EHP RTI DL Release

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under Section 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD
ACN: 100 280 662

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: ☒ July 2011

Deleted: May

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*;
- The contaminated land provisions of the *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992*;
- *Forestry Act 1959*;
- *Water Supply (Safety and Reliability) Act 2008*; and
- *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A General Conditions

Appendix A Definitions

Appendix B Environmentally Sensitive Areas

Appendix C Criteria for environmentally relevant containment facilities

Comment [ks1]: DERM has an up to date guideline outlining rehabilitation costs so Appendix D is not required.

Deleted: Appendix D Schedule of Rehabilitation Costs

Schedule A- General Conditions

Condition 1 – Significant disturbance

The holder of this environmental authority must ensure that petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time.

Condition 2 – Work Program, Development Plan

The applicant for or holder of the environmental authority must submit to the administering authority a copy of the original or any amended work program or development plan for the relevant application for or granted petroleum authority.

Condition 3 – Financial Assurance

The holder of the environmental authority must:

- (a) calculate a financial assurance in accordance with the Schedule of Rehabilitation Costs and Schedule of Disturbance in Appendix C of this Authority;
- (b) attach the Schedule of Disturbance to the original or any amended Work Program or Development Plan;
- (c) provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of the original or any amended Work Program or development plan; and
- (d) maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Condition 5 – Land Management

The holder of the environmental authority must:

- (a) take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and
- (b) ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and
 - i. stockpiled in a manner that will preserve its biological and chemical properties; and
 - ii. used for rehabilitation purposes (refer condition 14).

Condition 6 – Vegetation

The holder of the environmental authority must:

- (a) take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
- (b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

Condition 7 – Protection of Riverine Areas

The holder of the environmental authority must:

- (a) ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
- (b) minimise disturbance of all other riverine areas.

Condition 8 – Erosion and Sedimentation Control

The holder of the environmental authority must take all reasonable and practicable measures to prevent or minimise:

- (a) erosion of areas disturbed by petroleum activities; and
- (b) sedimentation of any waters as a result of petroleum activities.

Condition 9 – Dust Management

The holder of the environmental authority (petroleum activities) must ensure that:

- (a) dust or particulate matter or both resulting from a petroleum activity must not cause an environmental nuisance at any sensitive place or commercial place; and
- (b) when requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.

Condition 10 - Noise Management

- (a) Noise emitted from the temporary petroleum activities must not exceed the noise acoustic quality objective of 55 dB(A) at any sensitive or commercial place.
- (b) Noise emitted from the permanent petroleum activities must not exceed the noise levels, specified in the table below, at any sensitive place or commercial place.

Time period	Noise level at a sensitive place measured as the Adjusted Maximum Sound Pressure Level $L_{A_{max,dB,T}}$
7am–6 pm	Background noise level plus 5 dB(A)
6pm–10pm	Background noise level plus 5 dB(A)
10pm–7am	Background noise level plus 3 dB(A)
Time period	Noise level at a commercial place measured as the Adjusted Maximum Sound Pressure Level $L_{A_{max,dB,T}}$
7am–6 pm	Background noise level plus 10 dB(A)
6pm–10pm	Background noise level plus 10 dB(A)
10pm–7am	Background noise level plus 8 dB(A)

General note: In no case is the background noise level, $L_{A_{90,15min}}$ to be less than 25 dB(A). In the event that measured background noise level is less than 25 dB(A), then 25 dB(A) is to be used.

- (c) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.
- (d) The method of measurement and reporting of noise levels must be in accordance with most recent edition of the EPA's Noise Measurement Manual.

Condition 11 – Waste Management

The holder of the environmental authority must:

- (a) ensure that petroleum activities do not result in the release or likely release of a contaminants to land or waters that results in unlawful environmental harm; and

- (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

Condition 12 - Sewage Management and Disposal

The holder of this environmental authority must ensure that:

- plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
- sewage effluent is not released to waters (including groundwater);
- the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
- any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
- where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
- where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems - Use of Reclaimed Water*;
- there is no surface pond of effluent on land disposal area(s);
- any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
- public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Condition 13A - Contaminant Release to Water

Contaminants must not be directly or indirectly released to land or waters except as permitted under this environmental authority.

Condition 13B - Contaminant Release to Land

Contaminants that are likely to cause environmental harm must not be directly or indirectly released to land.

Condition 14 - Storage of Hazardous Substances, Fuel and Oil

The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:

- contained within an on-site containment system;
- controlled in a manner that prevents environmental harm; and
- maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 - 2004 *Storage and Handling of Flammable and Combustible Liquids*.

Condition 15 - Spills and clean up action

Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:

- take immediate action to stop any further release;
- take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
- restore or rehabilitate the environment to its condition before the release occurred; and
- take necessary action to prevent a recurrence of the release.

Condition 16 - Associated Water

- The holder of the environmental authority must ensure that associated water is not released to land or waters, other than to an appropriate containment facility except as provided for:

Comment [k2]: Michael, as discussed, DERM will only authorise release of contaminants to waters if they are provided for elsewhere in the EA. If QGC does not wish to accept this condition, the stimulation conditions will need to be negotiated as part of this amendment.

Comment [k3]: Using "environmental harm" as the trigger will remove incidental non-compliances such as oil drops from a car.

Deleted: ¶

- under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*; and
 - Condition 15 (c).
- (b) Despite 15 (a) (i), the holder of the environmental authority must ensure that associated water to be used for domestic or stock purposes meets the accepted ANZECC 2000 *Water Quality Guidelines for Stock and Domestic Purposes*.
- (c) Despite 15 (a), the holder of the environmental authority may apply to the administrative authority to allow associated water that meets a nominated set of water quality standards to:
- be released to land or waters; or
 - be used for a specific purpose, provided the potential user has given written advice about the proposed use and environmental safeguards that will be implemented to prevent material or serious environmental harm.

Condition 17A - Containment Facilities

- The holder of the environmental authority must ensure all environmentally relevant containment facilities are:

- designed, constructed, operated, maintained and decommissioned in accordance with the criteria outlined in Appendix B; and
- not located within 100 m of any natural drainage feature (i.e. watercourses, waterway, wetland or lank).

- The holder of the environmental authority must ensure all drill sumps are installed and maintained to prevent any discharge through the bed or banks of the sumps from causing environmental harm or environmental nuisance in any waters.

Condition 17B - Containment Facilities and Other Excavations

For all environmentally relevant activities and other excavations which are constructed as part of the petroleum activities, the holder of the environmental authority must where relevant either:

- provide safe access for livestock where contained water quality is adequate for live stock; or
- construct and maintain bunds and/or fences sufficient to exclude livestock.

Condition 18 - Rehabilitation

As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:

- remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
- reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
- on all significantly disturbed land, take all reasonable and practicable measures to:
 - re-establish surface drainage lines;
 - reinstate the top layer of the soil profile; and
 - promote establishment of vegetation of the same species and density of cover to that of the surrounding undisturbed areas.

Condition 19 - Infrastructure

All infrastructure, constructed by or for the holder of the environmental authority, including water storage structures, must be removed by the holder from the site and the sites rehabilitated according to condition 18, prior to surrender of the petroleum authority, except where it is to remain with the written agreement of the administering authority and post petroleum authority landowner / holder.

Condition 20 - Environmentally Sensitive Areas

The holder of this environmental authority must ensure that the petroleum activity(ies) is only conducted in accordance with Table 1 - Environmentally Sensitive Areas (ESAs) below for each of the ESA categories and associated primary and secondary protection zones

Table 1 – Environmentally Sensitive Areas (ESAs)

ESA Category	Within the ESA	Within primary protection zone of the ESA	Within secondary protection zone of the ESA
All Category A ESAs	No petroleum activities permitted	No petroleum activities permitted	Limited petroleum activities permitted subject to conditions 20A, 20B, 20D and 20E
All Category B ESAs	No petroleum activities other than seismic activities permitted subject to condition 20E.	No petroleum activities other than seismic activities permitted subject to condition 20E and 21.	Limited petroleum activities permitted subject to conditions 20A, 20B, 20D and 20E.
Category C ESAs excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves	No petroleum activities other than seismic activities permitted subject to condition 20E.	No petroleum activities other than seismic activities permitted subject to condition 20E.	Limited petroleum activities permitted subject to conditions 20A and 20B
Category C ESAs: State Forests, Timber Reserves and 'Of Concern' regional ecosystems	Limited petroleum activities permitted subject to conditions 20A to 20D, and 20F to 20H.	Limited petroleum activities permitted subject to conditions 20A to 20D, and 20F to 20H.	Limited petroleum activities permitted subject to conditions 20A and 20B.

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves.
 Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at:
http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php.

Condition 20A

Limited petroleum activities carried out in the secondary protection zone in accordance with condition 20 must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees to the greatest practicable extent.

Condition 20B

Limited petroleum activities carried out within an environmentally sensitive area, primary protection zone or secondary protection zone as authorised under condition 20 must not be conducted where there is an overlap with another environmentally sensitive area or primary protection zone where limited petroleum activities are not authorised.

Condition 20C

Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition 20, the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:

- pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;
- undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
- pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
- areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.

Condition 20D

Prior to conducting limited petroleum activity(ies) that involve significant disturbance to land within an ESA, primary protection zones, or secondary protection zones:

- an assessment must be undertaken of the condition type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;
- the assessment required by Condition 20D(a) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*; and
- a record of the assessment required by Conditions 20D(b) and 20D(c) must be kept and submitted to the administering authority upon request.

Condition 20E

Where seismic activities are proposed to be undertaken within Endangered Regional Ecosystems, primary and secondary protection zones of Endangered Regional Ecosystems, secondary protection zones of a Category A ESA, Category C ESAs (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves), or primary protection zone of a Category C ESA (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves) the holder of this environmental authority must:

- not cause significant disturbance and/or clearing of vegetation;
- use pre-existing access and fence line tracks and other disturbed areas;
- not construct new access tracks;
- conduct seismic activities by foot where there are no existing access tracks;
- not clear or stick rake in any Endangered RE; and
- utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - deploy and retrieve geophones and cable through the crossing by foot; or
 - skip acquisition over the watercourse and restart on the other side.

Condition 20F

Notwithstanding conditions 20 and 20C, where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in conditions 20, any vegetation clearing must not exceed any of the following areas:

- (a) for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition 1 of this environmental authority; and
- (b) more than 30 m² for the construction of a sump; or
- (c) more than ten (10) metres in width for tracks; or
- (d) more than 12 metres in width for flow pipeline construction purposes.

Condition 20G

For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition 20, all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Condition 20H

Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, along with a record of the assessment required by condition 20D must be kept and submitted to the administering authority with each annual return.

Condition 20I – Disturbance to Land – Offsets

The environmental authority holder must enter in to an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmental value of an environmentally sensitive area or primary protection zone.

Condition 20J

The environmental offset agreement must be entered in to within six (6) months after submitting the record of disturbance required by condition 20H, unless otherwise agreed to by the administering authority.

Condition 20K

The environmental authority holder must implement any environmental offset agreement entered in to in accordance with conditions 20I and 20J as soon as practicable after finalisation.

Note : Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy" June 2008 and when the "Queensland Biodiversity Offset Policy" becomes available.

Condition 21- Exploration within Buffer of ERE

For exploration activities the environmental authority holder must comply with each of the standard environmental conditions contained in the *Code of Environmental Compliance for Exploration and Mineral Development Projects*, except Condition 13, which is replaced by 21 (a) to 21 (n) conditions.

- (a) The environmental authority holder is authorised to construct 1 borehole on ATP806 within the ERE buffer. The subsequent conditions, 21(b) to 21(m), authorises the environmental disturbance related to this borehole;
- (b) The operational area of the drill site within the 500m buffer must not exceed 1000m²;
- (c) The drill hole within the buffer of the ERE is limited to less than 200mm in diameter;
- (d) The construction of sumps within the buffer of the ERE must not exceed 10m²;
- (e) Topsoil stripping within the buffer of the ERE is limited to an area no greater than 25m x 25m;
- (f) The environmental holder must minimise disturbance within the buffer of the ERE and avoid clearing of trees;
- (g) Existing access and fence line tracks must be used wherever possible. Any new tracks are to be constructed by linking natural cleared or disturbed areas;
- (h) Track construction must avoid clearing of trees;
- (i) Where new tracks are required they will not be constructed greater than 5m in width;
- (j) Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised;
- (k) No clearing or disturbance for access to borehole will take place within the ERE;
- (l) Exploration within the buffer of the ERE must not involve costeaning or bulk sampling activities; and
- (m) Exploration camps must not be established within the ERE or buffer of the ERE.

Condition 22A– River Improvement Areas

All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Condition 22B – Wild river areas

In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Condition 23 – Heritage places and archaeological artefacts

The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 24 – Clearing vegetation

The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees to the greatest possible extent.

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

Condition 24A

The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils to the greatest practicable extent;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Condition 24 C

An Erosion and Sediment Control Plan which has been certified by a suitably qualified person must be developed and revised:

- (a) prior to the commencement of a petroleum activity(ies) involving the clearing of vegetation or placement of fill on dispersible soils or highly erodible soils;-and
- (b) by [REDACTED] for existing petroleum activity(ies) involving clearing of vegetation or placement of fill on dispersible soils or highly erodible soils.

Condition 24 D

The Erosion and Sediment Control Plan must include but not necessarily be limited to:

- (a) managing and / or diverting uncontaminated stormwater run-off around areas disturbed by the petroleum activity(ies) or where contaminants or wastes are stored or handled that may contribute to contamination of waters;
- (b) ensuring that contaminated stormwater runoff and incident rainfall is collected, treated, reused, or released in accordance with the conditions of this environmental authority;
- (c) roofing or minimising the size of areas where contaminants or wastes are stored or handled;
- (d) revegetating disturbed areas as soon as practicable after the completion of works;
- (e) using materials and or processes (e.g. dry absorbents) to clean up spills that will minimise contamination of waters;
- (f) placing erosion and sediment control structures to minimise erosion of disturbed areas and prevent the contamination of waters;
- (g) an inspection and maintenance program for the erosion and sediment control measures;
- (h) provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from November to April;
- (i) additional erosion and sediment control measures for construction of wells and pipelines on slopes >10%;
- (j) a surface water monitoring program designed to detect impacts from sediment runoff into waters;
- (k) identification of remedial actions required to ensure compliance with the conditions of this environmental authority; and
- (l) details of strategies and processes to be used in further developing and implementing the Erosion and Sediment Control Plan.

Condition 24 E

Comment [ks4]: DERM believes the term "significantly" adequately provides for the upgrading of existing tracks without breaching this conditions. Simply widening a track would not significantly increase impacts on vegetation/threatening processes. DERM can assess individual cases if there are specific areas where tracks will be upgraded and cause a significant impacts specific to the listed items.

Formatted: Bullets and Numbering

Comment [ks5]: Deleted "potential" to address QGC's concerns

Comment [ks6]: Condition split so that it does not restrict activities conducted prior to this new EA. Also refer to condition 24G and 24H

Formatted: Bullets and Numbering

Comment [ks7]: DERM believes all of these points are relevant to a E&SCP for activities in areas of dispersible soils. The plan is just requiring QGC to identify where E&SC measures are required and where they need to be implemented (i.e. in locations where there is the potential for environmental harm). Remoteness doesn't remove the need to put environmental controls in place.

Formatted: Bullets and Numbering

Comment [ks8]: Changed as requested.

The holder of this environmental authority must implement the Erosion and Sediment Control Plan.

Condition 24 F

A copy of the Erosion and Sediment Control Plan must be made available to any potentially affected landholders upon request by that landholder.

Condition 24 G

A copy of the initial Erosion and Sediment Control Plan must be submitted to DERM for review prior to the commencement of new activity(ies) or [REDACTED] (whichever is sooner)

Condition 24 H

A copy of the Erosion and Sediment Control Plan must be submitted to DERM at any time upon request.

Condition 24 I

Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not significantly impede vehicle, stock or wildlife movements.

Condition 25 – Maintenance of land rehabilitation

Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate:

- (a) the stability of landforms; ☐
- (b) that erosion control measures remain effective; ☐
- (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters; ☐
- (d) that plants show healthy growth and recruitment is occurring; and ☐
- (e) that rehabilitated areas are free of any declared pest plants. ☐

Condition 26 – Rehabilitation Success

Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.

Condition 28 – Monitoring and Complaints

The holder of the environmental authority must:

- (a) develop and implement a monitoring program that will demonstrate compliance with this Authority;
- (b) document the monitoring and inspections carried out under the program and any actions taken;
- (c) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident; and
- (d) retain the record of complaints required by this condition for 5 years.

Deleted: Condition 24B f
The holder of this environmental authority must not clear vegetation or place fill:
(a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
(b) on dispersible soils or highly erodible soils;
(c) on slopes greater than 10% for activities other than limited petroleum activities; or
(d) in discharge areas.

Deleted: 24C

Condition 29- Notification

The holder of this environmental authority must:

- (a) telephone DERM's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental authority or any event where environmental harm has been caused or threatened; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

Condition 30 - Existing petroleum activities

Conditions 20-20K, and 24-24B relating to disturbance only apply to petroleum activities which commenced after 1 May 2014 (insert date of entry of the EA).

End of Conditions

Appendix A - Definitions

APPEA Code means the current APPEA, Code of Environmental Practice.

AS 2885 Australian Standard Pipelines – Gas and Liquid Petroleum

Associated water is underground water taken from or interfered with from a petroleum well during the course of or resulting from carrying out petroleum activities. Associated water may be potable or suitable for stock purposes, or saline, high in fluoride, contain hydrocarbons, and/or is otherwise contaminated by a hazardous contaminant and become a hazardous waste.

Commercial place means a place used as an office or for business or commercial purposes.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to: the "completion" of the particular activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority. Under the APPEA Code "completion" refers to the point at which the particular survey, program or operation has been rehabilitated and abandoned.

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by:

- (a) noise, dust, odour, light; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

Evaporation pond means a dam or interceptor pond constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the pond.

Environmentally sensitive area (as determined from the EPA GIS data base) means a location, however large or small, that has environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

"ERE" means Endangered Regional Ecosystem.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of rehabilitating areas significantly disturbed by the petroleum activities.

Hazardous contaminant means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—
(a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
(b) its physical, chemical or infectious characteristics.

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Land degradation includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

Licensed waste disposal facility is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the *Environmental Protection Regulation 1998*.

Limited petroleum activities mean only the following petroleum activities:

- o geophysical surveys (including seismic petroleum activities);
- o well sites;
- o well pads;
- o water pumps and generators associated with well operations;
- o sumps;
- o flare pits;
- o gathering / flow pipelines from a well head to the initial compression facility; and
- o supporting access tracks.

For clarity, limited petroleum activities exclude and are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o dams;
- o borrow pits;
- o ponds used to contain and/or store stimulation fluids;
- o compressor stations;
- o campsites / workforce accommodation;
- o power supplies;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence);
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc), which is to be left by agreement with the landowner.

Pest means species:

declared under the *Land Protection (Pest and Stock route Management) Act 2002*; declared under Local Government model local laws; and which may become invasive in the future.

Petroleum activity is defined in the *EP Act* as an activity:

- a) authorised on a petroleum tenure granted under the *Petroleum Act 1923*; or
- b) authorised on a petroleum authority granted under the *P&G Act*; or
- c) exploring for or mining minerals under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the *Petroleum (Submerged Lands) Act 1982*; or
- d) rehabilitating or remediating environmental harm because of an activity mentioned in paragraphs (a) to (c); or
- e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d); or
- f) required under a condition of an environmental authority (petroleum activities); or
- g) required under a condition of an environmental authority (petroleum activities) that has ended or ceased to have effect, if the condition:
 - i. continues to apply after the authority has ended or ceased to have effect; and
 - ii. has not been complied with.

Petroleum Authority includes Authority to Prospect, Petroleum Lease, Data Acquisition Authority Water Monitoring Authority, Petroleum Facility Licence, Survey Licence and Pipeline Licence issued or granted under the *Petroleum Act 1923* or *Petroleum and Gas (Production and Safety) Act 2004*.

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond, compressor site and campsite. The following petroleum activities are excluded from the definition of petroleum works site: roads and tracks, seismic survey lines, and non-licensed gathering systems.

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Release of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Riverine area refers to the land confined to the flood flow channel of a watercourse.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means an area within a 300 metre buffer from the boundary of a primary protection zone.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off significantly disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off significantly disturbed areas. This may include silt fences, hay bales or grassed strips.

Sensitive place means

- (a) a dwelling, mobile home or caravan park, residential marina or other residential place;
- (b) a motel, hotel or hostel;
- (c) a kindergarten, school, university or other educational institution;
- (d) a medical centre or hospital;
- (e) a protected area;
- (f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organized entertainment.

Significantly disturbed land and significant disturbance means land if:

- (a) it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it:
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance

Examples of a disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a watercourse, waterway, wetland or lake where petroleum activities occur and human intervention is necessary to restore or stabilise the disturbed area;
- (e) areas submerged by hazardous waste storage and dam walls in all cases;
- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- (g) areas where land has become contaminated land and a suitability statement has not been issued.

However, for the purpose of this Authority the following areas are not significantly disturbed:

- (a) areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority).
- (b) areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction.
- (c) areas under permanent infrastructure.
- (d) areas that were significantly disturbed prior to the grant of the environmental authority, unless those areas are re-disturbed by the holder of the environmental authority during the term of the authority.
- (e) minor disturbances such as drill sumps and minor respreading of soil on GPS located seismic lines.

Stable means geo-technical stability of the rehabilitated landform i.e. settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping are unlikely to cause instability.

Temporary petroleum activities means drilling

Permanent petroleum activities means compressors, wells

Top layer of soil means soil, alluvium, weathered rock or other suitable plant growth medium. Top layer material should be non-crusting and low in salinity.

Turkey's nest dam - A dam constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the dam.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

APPENDIX B Environmentally Sensitive Areas

Category A and B environmentally sensitive areas

Category A and B environmentally sensitive areas are listed in Section 25 and 26 respectively of the Environmental Protection Regulation 2008.

Category C environmentally sensitive areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges and Resource Reserves	Nature Conservation Act 1992	Department of Environment and Resource Management
Koala Habitat Area	Nature Conservation (Koala) Conservation Plan 2005	Department of Environment and Resource Management
An area identified as essential habitat by the EPA for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the Nature Conservation Act 1992	Nature Conservation Act 1992	Department of Environment and Resource Management
Declared Catchment Areas	Water Act 2000	Department of Environment and Resource Management and/or Relevant Storage Operator or Board
River Improvement Areas	River Improvement Trust Act 1940	Department of Environment and Resource Management and the Relevant River Trust
Former Designated Landscape Area Stanbroke Pastoral Holding	Aboriginal Cultural Heritage Act 2003	Department of Environment and Resource Management
Areas under Part 5 Division 2 of the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003	Aboriginal Cultural Heritage Act 2003 Torres Strait Islander Cultural Heritage Act 2003	Department of Environment and Resource Management
State Forest or Timber Reserves	Forestry Act 1959	Department of Environment and Resource Management
DPI Research Sites	Nil	Department of Employment, Economic Development and Innovation
Areas of land occupied by the Bureau of Sugar Experiment Stations.	Sugar Industry Act 1999	Department of Employment, Economic Development and Innovation
Coastal Management Districts	Coastal Protection and Management Act 1995	Department of Environment and Resource Management
Declared Areas	Vegetation Management Act 1999	Department of Environment

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
		and Resource Management
An area shown as a wetland on a 'map of referable wetlands'	<i>Environmental Protection Act 1994</i>	Department of Environment and Resource Management
Reserves under the Land Act 1994	<i>Land Act 1994</i>	Department of Environment and Resource Management
An 'of concern' regional ecosystem identified in the database maintained by the EPA called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.	<i>Nil</i>	Department of Environment and Resource Management

Important Note: Regional ecosystem classification is determined according to the Queensland Herbarium Biodiversity Status Classification. Information on ERE's is maintained by the DERM on the Regional Ecosystem Description Database.

APPENDIX C Criteria for environmentally relevant containment facilities

The holder of the environmental authority (petroleum activities) may require environmentally relevant containment facilities to be constructed within the petroleum authority for raw water storage, storage and evaporation of associated water or for the containment of contaminated solids formed from such waters. Environmentally relevant containment facilities are defined as "structures that may or could contain flowable substances that, in the event of collapse of the structure, failure to contain or discharge of either liquor, solids or gas, could or would adversely impact on the environment."

Associated water may be saline, contain hydrocarbons or other substances at certain concentrations that when released to land or waters may cause material or serious environmental harm. This does not prevent or limit the holder of the environmental authority from treating the associated water to a specified standard for subsequent discharge to land or waters, or on-supplied to a third party for beneficial reuse, providing it is authorised by the relevant environmental authority.

Appendix B provides for the environmental regulation of such containment facilities. The regulation of such facilities is based on both a hazard and risk assessment, which includes an assessment of the contents of the containment facility.

The assessment criteria presented in Tables 1 and 2 allow these structures to be classified as:

- High hazard containment facility;
- Medium hazard containment facility; or
- Low hazard containment facility.

High hazard containment facilities that could impact on life or property on collapse or failure are not permitted under this environmental authority and will require either site-specific conditions or will be conditioned under a level 1 environmental authority.

Step 1 - Assessing the contents of the relevant containment facility

The first step in the assessment process is to determine whether the facility contains substances that may be classed as hazardous if released to the environment. If the contents of the relevant containment facility, including either liquor and/or total solids, exceed the limits in Table 1, then the containment facility contains hazardous substances.

Table 1 – Criteria for determining the contents of the containment facility

Contaminant ¹	Liquor ²	Total solids ^{3,4}
Arsenic	0.5 mg/l	250 mg/kg
Boron	5.0 mg/l	15,000 mg/kg
Cadmium	10 µg / l	100 mg/kg
Cobalt	1.0 mg/l	500 mg/kg
Copper	1.0 mg/l	5,000 mg/kg
Lead	0.1 mg/l	300 mg/kg
Mercury	2µg/l	75 mg/kg
Nickel	1.0 mg/l	3,000 mg/kg
Zinc	20 mg/l	35,000 mg/kg
Chloride	2,500 mg/l	-
Fluoride	2.0 mg/l	-
Selenium	0.02 mg/l	-
Sulphate	1,000 mg/l	-
Cyanide	10 mg/l	2,500 mg/kg
pH	Between 5.5 and 9.0	Net acid generation of pH <4
Nitrite	30 mg/l	-
Nitrate	400 mg/l	-
Total Dissolved Solids	4000 mg/l	-
Aromatic Hydrocarbons	600 µg/l	-
Polycyclic Aromatic Hydrocarbons	-	-
Naphthalene	16µg/l	-

Benzo (a) pyrene	0.2 C	
Phenol	320 µg/l	-
Polychlorinated Biphenyls		
Aroclor 1242	0.3 µg /l	-
Aro 1254	0.1 µg /l	-
Total Petroleum Hydrocarbons	10 mg/l (or no visible film)	
Blue green Algae (Microcystis)	11,000 cells/ml	-

1. Metals should be analysed in accordance with recognised test methods by a NATA certified laboratory.
2. Applies to the liquid contents in the containment facility readily available to the environment (e.g. water available to birds and animals).
3. Total solids include suspended and colloidal solids.
4. Applies to the solids in the containment facility.

Step 2 - Determining other risk factors

The second step in the assessment process is to consider other factors that may increase the hazard category of the containment facility including its size, location and environmental setting. If a proposed containment facility exceeds any of the size and location criteria listed in Table 2, then the structure will be a high hazard containment facility.

Table 2 – Determination of other risk factors

Threshold criteria for a high hazard containment facilities	
Criterion 1 Location with respect to habitation or water infrastructure	In the event of collapse, failure or overflow from the containment facility, would result in one or more of the following actions, it would or could: <ul style="list-style-type: none"> • Impact on occupied premises to a depth of more than 300 mm; or • flow to a sensitive or commercial place; or • flow to a riverine area containing permanent water; or • contaminate a water supply for human consumption; or • contaminate a water supply used for livestock.
Criterion 2 Location in catchments	The containment facility is located within a: <ul style="list-style-type: none"> • declared catchment or sub-artesian area; or • watercourse and the containment facilities surface area of water exceeds 1ha.
Criterion 3 Size	The containment facility has a surface area of water greater than 4 ha; or the containment facility has a volume of water greater than 20 mega litres.

Step 3 - Determining the hazard category

Table 3 summarises the process for determining the hazard category of containment facilities on a petroleum authority.

If any proposed containment facility cannot comply with the acceptance criteria listed in Table 1 but can comply with the size and location criteria listed in Table 2, then the structure will be a medium hazard containment facility. Similarly if the structure contains substances that may be hazardous and exceeds the criteria in Table 2 then the structure will be a high hazard containment facility.

Table 3 – Determination of hazard category

Concentration of liquor and total solids	Location and size	Hazard Category
Contents of the containment facility do not exceed limits in Table 1	Containment facility location and size do not trigger criterion 1 listed in table 2	The structure is a low hazard containment facility
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are below the criteria listed in table 2	The structure is a medium hazard containment facility.
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are above the criteria listed in table 2	The structure is a high hazard containment facility.

Design, construction, operation, maintenance and decommissioning criteria

Containment facilities are engineering structures and must be designed by professional engineer(s) who would normally apply the criteria defined below. A professional engineer should also be consulted in the development of the decommissioning plan.

Criteria for Low Hazard Containment Facilities

Low hazard containment facilities should be designed, constructed, operated and decommissioned in accordance with the "Queensland Small Embankment Dam Guideline".

Criteria for Medium Hazard Containment Facilities

In order to comply with the conditions of this environmental authority, design, construction, operation, maintenance and decommissioning of medium hazard containment facilities, must be in accordance with the following.

Design:

- (a) Containment facilities with a capacity up to 3-mega litres are best constructed as *Turkey's Nest* structures;
- (b) Containment facilities should be located to have the smallest practical catchment area;
- (c) Containment facilities must have a spillway capable of passing a design flood, defined as the peak discharge from a critical duration storm with an annual exceedence probability of 1% (i.e. 1 in 100 yr event) or lower;
- (d) The spillway should be located where practicable in the abutment of the containment facility or in the minimum height section of the containment facility;
- (e) Any spillway discharge should be contained within stable defined channels until it enters any natural watercourse or waterway;
- (f) For embankments built on stable foundations, not subject to draw down and out of uniform soil material, the batters shall be no steeper than those shown in the table below, unless otherwise shown to be stable:

Embankment Soil Classification (Universal soil classification)	Upstream Batter	Downstream Batter
GC, SC	2.5:1	2.0:1
CL, ML	3.5:1	2.5:1
CH, MH	3.5:1	2.5:1
GW, GP, GM, SW, SP, SM	Not suitable	Not suitable

Note: The codes for the Universal Soil Classification (e.g. GC) are detailed in the Australian Standard AS 1726 1993 Geotechnical Site Investigation, Appendix A.

- (g) Where foundation material differs from the embankment fill material, the batters shall be chosen conservatively to be consistent with the weaker material classification.

Construction:

- (a) Embankments must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures, flow velocities, material strength, stability and durability.
- (b) Fine grained soils used in embankment construction should be mechanically compacted when they are near or at the optimum moisture content (i.e. slightly plastic) to improve soil strength, minimise seepage and reduce the risk of piping failure
- (c) Where geo-membranes are used, ensure that they are placed, anchored and joined in accordance with the manufacturer's specification.
- (d) Where geo-membranes are used ensure that they are suitable to prevent leakage of the hazardous contaminants, which are contained within the containment facility.
- (e) Where geo-membranes are used for liners, filters or drains, ensure that the geo-membrane is in contact only with fine-grained soils to prevent punching or tearing of the membrane.
- (f) Embankments built out of pervious material must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures and flow velocities.
- (g) Where foundation material differs from embankment fill material, the embankment should be constructed out of the material, which gives the flatter batter.
- (h) Prior to construction of an embankment, the foundation should be cleared of all:
 - vegetation (grass, shrubs and trees);
 - soils containing organic matter (roots);
 - cracked soils (stiff plastic soils);
 - pervious soils (sand, gravel)
 - pervious material in rock faults, joints or the rock foundation itself.
- (i) Prior to construction of an embankment, all transverse trenches, holes and other irregularities should be plugged or backfilled to create a generally undulating foundation for placement of the embankment.
- (j) Fine-grained soils used in embankment construction should have a consistent texture and be free from foreign matter such as branches, logs, gravels or boulders etc.
- (k) Fine-grained soils including dispersible soils should be placed in the centre of or towards the upstream faces of embankment containment facilities.
- (l) Coarser grained soils and rock materials are to be placed towards and on the outer faces of embankment containment facility to minimise erosion and breaching potential.
- (m) Dispersible and easily erodible soils should not be used on the outer faces of embankment containment facility.
- (n) Provide adequate measures to control seepage through the containment facility wall and the transmission of contaminants through underlying soil layers or rock stratum.
- (o) Embankment containment facility should be constructed with stable earth materials that will not decay or generate leachate or hazardous contaminants.

Operation:

- (a) The containment facility should be operated to maintain a minimum freeboard of 0.5m below the spillway level.
- (b) To ensure that there is no leakage of hazardous wastes from any containment facility associated with the petroleum activity a field based groundwater monitoring program must be established to ensure there is no contamination of any unsaturated perched systems or existing groundwater

aquifers in the vicinity of the works. Three or more monitoring bores specifically designed for this purpose should be located in a cluster between the contaminant source and any environmentally sensitive place. The monitoring program should regularly record:

- i. water levels;
- ii. water quality;
- iii. flow rates; and
- iv. direction of flow.
- (c) As far as practicable minimise seepage and return any contaminated seepage to the containment facility.

Maintenance:

- (a) Maintain the erosion resistance of the downstream face of the containment facility to avoid surface scour, which may lead to failure of the wall;
- (b) Maintain the erosion resistance of the spillway to avoid scouring during the design flood;
- (c) Prevent the establishment of trees or shrubs on water containing embankments (roots initiate seepage paths);
- (d) Control of burrowing insects and animals (initiation of piping paths);
- (e) Repair active erosion and piping processes; and
- (f) During initial filling or commissioning, the containment facility should be monitored for leaks, seepages, embankment deformation or other signs of embankment distress.

Decommissioning:

- (a) Removing (where possible) all remaining liquids in the containment facility (e.g. it is generally acceptable to evaporate the liquid if the containment facility is not to be left to the land owner / holder).
- (b) Remove (where possible) all contaminated solids from the containment facility and encapsulate in a purpose built storage facility; or encapsulate any residual contaminated solids in situ by capping with an appropriate capillary break and with one metre of clay or similar impermeable material;
- (c) Design, install and maintain adequate diversion drains or similar structures to protect or minimise the erosion of any exposed surfaces by stormwater runoff;
- (d) Design, install and maintain adequate surface drainage to prevent water ponding and infiltration into any contaminated materials;
- (e) Address contaminated site issues by referring to Notes 11.2 and 11.3 of this environmental authority;
- (f) Establish a monitoring program to determine the success of the decommissioning plan;
- (g) If required, remove the wall of the containment facility; and
- (h) Rehabilitate the disturbed areas in accordance with the rehabilitation conditions of this environmental authority.

Deleted: APPENDIX
D. Schedule of Rehabilitation
Costs*
OIL ACTIVITIES ... (1)

APPENDIX D Schedule of Rehabilitation Costs

OIL ACTIVITIES	
<i>Activity Type</i>	<i>Unit Cost</i>
First well	\$10,000
Subsequent wells	\$10,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$500 per line, plus \$200 per km
Borrow pit	\$1,000 each
Evaporation pond	Site-specific estimation
Storage tank	\$5,000 per tank
Contaminated land survey	\$20,000 per facility
Sampling	\$5,000 per facility
Bioremediation land farm	\$5,000 per facility
Infrastructure	Site specific estimation
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
<i>Activity Type</i>	<i>Unit Cost</i>
First well	\$10,000
Subsequent wells	\$5,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$200 per km
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Coal Seam Gas wells <350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$1,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Flow lines - buried	\$500 per line
Flow lines - surface	\$200 per line
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

Note: Rehabilitation cost estimates must be based on third party costs for rehabilitation of land that has been "significantly disturbed" and may be reviewed annually by the administering authority.

Smith Kim

From: Lenz Anne
Sent: Friday, 17 June 2011 11:07 AM
To: Smith Kim
Subject: FW: QGC Eas due today

sorry - forgot to cc you

Anne Lenz

Acting Assistant Director-General, Environment and Natural Resource Regulation

Department of Environment and Resource Management

Level 7, 400 George Street BRISBANE Q 4000

GPO Box 2454 BRISBANE Q 4000

Telephone: 07 3330 5626 **Mobile:** (b) (6) Personal information **Facsimile:** 07 3330 5634

E-mail: anne.lenz@derm.qld.gov.au

Visit us on the web at www.derm.qld.gov.au

From: Lenz Anne
Sent: Friday, 17 June 2011 11:07 AM
To: Wall Kate; Naylor Gillian; Rahman Ahmad; Drew David
Cc: Burgess-Dean Rachel
Subject: FW: QGC Eas due today

Hi all

Pls see below

Anne Lenz

Acting Assistant Director-General, Environment and Natural Resource Regulation

Department of Environment and Resource Management

Level 7, 400 George Street BRISBANE Q 4000

GPO Box 2454 BRISBANE Q 4000

Telephone: 07 3330 5626 **Mobile:** (b) (6) Personal information **Facsimile:** 07 3330 5634

E-mail: anne.lenz@derm.qld.gov.au

Visit us on the web at www.derm.qld.gov.au

From: (b) (6) Personal information

Sent: Friday, 17 June 2011 9:14 AM

To: Lenz Anne; (b) (6) Personal information

Cc: (b) (6) Personal information

Subject: RE: QGC Eas due today

Anne, I've just spoken to (b) (6) Personal information. I had told him that my intention was to meet on a range of matters this

week, so his comments yesterday related to that.

I am still reviewing all the information that we need to put to you on the full range of issues so that it is properly evidence-based and verified. While this is slowing things down, I think it is necessary to get it right, because further information loops or internal reviews will simply take longer and chew up resources (that we don't have!) both in QGC and DERM.

On that basis, yes, we would appreciate a further extension and I will send through a letter today.

[REDACTED] s.73 irrelevant information so that we can then meet regarding that later in the week. We will also be in a position to run through the full range of issues and the priorities early in the week.

Many thanks,

Section 78B(2) RTI Act

From: Lenz Anne [mailto:anne.lenz@derm.qld.gov.au]
Sent: Friday, 17 June 2011 9:00 AM
To: [REDACTED]
Cc: [REDACTED] s.73 irrelevant information
 [REDACTED] Section 78B, Section 78B(2)(c) - individuals privacy
Subject: QGC Eas due today
Importance: High

s.73 irrelevant information

I just wanted to touch base in terms of your comments to my officers about me meeting with Tracey yesterday. I haven't heard from Tracey since late last week.

So apologies, no meeting has been held, and we need some advice about the EAs due to be issued today. If a further extension is required please let us know as soon as possible.

Kind regards

Anne

Anne Lenz

Acting Assistant Director-General, Environment and Natural Resource Regulation

Department of Environment and Resource Management

Level 7, 400 George Street BRISBANE Q 4000

GPO Box 2454 BRISBANE Q 4000

Telephone: 07 3330 5626 **Mobile:** [REDACTED] (6) Personal information **Facsimile:** 07 3330 5634

E-mail: anne.lenz@derm.qld.gov.au

Visit us on the web at www.derm.qld.gov.au

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

-----+
BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

EHP RTI DL Release

Smith Kim**From:** s.73 irrelevant information**Sent:** Tuesday, 12 July 2011 1:27 PM**To:** Drew David; Smith Kim**Cc:** s.73 irrelevant information**Subject:** RE: QGC, s.73 irrelevant information

Hi David/ Kim,

My next email was going to be to Kim about these.

I will be working on a response to the 5 x level 2 EA amendments. However, to assist in this are you able to provide me with a current EA draft for ATP 806 (with all conditions as DERM proposes to include) so I can look at the proposed conditions and respond accordingly. As we have done in the past, I am happy to work off one EA for these amendment applications with a view to incorporating changes agreed upon into the other EA's.

s.73 irrelevant information

To allow appropriate time to complete this I request that a further extension of time is applied to the decision date for the applications over ATPs s.73 irrelevant information ATP 806 s.73 irrelevant information. This extension please be for a period of 10 business days?

Please note that I am out of the office on site from this afternoon, and will be back in the office on Thursday 14th morning.

If there are any issues with this please let me know. I will look to update you on our progress with the response on Friday.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business**CONFIDENTIALITY AND PRIVILEGE NOTICE:**

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

s.73 irrelevant information

Release

s.73 irrelevant information

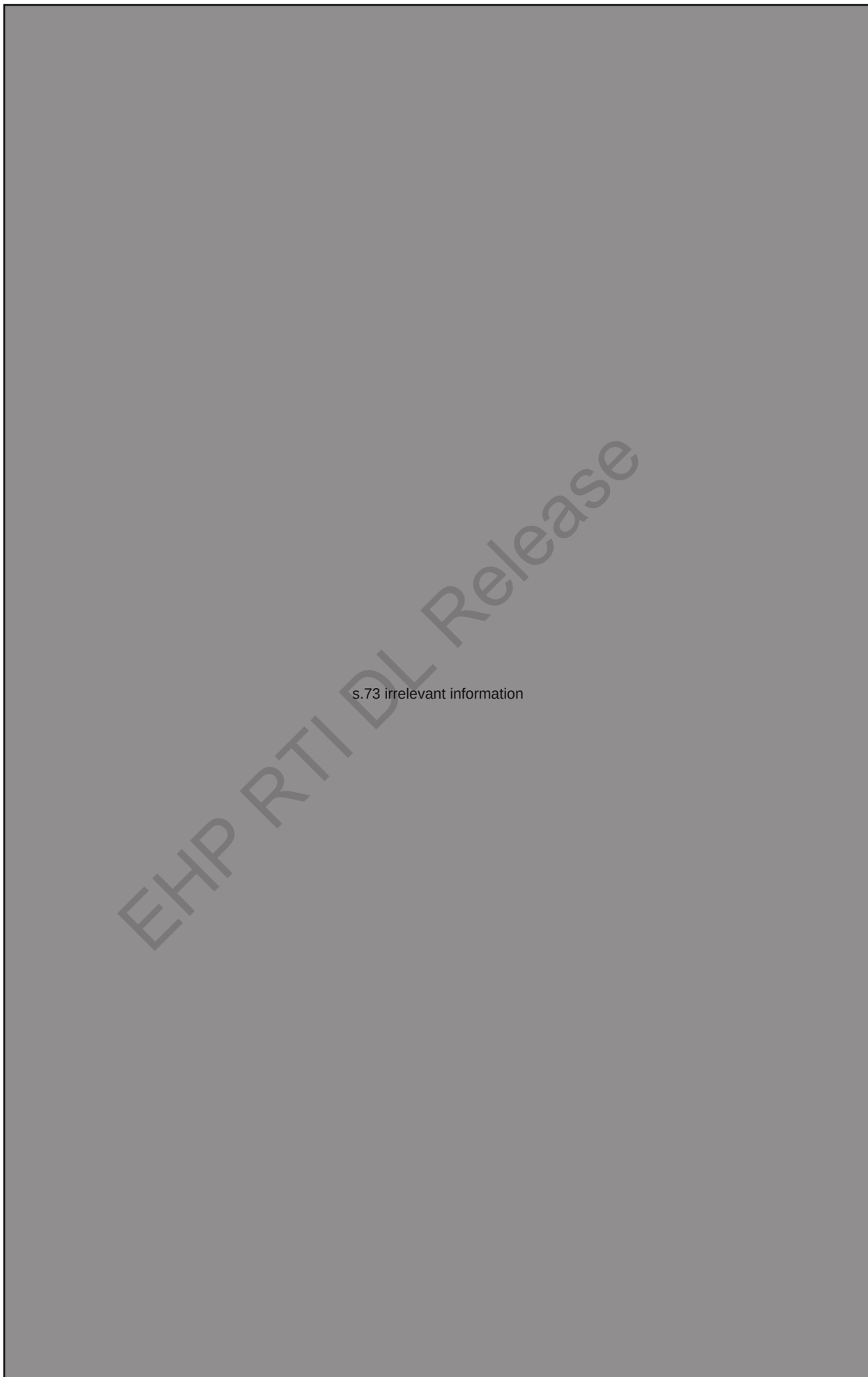
EHP RTI/DL Release

Release

s.73 irrelevant information

EHP RTI DL Release

Release



s.73 irrelevant information

Release



s.73 irrelevant information

Release

s.73 irrelevant information

EHP RTI DL Release

Smith Kim

From: s.73 irrelevant information
Sent: Friday, 15 April 2011 4:49 PM
To: Smith Kim
Cc: s.73 irrelevant information
Subject: Draft EA's for ATP's relevant information
Attachments: s.73 irrelevant information
s.73 irrelevant information FINAL
Draft Conditions - ATP806 OME.doc

Hi Kim,

Please find attached the Draft EA's for ATP's relevant information with comments on the proposed conditions included (using track changes). Also please find attached to this email, ASIC searches for the principal holders of the EA's, showing current ACN.

QGC is happy with some of the proposed changes, however there are some amendments to the conditions that we do not see as being relevant to the amendment application made. There are also some conditions that are also seen as inappropriate from a business perspective due to the level of constraint imposed upon the business activities.

Regarding the noise conditions QGC requests that no change is made to the noise conditions at this time, as this was not part of the amendment application.

I understand there may be a need to negotiate conditions further and would welcome the opportunity to sit down and discuss the issues surrounding these amendments.

Please don't hesitate to contact me to discuss this further.

Hope you have a good weekend.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

s.73 irrelevant information

s.73 irrelevant information

FINAL Draft

Conditions - ATP806 OME.doc>>

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under section 309X (new application) / 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD

ACN 100 280 662

Comment [ks1]: Please
provide a company extract with
ACN

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: ☒ April 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:
 - *Aboriginal Cultural Heritage Act 2003*;
 - The contaminated land provisions of the *Environmental Protection Act 1994*;
 - *Nature Conservation Act 1992*;
 - *Forestry Act 1959*;
 - *Water Supply (Safety and Reliability) Act 2008*; and
 - *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A	General Conditions
Appendix A	Definitions
Appendix B	Environmentally Sensitive Areas
Appendix C	Criteria for environmentally relevant containment facilities
Appendix D	Schedule of Rehabilitation Costs

just change
for 220
& buffers
only

Schedule A- General conditions

Condition 1 – Significant Disturbance

The holder of the environmental authority must ensure that petroleum activities do not cause more than 4 ha of any land to be significantly disturbed at a petroleum works site at any one time.

Comment [r2]: QGC Request the previous condition is retained as this was not part of the EA amendment application submitted by QGC

Formatted: Not Strikethrough

Formatted: Not Strikethrough

Formatted: Not Strikethrough

Condition 2 – Work Program, Development Plan

The applicant for or holder of the environmental authority must submit to the administering authority a copy of the original or any amended work program or development plan for the relevant application for or granted petroleum authority.

Condition 3 – Financial Assurance

The holder of the environmental authority must:

- calculate a financial assurance in accordance with the Schedule of Rehabilitation Costs and Schedule of Disturbance in Appendix C of this Authority;
- attach the Schedule of Disturbance to the original or any amended Work Program or Development Plan;
- provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of the original or any amended Work Program or development plan; and
- maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Deleted: Condition 1 – Significant disturbance

The holder of this environmental authority must ensure that:
<#>Petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time;

<#>Prior to conducting petroleum activity(ies) that involve significant disturbance to land, an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;

<#>The assessment required by Condition 1 (b) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the Nature Conservation Act 1992 and

<#>A record of the assessment required by Conditions 1 (b) and 1 (c) must be kept and submitted to the administering authority upon request;

Condition 5 – Land Management

The holder of the environmental authority must:

- take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and
- ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and
 - stockpiled in a manner that will preserve its biological and chemical properties; and
 - used for rehabilitation purposes (refer condition 14).

Condition 6 – Vegetation

The holder of the environmental authority must:

- take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
- manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

Condition 7 – Protection of Riverine Areas

The holder of the environmental authority must:

- ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
- minimise disturbance of all other riverine areas.

Condition 8 – Erosion and Sedimentation Control

The holder of the environmental authority must take all reasonable and practicable measures to prevent or minimise:

- erosion of areas disturbed by petroleum activities; and
- sedimentation of any waters as a result of petroleum activities.

Condition 9 – Dust Management

The holder of the environmental authority (petroleum activities) must ensure that:

- (a) dust or particulate matter or both resulting from a petroleum activity must not cause an environmental nuisance at any sensitive place or commercial place; and
- (b) when requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within **14 days** to the administering authority following completion of monitoring, analysis and interpretation of results.

Condition 10 - Noise Management

- (a) Noise emitted from the temporary petroleum activities must not exceed the noise acoustic quality objective of 55 dB(A) at any sensitive or commercial place.
- (b) Noise emitted from the permanent petroleum activities must not exceed the noise levels, specified in the table below, at any sensitive place or commercial place.

Time period	Noise level at a sensitive place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am–6 pm	Background noise level plus 5 dB(A)
6pm–10pm	Background noise level plus 5 dB(A)
10pm–7am	Background noise level plus 3 dB(A)
Time period	Noise level at a commercial place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am–6 pm	Background noise level plus 10 dB(A)
6pm–10pm	Background noise level plus 10 dB(A)
10pm–7am	Background noise level plus 8 dB(A)

General note: In no case is the background noise level, $L_{A90, 15 \text{ mins}}$ to be less than 25 dB(A). In the event that measured background noise level is less than 25 dB(A), then 25 dB(A) is to be used.

- (c) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within **14 days** to the administering authority following completion of monitoring, analysis and interpretation of results.
- (d) The method of measurement and reporting of noise levels must be in accordance with most recent edition of the EPA's Noise Measurement Manual.

Condition 11 – Waste Management

The holder of the environmental authority must:

- (a) ensure that petroleum activities do not result in the release or likely release of a contaminants to land or waters that results in unlawful environmental harm; and
- (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

Condition 12 - Sewage Management and Disposal

The holder of this environmental authority must ensure that:

- (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
- (b) sewage effluent is not released to waters (including groundwater);
- (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
- (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
- (e) where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
- (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
- (g) there is no surface pond of effluent on land disposal area(s);
- (h) any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
- (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Condition 13 – Storage of Hazardous Substances, Fuel and Oil

The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:

- (a) contained within an on-site containment system;
- (b) controlled in a manner that prevents environmental harm; and
- (c) maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 –2004 *Storage and Handling of Flammable and Combustible Liquids*.

Condition 14 – Spills and clean up action

Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:

- (a) take immediate action to stop any further release;
- (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
- (c) restore or rehabilitate the environment to its condition before the release occurred; and
- (d) take necessary action to prevent a recurrence of the release.

Condition 15 – Associated Water

- (a) The holder of the environmental authority must ensure that associated water is not released to land or waters, other than to an appropriate containment facility except as provided for:
 - (i) under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*; and
 - (ii) Condition 15 (c).
- (b) Despite 15 (a) (i), the holder of the environmental authority must ensure that associated water to be used for domestic or stock purposes meets the accepted *ANZECC 2000 Water Quality Guidelines for Stock and Domestic Purposes*.
- (c) Despite 15 (a), the holder of the environmental authority may apply to the administrative authority to allow associated water that meets a nominated set of water quality standards to:
 - (i) be released to land or waters; or
 - (ii) be used for a specific purpose, provided the potential user has given written advice about the proposed use and environmental safeguards that will be implemented to prevent material or serious environmental harm.

Condition 16 – Containment Facilities

- (a) The holder of the environmental authority must ensure all environmentally relevant containment facilities are:

- (i) designed, constructed, operated, maintained and decommissioned in accordance with the criteria outlined in Appendix B; and
 - (ii) not located within 100 m of any natural drainage feature (i.e. watercourses, waterway, wetland or lank).
- (b) The holder of the environmental authority must ensure all drill sumps are installed and maintained to prevent any discharge through the bed or banks of the sumps from causing environmental harm or environmental nuisance in any waters.

Condition 17 – Containment Facilities and Other Excavations

For all environmentally relevant activities and other excavations which are constructed as part of the petroleum activities, the holder of the environmental authority must where relevant either:

- (a) provide safe access for livestock where contained water quality is adequate for live stock; or
- (b) construct and maintain bunds and/or fences sufficient to exclude livestock.

Condition 18 – Rehabilitation

As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:

- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
- (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
- (c) on all significantly disturbed land, take all reasonable and practicable measures to:
 - i. re-establish surface drainage lines;
 - ii. reinstate the top layer of the soil profile; and
 - iii. promote establishment of vegetation of the same species and density of cover to that of the surrounding undisturbed areas.

Condition 19 – Infrastructure

All Infrastructure, constructed by or for the holder of the environmental authority, including water storage structures, must be removed by the holder from the site and the sites rehabilitated according to condition 18, prior to surrender of the petroleum authority, except where it is to remain with the written agreement of the administering authority and post petroleum authority landowner / holder.

Condition 20 – Environmentally Sensitive Areas

The holder of the environmental authority must ensure that petroleum activities:

- (a) are not conducted within a category A or B environmentally sensitive area;
- (b) do not cause a significant disturbance within 1km of a category A environmentally sensitive area or within 500m of a category B environmentally sensitive area unless authorised under this environmental authority; and
- (c) are not conducted in a category C environmentally sensitive area unless there is a written agreement to enter the area for those activities from the relevant administering authority.

The holder of the environmental authority must ensure that petroleum activities are not conducted in any Environmentally Sensitive Area except as permitted in Table 1 *Petroleum Activities within Environmentally Sensitive Area categories*.

Table 1 Petroleum activities within Environmentally Sensitive Area Categories

Environmentally Sensitive Area Category	Limited Petroleum Activities	Petroleum Activities
A	None permitted within 500m buffer	None within 1km buffer

Deleted: The holder of this environmental authority must ensure that the petroleum activity(ies):
<#>is not conducted in any Category A or B or C Environmentally Sensitive Area;
<#>is not conducted within the primary protection zone of any Category A, B or C Environmentally Sensitive Area;
<#>does not involve petroleum activity(ies) other than limited petroleum activities within the secondary protection zone of a Category A, B or C Environmentally Sensitive Area.

Formatted: Indent: Left: 0 cm, Hanging: 1.59 cm, No bullets or numbering

Formatted: Indent: Left: 1.27 cm, No bullets or numbering

Formatted: No bullets or numbering

This was a standard condition as per level 15.

B	Preferably >200m buffer to be maintained from Category B, although permissible within buffer zone where there is no suitable alternative subject to Conditions 20A – 20K	None within 500m unless otherwise authorised by the administering authority
C	Preferably >200m buffer zone to be maintained from category C, although permissible within 200m buffer zones and of concern RES, State Forests and timber reserves where there is no suitable alternative subject to Conditions 4A – 4K	None within 200m unless otherwise authorised by the administering authority

Formatted: Indent: Left: 1.27 cm, No bullets or numbering

Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at:

http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php

Field Code Changed

Condition 20A

Limited petroleum activities carried out in accordance with condition 20 (c) must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and where practical and possible avoid the clearing of mature trees

Deleted: the secondary protection zone in

Comment [r3]: In some instances it is not possible to avoid the clearing of mature trees.

Condition 20B

Despite condition 20, limited petroleum activities may be undertaken within the buffer zone specified in condition 20 of, or in the following specified Category C Environmentally Sensitive Areas:

Deleted: primary protection zone

change back

- (a) Endangered Regional Ecosystems
- (b) Of Concern Regional Ecosystems;
- (c) State Forests;
- (d) Timber Reserves

→ ?? Not in rev 8

provided that it does not overlap with any other Category A or B Environmentally Sensitive Area or its associated primary protection zone.

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves.

Condition 20C

Limited petroleum activities carried out in accordance with condition (4) must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees where practical and safe to do so.

Where petroleum activities are proposed to be undertaken as per Condition (4) Table 1, the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:

Comment [r4]: It is requested that category C overlapping areas are excluded here. The practical application of this can lead to areas where Category B & C ESA buffers overlap in an area with lower ecological value, but activities are still not permitted.

This condition places unnecessary limits on state forest and linear fragments of endangered/ of concern vegetation that do not necessarily achieve the intent of the condition.

Deleted:

Deleted: or C

- (a) pre-existing cleared areas or significantly disturbed land areas less than 200m from a Category C Environmentally Sensitive Area;
- (b) pre-existing cleared areas or significantly disturbed land areas less than 500m from a Category B Environmentally Sensitive Area;
- (c) undisturbed areas less than 200m from a Category C Environmentally Sensitive Area;
- (d) undisturbed areas less than 500m from a Category B Environmentally Sensitive Area;
- (e) pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
- (f) areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.

Condition 20D

For each well site within 200m of, or in a Category B or C Environmentally Sensitive Area specified in condition (4), all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Condition 20E

Despite condition 20, seismic survey activities may be undertaken within Endangered RE, and primary and secondary protection zones of Endangered RE provided that they do not overlap with any other Category A, B, or C ESA or associated protection zones.

Condition 20F

Where seismic activities are proposed to be undertaken within Endangered RE, and associated buffer zones (specified in condition 20) of Endangered RE, the holder of this environmental authority must:

- not cause significant disturbance and/or clearing of vegetation;
- use pre-existing access and fence line tracks and other disturbed areas;
- not construct new access tracks;
- conduct seismic activities by foot where there are no existing access tracks;
- not clear or stick rake in any Endangered RE; and
- utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - deploy and retrieve geophones and cable through the crossing by foot; or
 - skip acquisition over the watercourse and restart on the other side.

Condition 20G

Notwithstanding conditions 20B and 20C, where limited petroleum activities are proposed to be undertaken within the buffer zone (specified in condition 4) of, or in a Category C Environmentally Sensitive Area specified in conditions 20B, any vegetation clearing must not exceed any of the following areas:

- for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition 1 of this environmental authority; and
- more than 30 m² for the construction of a sump; or
- more than six (6) metres in width for tracks; or
- more than 12 metres in width for flow pipeline construction purposes;

Condition 20H

Deleted: Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition 20B, the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:

1
 <#> pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;
 <#> undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
 <#> pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
 <#> areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.

Formatted: Font: Bold

Deleted: 20E

Deleted: primary and secondary protection

Deleted: 20F

Deleted: primary protection

Comment [r5]: DERM has previously applied 10%. Request that this is changed to 10%

Deleted: 20G

For each well site within the buffer zone (specified in condition 20) of, or in a Category C Environmentally Sensitive Area specified in condition 20B, all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Deleted: primary protection

Formatted: Font: Not Bold

*change to put a map
there.*

Condition 20I

Deleted: 20H

Details of any significant disturbance to land undertaken within the buffer zone (specified in condition 4) of, or in a Category C Environmentally Sensitive Area, must be kept and submitted to the administering authority with each annual return.

Deleted: primary protection

Condition 20J – Disturbance to Land – Offsets

The environmental authority holder must enter in to an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmental value.

Comment [r6]: This hasn't historically been imposed on Level 2 conditions, and seems excessive for exploration tenements.

Proposed to be deleted or further clarification provided as to what this is requiring offsets for.

*check with
Kumar.*

Condition 21- Exploration within Buffer of ERE

For exploration activities the environmental authority holder must comply with each of the standard environmental conditions contained in the *Code of Environmental Compliance for Exploration and Mineral Development Projects*, except Condition 13, which is replaced by 21 (a) to 21 (n) conditions.

Deleted: 20I

Comment [r7]: How does DERM define this? Is remaining classed as impact following successful rehabilitation at the completion of the project?

Comment [r8]: Proposed to delete these conditions

- (a) The environmental authority holder is authorised to construct 1 borehole on ATP806 within the ERE buffer. The subsequent conditions, B2-1 to B4-2, authorises the environmental disturbance related to this borehole;
- (b) The operational area of the drill site within the 500m buffer must not exceed 1000m²;
- (c) The drill hole within the buffer of the ERE is limited to less than 200mm in diameter;
- (d) The construction of sumps within the ERE buffer must not exceed 10m²;
- (e) Topsoil stripping within the ERE buffer is limited to an area no greater than 25m x 25m;
- (f) The environmental holder must minimise disturbance within the ERE buffer and avoid clearing of trees;
- (g) Existing access and fence line tracks must be used wherever possible. Any new tracks are to be constructed by linking natural cleared or disturbed areas;
- (h) Track construction must avoid clearing of trees;
- (i) Where new tracks are required they will not be constructed greater than 5m in width;
- (j) Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised;
- (k) No clearing or disturbance for access to borehole will take place within the ERE;
- (l) Exploration within the ERE buffer must not involve costeaning or bulk sampling activities; and
- (m) Exploration camps must not be established within the ERE or ERE buffer; and
- (n) Rehabilitation of drill sites and sumps will be in accordance with the *Code of Environmental Compliance for Exploration and Mineral Development Projects*.

Deleted: Condition 20J¶

The environmental offset agreement must be entered in to within six (6) months after submitting the record of disturbance required by condition 20H, unless otherwise agreed to by the administering authority.¶

¶ Condition 20K¶

The environmental authority holder must implement any environmental offset agreement entered in to in accordance with conditions 20I and 20J as soon as practicable after finalisation. ¶

Note: Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy" June 2008. ¶

Condition 22- Seismic Activity within ERE Buffer

The holder of the environmental authority is authorized to undertake seismic acquisition within the 500 metre buffer of the Endangered Regional Ecosystem (ERE). The seismic activity is restricted to cleared areas and is not authorised to enter the dominant ERE.

Condition 22 A – River Improvement Areas

Comment [r9]: Accepted

All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Condition 22B – Wild river areas

In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Condition 23 – Heritage places and archaeological artefacts

The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 24 – Clearing vegetation

The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and where reasonable and practical alternatives exist avoid clearing mature trees.

Deleted: practical and possible

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

Condition 24A

The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.

Condition 24B

The holder of this environmental authority must where practical and possible avoid the clearing of vegetation or placement of fill:

Deleted: not

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils;
- (c) on slopes greater than 10% for activities other than Limited Petroleum Activities; or
- (d) in discharge areas.

Comment [r10]: Access tracks are a vital component of this.

Deleted: pipelines and wells

Condition 24C

Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not significantly impede vehicle, stock or wildlife movements.

?

Condition 25 – Maintenance of land rehabilitation

Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate:

- (a) the stability of landforms;
- (b) that erosion control measures remain effective;
- (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters;
- (d) that plants show healthy growth and recruitment is occurring; and
- (e) that rehabilitated areas are free of any declared pest plants.

Condition 26 – Rehabilitation Success

Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.

Condition 23 27 – Monitoring and Complaints

The holder of the environmental authority must:

- (a) develop and implement a monitoring program that will demonstrate compliance with this Authority;
- (b) document the monitoring and inspections carried out under the program and any actions taken;
- (c) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident; and
- (d) retain the record of complaints required by this condition for 5 years.

Condition 24 28– Notification

The holder of the environmental authority must:

- (a) record and initially notify the administering authority as soon as practicable, but within 24 hours, of any emergency or incident that demonstrates non-compliance to the standard environmental conditions; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

The holder of this environmental authority must:

- (a) telephone DERM's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental authority or any event where environmental harm has been caused or threatened; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

Condition 29 - Existing petroleum activities

Conditions 1, 20-20K, and 24-24B relating to disturbance only apply to petroleum activities which commenced after xx April 2011 [insert date of grant of this EA] subject to:

End of Conditions

Comment [r11]: The EP Act does not have provisions in it that allow DERM to impose conditions that apply retrospectively. I.e. DERM cannot impose a condition on QGC that requires QGC to have recorded information that it has historically not been required to record. (i.e. construction dates of all previously constructed infrastructure).

Comment [r12]: DERM cannot impose a condition now that requires records to be kept for all previous work. This should have been imposed at the time that the initial EA was issued prior to any infrastructure being constructed.

Deleted: <#>the holder of this environmental authority conducting an audit of the existing petroleum activities which commenced before xx April 2011 [insert date of grant of this EA] against the land disturbance conditions of the previous environmental authority dated 5 October 2007, and ¶
<#>the audit report being provided to the administering authority by xx June 2011 [insert date 2 months after grant of this EA] ¶

Condition 30

Deleted: ¶
The holder of this environmental authority must ensure that records containing construction dates of existing and future petroleum infrastructure are available to the administering authority upon request. ¶

*Change to
provide
petroleum infrastructure
insert date of grant
of this EA
into the new
EA.*

EHP RTI DL Release

Appendix A - Definitions

APPEA Code means the current APPEA, Code of Environmental Practice.

AS 2885 Australian Standard Pipelines – Gas and Liquid Petroleum

Associated water is underground water taken from or interfered with from a petroleum well during the course of or resulting from carrying out petroleum activities. Associated water may be potable or suitable for stock purposes, or saline, high in fluoride, contain hydrocarbons, and/or is otherwise contaminated by a hazardous contaminant and become a **hazardous waste**.

Commercial place means a place used as an office or for business or commercial purposes.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related *activities such as rehabilitation*. In other words, it does not refer to: the "completion" of the particular activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority. Under the *APPEA Code* "completion" refers to the point at which the particular survey, program or operation has been rehabilitated and abandoned.

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by:

- (a) noise, dust, odour, light; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

Evaporation pond means a dam or interceptor pond constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the pond.

Environmentally sensitive area (as determined from the EPA GIS data base) means a location, however large or small, that has environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

"ERE" means Endangered Regional Ecosystem.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of rehabilitating areas significantly disturbed by the petroleum activities.

Hazardous contaminant means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Land degradation includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

Licensed waste disposal facility is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the *Environmental Protection Regulation 1998*.

Limited petroleum activities mean only the following petroleum activities:

- o geophysical surveys (including seismic petroleum activities);
- o well sites;
- o well pads;
- o water pumps and generators associated with well operations;
- o sumps;
- o flare pits;
- o gathering / flow pipelines from a well head to the initial compression facility; and
- o supporting access tracks.

For clarity, limited petroleum activities exclude and are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o dams;
- o borrow pits;
- o ponds used to contain and/or store stimulation fluids;
- o compressor stations;
- o campsites / workforce accommodation;
- o power supplies;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence)
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc), which is to be left by agreement with the landowner.

Pest means species:

- o declared under the *Land Protection (Pest and Stock route Management) Act 2002*;
- o declared under Local Government model local laws; and
- o which may become invasive in the future.

Petroleum activity is defined in the *EP Act* as an activity:

- a) authorised on a petroleum tenure granted under the *Petroleum Act 1923*; or
- b) authorised on a petroleum authority granted under the *P&G Act*; or
- c) exploring for or mining minerals under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the *Petroleum (Submerged Lands) Act 1982*; or
- d) rehabilitating or remediating environmental harm because of an activity mentioned in paragraphs (a) to (c); or
- e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d); or
- f) required under a condition of an environmental authority (petroleum activities); or
- g) required under a condition of an environmental authority (petroleum activities) that has ended or ceased to have effect, if the condition:
 - i. continues to apply after the authority has ended or ceased to have effect; and
 - ii. has not been complied with.

Petroleum Authority includes Authority to Prospect, Petroleum Lease, Data Acquisition Authority Water Monitoring Authority, Petroleum Facility Licence, Survey Licence and Pipeline Licence issued or granted under the *Petroleum Act 1923* or *Petroleum and Gas (Production and Safety) Act 2004*.

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond, compressor site and campsite. The following petroleum activities are excluded from the definition of *petroleum works site*: roads and tracks, seismic survey lines, and non-licensed gathering systems.

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Release of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Riverine area refers to the land confined to the flood flow channel of a watercourse.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means a area within a 300 metre buffer from the boundary of a primary protection zone.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off significantly disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off significantly disturbed areas. This may include silt fences, hay bales or grassed strips.

Sensitive place means

- (a) a dwelling, mobile home or caravan park, residential marina or other residential place;
- (b) a motel, hotel or hostel;
- (c) a kindergarten, school, university or other educational institution;
- (d) a medical centre or hospital;
- (e) a protected area;
- (f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organized entertainment.

Significantly disturbed land and significant disturbance means land if:

- (a) it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it:
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance

Examples of a disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a watercourse, waterway, wetland or lake where petroleum activities occur and human intervention is necessary to restore or stabilise the disturbed area;

- (e) areas submerged by hazardous waste storage and dam walls in all cases;
- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- (g) areas where land has become contaminated land and a suitability statement has not been issued.

However, for the purpose of this Authority the following areas are not significantly disturbed:

- (a) areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority).
- (b) areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction.
- (c) areas under permanent infrastructure.
- (d) areas that were significantly disturbed prior to the grant of the environmental authority, unless those areas are re-disturbed by the holder of the environmental authority during the term of the authority.
- (e) minor disturbances such as drill sumps and minor respreading of soil on GPS located seismic lines.

Stable means geo-technical stability of the rehabilitated landform i.e. settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping are unlikely to cause instability.

Temporary petroleum activities means drilling

Permanent petroleum activities means compressors, wells

Top layer of soil means soil, alluvium, weathered rock or other suitable plant growth medium. Top layer material should be non-crusting and low in salinity.

Turkey's nest dam - A dam constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the dam.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

APPENDIX B Environmentally Sensitive Areas

Category A and B environmentally sensitive areas

Category A and B environmentally sensitive areas are listed in Section 25 and 26 respectively of the *Environmental Protection Regulation 2008*.

Category C environmentally sensitive areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Koala Habitat Area	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	Department of Environment and Resource Management
An area identified as essential habitat by the EPA for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the Nature Conservation Act 1992	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Declared Catchment Areas	<i>Water Act 2000</i>	Department of Environment and Resource Management and/or Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Environment and Resource Management and the Relevant River Trust
Former Designated Landscape Area - Stanbroke Pastoral Holding	<i>Aboriginal Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
Areas under Part 5 Division 2 of the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
State Forest or Timber Reserves	<i>Forestry Act 1959</i>	Department of Environment and Resource Management
DPI Research Sites	<i>Nil</i>	Department of Employment, Economic Development and Innovation
Areas of land occupied by the Bureau of Sugar Experiment Stations.	<i>Sugar Industry Act 1999</i>	Department of Employment, Economic Development and Innovation
Coastal Management Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Resource Management

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Declared Areas	<i>Vegetation Management Act 1999</i>	Department of Environment and Resource Management
An area shown as a wetland on a 'map of referable wetlands'	<i>Environmental Protection Act 1994</i>	Department of Environment and Resource Management
Reserves under the Land Act 1994	<i>Land Act 1994</i>	Department of Environment and Resource Management
An 'of concern' regional ecosystem identified in the database maintained by the EPA called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.	<i>Nil</i>	Department of Environment and Resource Management

Important Note: Regional ecosystem classification is determined according to the Queensland Herbarium Biodiversity Status Classification. Information on ERE's is maintained by the DERM on the Regional Ecosystem Description Database.

EHP RTI DL Release

APPENDIX C Criteria for environmentally relevant containment facilities

The holder of the environmental authority (petroleum activities) may require environmentally relevant containment facilities to be constructed within the petroleum authority for raw water storage, storage and evaporation of associated water or for the containment of contaminated solids formed from such waters. Environmentally relevant containment facilities are defined as "structures that may or could contain flowable substances that, in the event of collapse of the structure, failure to contain or discharge of either liquor, solids or gas, could or would adversely impact on the environment."

Associated water may be saline, contain hydrocarbons or other substances at certain concentrations that when released to land or waters may cause material or serious environmental harm. This does not prevent or limit the holder of the environmental authority from treating the associated water to a specified standard for subsequent discharge to land or waters, or on-supplied to a third party for beneficial reuse, providing it is authorised by the relevant environmental authority.

Appendix B provides for the environmental regulation of such containment facilities. The regulation of such facilities is based on both a hazard and risk assessment, which includes an assessment of the contents of the containment facility.

The assessment criteria presented in Tables 1 and 2 allow these structures to be classified as:

- High hazard containment facility;
- Medium hazard containment facility; or
- Low hazard containment facility.

High hazard containment facilities that could impact on life or property on collapse or failure are not permitted under this environmental authority and will require either site-specific conditions or will be conditioned under a level 1 environmental authority.

Step 1 - Assessing the contents of the relevant containment facility

The first step in the assessment process is to determine whether the facility contains substances that may be classed as hazardous if released to the environment. If the contents of the relevant containment facility, including either liquor and/or total solids, exceed the limits in Table 1, then the containment facility contains hazardous substances.

Table 1 – Criteria for determining the contents of the containment facility

Contaminant ¹	Liquor ²	Total solids ^{3,4}
Arsenic	0.5 mg/l	250 mg/kg
Boron	5.0 mg/l	15,000 mg/kg
Cadmium	10 µg /	100 mg/kg
Cobalt	1.0 mg/l	500 mg/kg
Copper	1.0 mg/l	5,000 mg/kg
Lead	0.1 mg/l	300 mg/kg
Mercury	2µg/l	75 mg/kg
Nickel	1.0 mg/l	3,000 mg/kg
Zinc	20 mg/l	35,000 mg/kg
Chloride	2,500 mg/l	-
Fluoride	2.0 mg/l	-
Selenium	0.02 mg/l	-
Sulphate	1,000 mg/l	-
Cyanide	10 mg/l	2,500 mg/kg
pH	Between 5.5 and 9.0	Net acid generation of pH <4
Nitrite	30 mg/l	-
Nitrate	400 mg/l	-
Total Dissolved Solids	4000 mg/l	-
Aromatic Hydrocarbons	600 µg/l	-
Polycyclic Aromatic Hydrocarbons	-	-

Naphthalene	16µg/l	
Benzo (a) pyrene	0.2 C	
Phenol	320 µg/l	-
Polychlorinated Biphenyls		-
Aroclor 1242	0.3 µg /l	
Aro 1254	0.1 µg /l	
Total Petroleum Hydrocarbons	10 mg/l (or no visible film)	
Blue green Algae (Microcystis)	11,000 cells/ml	-

1. Metals should be analysed in accordance with recognised test methods by a NATA certified laboratory.
2. Applies to the liquid contents in the containment facility readily available to the environment (e.g. water available to birds and animals).
3. Total solids include suspended and colloidal solids.
4. Applies to the solids in the containment facility.

Step 2 - Determining other risk factors

The second step in the assessment process is to consider other factors that may increase the hazard category of the containment facility including its size, location and environmental setting. If a proposed containment facility exceeds any of the size and location criteria listed in Table 2, then the structure will be a high hazard containment facility.

Table 2 – Determination of other risk factors

	Threshold criteria for a high hazard containment facilities
Criterion 1 Location with respect to habitation or water infrastructure	In the event of collapse, failure or overflow from the containment facility, would result in one or more of the following actions, it would or could: <ul style="list-style-type: none">• impact on occupied premises to a depth of more than 300 mm; or• flow to a sensitive or commercial place; or• flow to a riverine area containing permanent water; or• contaminate a water supply for human consumption; or• contaminate a water supply used for livestock.
Criterion 2 Location in catchments	The containment facility is located within a: <ul style="list-style-type: none">• declared catchment or sub-artesian area; or• watercourse and the containment facilities surface area of water exceeds 1ha.
Criterion 3 Size	The containment facility has a surface area of water greater than 4 ha; or the containment facility has a volume of water greater than 20 mega litres.

Step 3 - Determining the hazard category

Table 3 summarises the process for determining the hazard category of containment facilities on a petroleum authority.

If any proposed containment facility cannot comply with the acceptance criteria listed in Table 1 but can comply with the size and location criteria listed in Table 2, then the structure will be a medium hazard containment facility. Similarly if the structure contains substances that may be hazardous and exceeds the criteria in Table 2 then the structure will be a high hazard containment facility.

Table 3 – Determination of hazard category

Concentration of liquor and total solids	Location and size	Hazard Category
Contents of the containment facility do not exceed limits in Table 1	Containment facility location and size do not trigger criterion 1 listed in table 2	The structure is a low hazard containment facility
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are below the criteria listed in table 2	The structure is a medium hazard containment facility.
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are above the criteria listed in table 2	The structure is a high hazard containment facility.

Design, construction, operation, maintenance and decommissioning criteria

Containment facilities are engineering structures and must be designed by professional engineer(s) who would normally apply the criteria defined below. A professional engineer should also be consulted in the development of the decommissioning plan.

Criteria for Low Hazard Containment Facilities

Low hazard containment facilities should be designed, constructed, operated and decommissioned in accordance with the "Queensland Small Embankment Dam Guideline".

Criteria for Medium Hazard Containment Facilities

In order to comply with the conditions of this environmental authority, design, construction, operation, maintenance and decommissioning of medium hazard containment facilities, must be in accordance with the following.

Design:

- (a) Containment facilities with a capacity up to 3 mega litres are best constructed as *Turkey's Nest* structures;
- (b) Containment facilities should be located to have the smallest practical catchment area;
- (c) Containment facilities must have a spillway capable of passing a design flood, defined as the peak discharge from a critical duration storm with an annual exceedence probability of 1% (i.e. 1 in 100 yr event) or lower;
- (d) The spillway should be located where practicable in the abutment of the containment facility or in the minimum height section of the containment facility;
- (e) Any spillway discharge should be contained within stable defined channels until it enters any natural watercourse or waterway;
- (f) For embankments built on stable foundations, not subject to draw down and out of uniform soil material, the batters shall be no steeper than those shown in the table below, unless otherwise shown to be stable:

Embankment Soil Classification (Universal soil classification)	Upstream Batter	Downstream Batter

GC, SC	2.5:1	2.0:1
CL, ML	3.5:1	2.5:1
CH, MH	3.5:1	2.5:1
GW, GP, GM, SW, SP, SM	Not suitable	Not suitable

Note: The codes for the Universal Soil Classification (e.g. GC) are detailed in the Australian Standard AS 1726 1993 Geotechnical Site Investigation, Appendix A.

- (g) Where foundation material differs from the embankment fill material, the batters shall be chosen conservatively to be consistent with the weaker material classification.

Construction:

- (a) Embankments must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures, flow velocities, material strength, stability and durability.
- (b) Fine grained soils used in embankment construction should be mechanically compacted when they are near or at the optimum moisture content (i.e. slightly plastic) to improve soil strength, minimise seepage and reduce the risk of piping failure
- (c) Where geo-membranes are used, ensure that they are placed, anchored and joined in accordance with the manufacturer's specification.
- (d) Where geo-membranes are used ensure that they are suitable to prevent leakage of the hazardous contaminants, which are contained within the containment facility.
- (e) Where geo-membranes are used for liners, filters or drains, ensure that the geo-membrane is in contact only with fine-grained soils to prevent punching or tearing of the membrane.
- (f) Embankments built out of pervious material must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures and flow velocities.
- (g) Where foundation material differs from embankment fill material, the embankment should be constructed out of the material, which gives the flatter batter.
- (h) Prior to construction of an embankment, the foundation should be cleared of all:
 - vegetation (grass, shrubs and trees);
 - soils containing organic matter (roots);
 - cracked soils (stiff plastic soils);
 - pervious soils (sand, gravel)
 - pervious material in rock faults, joints or the rock foundation itself.
- (i) Prior to construction of an embankment, all transverse trenches, holes and other irregularities should be plugged or backfilled to create a generally undulating foundation for placement of the embankment.
- (j) Fine-grained soils used in embankment construction should have a consistent texture and be free from foreign matter such as branches, logs, gravels or boulders etc.
- (k) Fine-grained soils including dispersible soils should be placed in the centre of or towards the upstream faces of embankment containment facilities.
- (l) Coarser grained soils and rock materials are to be placed towards and on the outer faces of embankment containment facility to minimise erosion and breaching potential.
- (m) Dispersible and easily erodible soils should not be used on the outer faces of embankment containment facility.
- (n) Provide adequate measures to control seepage through the containment facility wall and the transmission of contaminants through underlying soil layers or rock stratum.
- (o) Embankment containment facility should be constructed with stable earth materials that will not decay or generate leachate or hazardous contaminants.

Operation:

- (a) The containment facility should be operated to maintain a minimum freeboard of 0.5m below the spillway level.
- (b) To ensure that there is no leakage of hazardous wastes from any containment facility associated with the petroleum activity a field based groundwater monitoring program must be established to ensure there is no contamination of any unsaturated perched systems or existing groundwater aquifers in the vicinity of the works. Three or more monitoring bores specifically designed for this purpose should be located in a cluster between the contaminant source and any environmentally sensitive place. The monitoring program should regularly record:
 - i. water levels;
 - ii. water quality;
 - iii. flow rates; and
 - iv. direction of flow.
- (c) As far as practicable minimise seepage and return any contaminated seepage to the containment facility.

Maintenance:

- (a) Maintain the erosion resistance of the downstream face of the containment facility to avoid surface scour, which may lead to failure of the wall;
- (b) Maintain the erosion resistance of the spillway to avoid scouring during the design flood;
- (c) Prevent the establishment of trees or shrubs on water containing embankments (roots initiate seepage paths);
- (d) Control of burrowing insects and animals (initiation of piping paths);
- (e) Repair active erosion and piping processes; and
- (f) During initial filling or commissioning, the containment facility should be monitored for leaks, seepages, embankment deformation or other signs of embankment distress.

Decommissioning:

- (a) Removing (where possible) all remaining liquids in the containment facility (e.g. it is generally acceptable to evaporate the liquid if the containment facility is not to be left to the land owner / holder).
- (b) Remove (where possible) all contaminated solids from the containment facility and encapsulate in a purpose built storage facility, or encapsulate any residual contaminated solids in situ by capping with an appropriate capillary break and with one metre of clay or similar impermeable material;
- (c) Design, install and maintain adequate diversion drains or similar structures to protect or minimise the erosion of any exposed surfaces by stormwater runoff;
- (d) Design, install and maintain adequate surface drainage to prevent water ponding and infiltration into any contaminated materials;
- (e) Address contaminated site issues by referring to Notes 11.2 and 11.3 of this environmental authority;
- (f) Establish a monitoring program to determine the success of the decommissioning plan;
- (g) If required, remove the wall of the containment facility; and
- (h) Rehabilitate the disturbed areas in accordance with the rehabilitation conditions of this environmental authority.

APPENDIX D Schedule of Rehabilitation Costs

OIL ACTIVITIES	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$10,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$500 per line, plus \$200 per km
Borrow pit	\$1,000 each
Evaporation pond	Site-specific estimation
Storage tank	\$5,000 per tank
Contaminated land survey	\$20,000 per facility
Sampling	\$5,000 per facility
Bioremediation land farm	\$5,000 per facility
Infrastructure	Site specific estimation
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$5,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$200 per km
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Coal Seam Gas wells <350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$1,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Flow lines - buried	\$500 per line
Flow lines - surface	\$200 per line
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

Note: Rehabilitation cost estimates must be based on third party costs for rehabilitation of land that has been "significantly disturbed" and may be reviewed annually by the administering authority.

Smith Kim

From: King Larissa
Sent: Thursday, 26 May 2011 4:16 PM
To: Smith Kim
Subject: FW: DERM request for fracking notifications

Follow Up Flag: Follow up
Flag Status: Red

Hi,

We haven't received any fracking notifications for the tenures below

The csg.enquiries email address receives all the notice of intention to frac and notice of completion to frac so you are able to check there also

I hope this helps

Anything else just let me know

Thank-you

Larissa King
Project Officer
Service Training and Regulatory Support
Mining and Petroleum Operations
Mines
Department of Employment, Economic Development and Innovation

Level 16, 61 Mary St
Brisbane QLD 4000
PO Box 15216
City East QLD 4002

Phone: 323 71640 (ext 71640)
Fax: 323 83188
Email: larissa.king@deedi.qld.gov.au

Business Information Centre 13 25 23
www.deedi.qld.gov.au

From: Stead Adrian
Sent: Wednesday, 25 May 2011 2:23 PM
To: Barnes Jeffery; King Larissa
Subject: FW: DERM request for fracking notifications

Hi Jeff

By the look of Kimberley's request they are actually after the "intention to frac" notifications which come out of the Mines On Line portal

Larissa may be able to provide these.

QDEX receives the actual fracking reports - if DERM want these ultimately we will need to get clearance from Rachael to provide as they are held confidentially in QDEX and we would need to assign 'confidential' access to the DERM staff member with Rachael's permission.

Could yourself or Larissa please contact the client again to ascertain whether it is actually the "intention" notices they require and provide same from Mines On Line.

Thanks

Adrian

Adrian Stead
Manager, QDEX System
Telephone - (07) 30355255 **Facsimile** - (07) 32371534
Email : adrian.stead@deedi.qld.gov.au
www.dme.qld.gov.au

Geological Survey of QLD
Department of Employment, Economic Development and Innovation
P.O. Box 15216
City East, QLD 4002

From: Smith Kim
Sent: Wednesday, 25 May 2011 9:47 AM
To: Stead Adrian
Subject: FW: DERM request for fracking notifications

Hi Adrian,
Can you please advise how DERM can gain access to the documents requested below?

Regards

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au
Department of Environment and Resource Management
GPO Box 2454, Brisbane, QLD 4001.

From: Barnes Jeffery **On Behalf Of** DME Petroleum Tenures
Sent: Wednesday, 25 May 2011 9:25 AM
To: Smith Kim
Cc: Pavic Vladimir
Subject: RE: DERM request for fracking notifications

Hi Kim

The fracking reports are lodged online and the data is held in our QDEX reporting system.

Please contact Adrian Stead on 30355255 (Adrian.Stead@deedi.qld.gov.au) to gain access to the data sought.

Kind regards

Jeff
Jeff Barnes
Senior Tenures Officer
Petroleum, Gas and Geothermal Unit
Mining and Petroleum Operations
Department of Employment, Economic Development and Innovation

PO Box 1475 Coorparoo QLD 4151

Phone 07 3898 0698 **Fax** 07 3238 3188

Email dme@petroleumtenures@dme.qld.gov.au

www.deedi.qld.gov.au

From: Smith Kim
Sent: Tuesday, 24 May 2011 2:22 PM
To: DME Petroleum Tenures
Subject: DERM request for fracking notifications

Hello,

We are looking into hydraulic fracturing activities which may have been undertaken on the following QGC affiliated companies' Level 2 tenures: s.73 irrelevant information ATP806 and s.73 irrelevant information

Would DEEDI please advise whether they have received any "intention to frac notifications" (not sure what the DEEDI term for them is) and provide DERM with copies of these notifications?

Any assistance you could give me would be greatly appreciated.

Regards

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

Smith Kim

From: Nand Parma
Sent: Monday, 23 May 2011 9:30 AM
To: Smith Kim
Cc: Drew David
Subject: FW: QGC - Level 2 EAs - Frac pond /frac issues
Follow Up Flag: Follow up
Flag Status: Red

FYI and noting for future actions as discussed.

Regards**Parma Nand**

Team Leader

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5616**Facsimile No:** (07) 3330 5634**Email:** parma.nand@derm.qld.gov.au**www.derm.qld.gov.au**

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

From: Belford Jim**Sent:** Thursday, 19 May 2011 2:54 PM**To:** Spalding Rob; Heiner Ian**Cc:** Brier Andrew; Harycki Kim; Paton Wendy; Nand Parma; Loveday Chris; Arnold Don; Donohue Ed; Evans Mark; Wells Melissa; Hill Chris**Subject:** QGC - Level 2 EAs - Frac pond /frac issues

Rob / Ian,

FYI, yesterday the P/G unit flagged with me that QGC want level 2 EAs to authorise the construction and establishment of frac ponds. Essentially QGC have submitted amendment applications to the P/G Unit asking that the definition of 'limited petroleum activities' be altered to incorporate the construction / use of frac ponds.

What the P/G unit have rightfully done is to question why QGC would want frac ponds without any EA conditions which specifically authorises fraccing activities (these particular EAs are silent on specific fraccing conditions).

In DERM's reply to QGC (re 'limited petroleum activities' definition and QGC's frac pond intentions), DERM has put forward to QGC, draft fraccing conditions. The rationale is simply: why would DERM accept the conditioning of frac ponds, and then not condition fraccing activity and conversely, why would QGC want frac ponds without actually fraccing.

Basically, DERM has declined QGC's amendment application relating to frac ponds, without correspondingly including specific fraccing conditions. QGC have 'refuted - disagreed' with this course of action.

P/G intention is to send QGC a letter encompassing:

- s 451 notice to QGC - requesting information on who their fraccing contractors are.
- Thereafter receiving that info, submit a s 451 notice to those identified fraccing contractors as to time/date/place they have fracted on QGC tenures for these specific EAs (this may potentially provide

information that QGC have undertaken fracking activities when / where they are not authorised to do so
- this would likely generate follow on compliance/enforcement action)

- The letter would also advise QGC that DERM may conduct proactive unannounced inspections of their fracking activities in general.

It is also likely that this process (s 451) may be replicated for other CSG proponents.

In relation to our work, the P/G in their letter to QGC, will reference the fact that DERM can undertake compliance audits of fracking activities. This may influence which fracking activities we want to proactively inspect, depending on the information gained from the s 451 process.

The intention to frac notification form, that DEEDI forward to DERM for information, is also likely to guide they way in which we proactively inspect fracking activities.

I have asked Parma to keep us informed of correspondence etc where compliance is mentioned / used / planned for these matters.

For your general information also, the tenures/ EA's which relate to these specific QGC matters are;

s.73 irrelevant information

PEN200013707, ATP 806

s.73 irrelevant information

Cheers,
Jim

Jim Belford

Director, LNG Enforcement Unit
Regional Service Delivery

Telephone: (07) 33305577 **Facsimile:** (07) 3330 5634 **Mobile:** (6) Personal information

www.derm.qld.gov.au

Department of Environment and Resource Management

Level 7 of 400 George St, Brisbane

GPO Box 2454, Brisbane, Qld, 4001

Smith Kim

From: Smith Kim
Sent: Friday, 6 May 2011 10:26 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Seismic Amendment - DERM Rev 2 Draft Conditions

Attachments: Rev 2 Draft Conds ATP806 OME.doc

Section 78B(2) RTI Act ATP 806 draft conditions attached.



Rev 2 Draft Conds
ATP806 OME.d...

[REDACTED]

From: Smith Kim
Sent: Wednesday, 4 May 2011 6:15 PM
To: [REDACTED]
Cc: [REDACTED]; Broadfoot Angus; Drew David
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions

[REDACTED] << File: Rev 2 Draft Conds ATP806 OME.doc >> << [REDACTED]

Hi Michael,
[REDACTED] ATP806, and ATP [REDACTED] revised draft conditions attached.

If QGC is relatively happy with these revised conditions and can get them me by first thing Friday morning, I will endeavour to have them out by COB Friday.

Thanks
Kim

From: Smith Kim
Sent: Wednesday, 4 May 2011 4:16 PM
To: [REDACTED]
Cc: [REDACTED]; Broadfoot Angus; Drew David
Subject: Seismic Amendment - DERM Rev 2 Draft Conditions
Importance: High

Hi [REDACTED]

I have been working on the draft conditions for the Level 2 amendments (s.73 irrelevant information ATP806 & s.73 irrelevant information)

I've attached DERM's Rev 2 Draft Conditions for QGC to review. I haven't had a chance to make these edits within the other EAs but they are all very similar. I've discussed QGC's proposed changes with the delegate. Some changes have been accepted/partially accepted/or rejected. I have included comments on these conditions.

The conditions still being negotiated/not agreed on have remained highlighted for ease of reference. Conditions which have been agreed upon aren't highlighted in this revision.

The remaining contentious points which the delegate has not agreed to are:

- wells within the Cat Bs or protection zones, or overlapping ESAs/protection zones;
- removal of terms "primary and secondary protection zones". (Sorry, but I've talked to our model conditions people and it looks like these terms are here to stay. I have put the ESA requirements into a table though.)
- Offsets are required of level 2's now.

I will send the others through as soon as I have made the changes.

s.73 irrelevant information

Can you please give me an indication of how long QGC will need to review and comment on the changes?

Thanks
Kim

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under Section 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD
ACN: 100 280 662

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: ☒ May 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*;
- The contaminated land provisions of the *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992*;
- *Forestry Act 1959*;
- *Water Supply (Safety and Reliability) Act 2008*; and
- *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A	General Conditions
Appendix A	Definitions
Appendix B	Environmentally Sensitive Areas
Appendix C	Criteria for environmentally relevant containment facilities
Appendix D	Schedule of Rehabilitation Costs

Schedule A- General Conditions

Condition 1 – Significant Disturbance

The holder of the environmental authority must ensure that petroleum activities do not cause more than 4 ha of any land to be significantly disturbed at a petroleum works site at any one time.

Condition 1 – Significant disturbance

The holder of this environmental authority must ensure that:

- (a) Petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time;
- (b) Prior to conducting petroleum activity(ies) that involve significant disturbance to land, an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;
- (c) The assessment required by Condition 1 (b) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*; and
- (d) A record of the assessment required by Conditions 1 (b) and 1 (c) must be kept and submitted to the administering authority upon request.

Condition 2 – Work Program, Development Plan

The applicant for or holder of the environmental authority must submit to the administering authority a copy of the original or any amended work program or development plan for the relevant application for or granted petroleum authority.

Condition 3 – Financial Assurance

- The holder of the environmental authority must:
- (a) calculate a financial assurance in accordance with the Schedule of Rehabilitation Costs and Schedule of Disturbance in Appendix C of this Authority;
- (b) attach the Schedule of Disturbance to the original or any amended Work Program or Development Plan;
- (c) provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of the original or any amended Work Program or development plan; and
- (d) maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Condition 5 – Land Management

- The holder of the environmental authority must:
- (a) take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and

- (b) ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and
 - i. stockpiled in a manner that will preserve its biological and chemical properties; and
 - ii. used for rehabilitation purposes (refer condition 14).

Condition 6 – Vegetation

The holder of the environmental authority must:

- (a) take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
- (b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

Condition 7 – Protection of Riverine Areas

The holder of the environmental authority must:

- (a) ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
- (b) minimise disturbance of all other riverine areas.

Condition 8 – Erosion and Sedimentation Control

The holder of the environmental authority must take all reasonable and practicable measures to prevent or minimise:

- (a) erosion of areas disturbed by petroleum activities; and
- (b) sedimentation of any waters as a result of petroleum activities.

Condition 9 – Dust Management

The holder of the environmental authority (petroleum activities) must ensure that:

- (a) dust or particulate matter or both resulting from a petroleum activity must not cause an environmental nuisance at any sensitive place or commercial place; and
- (b) when requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.

Condition 10 - Noise Management

- (a) Noise emitted from the temporary petroleum activities must not exceed the noise acoustic quality objective of 55 dB(A) at any sensitive or commercial place.
- (b) Noise emitted from the permanent petroleum activities must not exceed the noise levels, specified in the table below, at any sensitive place or commercial place.

Time period	Noise level at a sensitive place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am–6 pm	Background noise level plus 5 dB(A)
6pm–10pm	Background noise level plus 5 dB(A)
10pm–7am	Background noise level plus 3 dB(A)
Time period	Noise level at a commercial place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am –6 pm	Background noise level plus 10 dB(A)
6pm–10pm	Background noise level plus 10 dB(A)
10pm–7am	Background noise level plus 8 dB(A)

General note: In no case is the background noise level, $L_{Aeq, 15 \text{ min}}$ to be less than 25 dB(A). In the event that measured background noise level is less than 25 dB(A), then 25 dB(A) is to be used.

- (c) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.
- (d) The method of measurement and reporting of noise levels must be in accordance with most recent edition of the EPA's Noise Measurement Manual.

Condition 11 – Waste Management

The holder of the environmental authority must:

- (a) ensure that petroleum activities do not result in the release or likely release of a contaminants to land or waters that results in unlawful environmental harm; and
- (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

Condition 12 – Sewage Management and Disposal

The holder of this environmental authority must ensure that:

- (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
- (b) sewage effluent is not released to waters (including groundwater);
- (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
- (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
- (e) where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
- (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
- (g) there is no surface pond of effluent on land disposal area(s);
- (h) any noxious/offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
- (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Condition 13 – Storage of Hazardous Substances, Fuel and Oil

The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:

- (a) contained within an on-site containment system;
- (b) controlled in a manner that prevents environmental harm; and
- (c) maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 – 2004 *Storage and Handling of Flammable and Combustible Liquids*.

Condition 14 – Spills and clean up action

Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:

- (a) take immediate action to stop any further release;
- (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
- (c) restore or rehabilitate the environment to its condition before the release occurred; and
- (d) take necessary action to prevent a recurrence of the release.

Condition 15 – Associated Water

- (a) The holder of the environmental authority must ensure that associated water is not released to land or waters, other than to an appropriate containment facility except as provided for:
 - (i) under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*; and
 - (ii) Condition 15 (c).
- (b) Despite 15 (a) (i), the holder of the environmental authority must ensure that associated water to be used for domestic or stock purposes meets the accepted *ANZECC 2000 Water Quality Guidelines for Stock and Domestic Purposes*.
- (c) Despite 15 (a), the holder of the environmental authority may apply to the administrative authority to allow associated water that meets a nominated set of water quality standards to:
 - (i) be released to land or waters; or
 - (ii) be used for a specific purpose, provided the potential user has given written advice about the proposed use and environmental safeguards that will be implemented to prevent material or serious environmental harm.

Condition 16 – Containment Facilities

- (a) The holder of the environmental authority must ensure all environmentally relevant containment facilities are:
 - (i) designed, constructed, operated, maintained and decommissioned in accordance with the criteria outlined in Appendix B; and
 - (ii) not located within 100 m of any natural drainage feature (i.e. watercourses, waterway, wetland or lank).
- (b) The holder of the environmental authority must ensure all drill sumps are installed and maintained to prevent any discharge through the bed or banks of the sumps from causing environmental harm or environmental nuisance in any waters.

Condition 17 – Containment Facilities and Other Excavations

For all environmentally relevant activities and other excavations which are constructed as part of the petroleum activities, the holder of the environmental authority must where relevant either:

- (a) provide safe access for livestock where contained water quality is adequate for live stock; or
- (b) construct and maintain bunds and/or fences sufficient to exclude livestock.

Condition 18 – Rehabilitation

As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:

- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
- (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
- (c) on all significantly disturbed land, take all reasonable and practicable measures to:
 - i. re-establish surface drainage lines;
 - ii. reinstate the top layer of the soil profile; and
 - iii. promote establishment of vegetation of the same species and density of cover to that of the surrounding undisturbed areas.

Condition 19 – Infrastructure

All infrastructure, constructed by or for the holder of the environmental authority, including water storage structures, must be removed by the holder from the site and the sites rehabilitated according to condition 18, prior to surrender of the petroleum authority, except where it is to remain with the written agreement of the administering authority and post petroleum authority landowner / holder.

Condition 20 – Environmentally Sensitive Areas

The holder of this environmental authority must ensure that the petroleum activity(ies) is only conducted in accordance with Table 1 – Environmentally Sensitive Areas (ESAs) below for each of the ESA categories and associated primary and secondary protection zones.

Table 1 – Environmentally Sensitive Areas (ESAs)

ESA Category	Within the ESA	Within primary protection zone of the ESA	Within secondary protection zone of the ESA
All Category A ESAs	No petroleum activities permitted	No petroleum activities permitted	Limited petroleum activities permitted subject to conditions 4A and 4B
Category B ESAs excluding 'Endangered' regional ecosystems	No petroleum activities other than seismic activities permitted.	No petroleum activities other than seismic activities permitted.	Limited petroleum activities permitted subject to conditions 4A and 4B
Category B ESAs 'Endangered' regional ecosystems	No petroleum activities other than seismic activities permitted.	No petroleum activities other than seismic activities permitted.	Limited petroleum activities permitted subject to conditions 4A and 4B
Category C ESAs excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves	No petroleum activities other than seismic activities permitted.	No petroleum activities other than seismic activities permitted.	Limited petroleum activities permitted subject to conditions 4A and 4B
Category C ESAs: State Forests, Timber Reserves and 'Of Concern' regional ecosystems	Limited petroleum activities permitted subject to conditions XX	Limited petroleum activities permitted subject to conditions XX	Limited petroleum activities permitted subject to conditions 4A and 4B

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves.
Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at:
http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php.

Condition 20A

Limited petroleum activities carried out in the secondary protection zone in accordance with condition 20 must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees to the greatest practicable extent.

Condition 20B

Limited petroleum activities carried out within an environmentally sensitive area, primary protection zone or secondary protection zone as authorised under condition 20, must not be conducted where there is an

Comment [ks1]: QGC's preference for "buffer" and distances has been noted. DERM delegates have stipulated that the protection zone terms will continue to be used. The requirements have been tabulated for ease of reference.

Comment [ks2]: Changed to address QGC's concerns.

overlap with another environmentally sensitive area or primary protection zone where limited petroleum activities are not authorised.

Condition 20C

Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition 20B, the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:

- pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;
- undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
- pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
- areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.

Condition 20D

Prior to conducting limiting petroleum activity(ies) that involve significant disturbance to land within an ESA, primary protection zones or secondary protection zones:

- an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;
- the assessment required by Condition 20D(a) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the Nature Conservation Act 1992; and
- a record of the assessment required by Conditions 20D(b) and 20D(c) must be kept and submitted to the administering authority upon request.

Condition 20E

Where seismic activities are proposed to be undertaken within Endangered Regional Ecosystems, primary and secondary protection zones of Endangered Regional Ecosystems, or secondary protection zones of a Category A ESA the holder of this environmental authority must:

- not cause significant disturbance and/or clearing of vegetation;
- use pre-existing access and fence line tracks and other disturbed areas;
- not construct new access tracks;
- conduct seismic activities by foot where there are no existing access tracks;
- not clear or stick rake in any Endangered RE; and
- utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - deploy and retrieve geophones and cable through the crossing by foot; or
 - skip acquisition over the watercourse and restart on the other side.

Deleted: Despite condition 20, limited petroleum activities may be undertaken within the primary protection zone of, or in the following specified Category C Environmentally Sensitive Areas: 1) <#>Of Concern Regional Ecosystems; 1) <#>State Forests; 1) <#>Timber Reserves; 1)

1) provided that it does not overlap with any other Category A, B or C Environmentally Sensitive Area or its associated primary protection zone; 1) Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves. 1)

Comment [ks3]: This has been removed from condition 1 as requested by QGC and inserted here so that it applies to the amendment only.

Comment [ks4]: Previous 20D worked into Table 1

Condition 20F

Notwithstanding conditions 20 and 20C, where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in conditions 20, any vegetation clearing must not exceed any of the following areas:

- (a) for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition 1 of this environmental authority; and
- (b) more than 30 m² for the construction of a sump; or
- (c) more than six (6) metres in width for tracks; or
- (d) more than 12 metres in width for flow pipeline construction purposes.

Deleted: 20B

Deleted: 20B

Comment [ks5]: DERM now applies 5% to level 2 activities

Condition 20G

For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition 20B, all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Comment [ks6]: QGC's proposed condition 4D (well sites in Cat B and Cat B primary protection zones) is not accepted by DERM. Env impacts cannot be assessed due to unknown location/s of proposed wells, and potential impacts on Cat B ESA. May also trigger a level 1.

Condition 20H

Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, along with a record of the assessment required by condition 20D must be kept and submitted to the administering authority with each annual return.

Condition 20I – Disturbance to Land – Offsets

The environmental authority holder must enter in to an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmental value.

Comment [ks7]: DERM believes offsets are relevant – new activities being permitted

Comment [ks8]: Defined in the Qld Gov Environmental Offsets policy (June 2008 rev)

Condition 20J

The environmental offset agreement must be entered in to within six (6) months after submitting the record of disturbance required by condition 20H, unless otherwise agreed to by the administering authority.

Condition 20K

The environmental authority holder must implement any environmental offset agreement entered in to in accordance with conditions 20I and 20J as soon as practicable after finalisation.

Note: Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy", June 2008 and when the "Queensland Biodiversity Offset Policy" becomes available.

Condition 21- Exploration within Buffer of ERE

For exploration activities the environmental authority holder must comply with each of the standard environmental conditions contained in the Code of Environmental Compliance for Exploration and Mineral Development Projects, except Condition 13, which is replaced by 21 (a) to 21 (n) conditions.

- (a) The environmental authority holder is authorised to construct 1 borehole at ATP806 within the ERE buffer. The subsequent conditions, B2-1 to B4-2, authorises the environmental disturbance related to this borehole;
- (b) The operational area of the drill site within the 500m buffer must not exceed 1000m²;
- (c) The drill hole within the buffer of the ERE is limited to less than 200mm in diameter;
- (d) The construction of sumps within the ERE buffer must not exceed 10m²;
- (e) Topsoil stripping within the ERE buffer is limited to an area no greater than 25m x 25m;

- (f) The environmental holder must minimise disturbance within the ERE buffer and avoid clearing of trees;
- (g) Existing access and fence line tracks must be used wherever possible. Any new tracks are to be constructed by linking natural cleared or disturbed areas;
- (h) Track construction must avoid clearing of trees;
- (i) Where new tracks are required they will not be constructed greater than 5m in width;
- (j) Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised;
- (k) No clearing or disturbance for access to borehole will take place within the ERE;
- (l) Exploration within the ERE buffer must not involve costeaning or bulk sampling activities; and
- (m) Exploration camps must not be established within the ERE or ERE buffer

Condition 22 A– River Improvement Areas

All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Condition 22B – Wild river areas

In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Condition 23 – Heritage places and archaeological artefacts

The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 24 – Clearing vegetation

The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees to the greatest possible extent.

Comment [ks9]: Changed to address QGC's concerns

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

Condition 24A

The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Deleted: pipelines and wells

Condition 24C

Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not significantly impede vehicle, stock or wildlife movements.

Condition 25 – Maintenance of land rehabilitation

Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate:

- (a) the stability of landforms;
- (b) that erosion control measures remain effective;
- (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters;
- (d) that plants show healthy growth and recruitment is occurring; and
- (e) that rehabilitated areas are free of any declared pest plants.

Condition 26 – Rehabilitation Success

Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.

Condition 27 – Monitoring and Complaints

The holder of the environmental authority must:

- (a) develop and implement a monitoring program that will demonstrate compliance with this Authority;
- (b) document the monitoring and inspections carried out under the program and any actions taken;
- (c) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident; and
- (d) retain the record of complaints required by this condition for 5 years.

Condition 28– Notification

The holder of this environmental authority must:

- (a) telephone DERM's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental authority or any event where environmental harm has been caused or threatened; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

Condition 29 – Existing petroleum activities

Conditions 1, 20-20K, and 24-24B relating to disturbance only apply to petroleum activities which commenced after xx April 2011 in a state of derelict or EA.

Comment [ks10]: DERM agrees to QGC's proposed changes

End of Conditions

Appendix A - Definitions

APPEA Code means the current APPEA, Code of Environmental Practice.

AS 2885 Australian Standard Pipelines – Gas and Liquid Petroleum

Associated water is underground water taken from or interfered with from a petroleum well during the course of or resulting from carrying out petroleum activities. Associated water may be potable or suitable for stock purposes, or saline, high in fluoride, contain hydrocarbons, and/or is otherwise contaminated by a hazardous contaminant and become a hazardous waste.

Commercial place means a place used as an office or for business or commercial purposes.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to: the "completion" of the particular activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority. Under the APPEA Code "completion" refers to the point at which the particular survey, program or operation has been rehabilitated and abandoned.

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by:

- (a) noise, dust, odour, light; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

Evaporation pond means a dam or interceptor pond constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the pond.

Environmentally sensitive area (as determined from the EPA GIS data base) means a location, however large or small, that has environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

"ERE" means Endangered Regional Ecosystem.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of rehabilitating areas significantly disturbed by the petroleum activities.

Hazardous contaminant means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Land degradation includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

Licensed waste disposal facility is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the Environmental Protection Regulation 1998.

Limited petroleum activities mean only the following petroleum activities:

- o geophysical surveys (including seismic petroleum activities);
- o well sites;
- o well pads;
- o water pumps and generators associated with well operations;
- o sumps;
- o flare pits;
- o gathering / flow pipelines from a well head to the initial compression facility; and
- o supporting access tracks.

For clarity, limited petroleum activities exclude and are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o dams;
- o borrow pits;
- o ponds used to contain and/or store stimulation fluids;
- o compressor stations;
- o campsites / workforce accommodation;
- o power supplies;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline license)
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc), which is to be left by agreement with the landowner.

Pest means species:

declared under the Land Protection (Pest and Stock route Management) Act 2002; declared under Local Government model local laws; and which may become invasive in the future.

Petroleum activity is defined in the EP Act as an activity:

- a) authorised on a petroleum tenure granted under the Petroleum Act 1923; or
- b) authorised on a petroleum authority granted under the P&G Act; or
- c) exploring for or mining minerals under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the Petroleum (Submerged Lands) Act 1982; or
- d) rehabilitating or remediating environmental harm because of an activity mentioned in paragraphs (a) to (c); or
- e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d); or
- f) required under a condition of an environmental authority (petroleum activities); or
- g) required under a condition of an environmental authority (petroleum activities) that has ended or ceased to have effect, if the condition:
 - i. continues to apply after the authority has ended or ceased to have effect; and
 - ii. has not been complied with.

Petroleum Authority includes Authority to Prospect, Petroleum Lease, Data Acquisition Authority Water Monitoring Authority, Petroleum Facility Licence, Survey Licence and Pipeline Licence issued or granted under the Petroleum Act 1923 or Petroleum and Gas (Production and Safety) Act 2004.

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond,

compressor site and campsite. The following petroleum activities are excluded from the definition of petroleum works site: roads and tracks, seismic survey lines, and non-licensed gathering systems.

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Release of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Riverine area refers to the land confined to the flood flow channel of a watercourse.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means a area within a 300 metre buffer from the boundary of a primary protection zone.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off significantly disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off significantly disturbed areas. This may include silt fences, hay bales or grassed strips.

Sensitive place means

- (a) a dwelling, mobile home or caravan park, residential marina or other residential place;
- (b) a motel, hotel or hostel;
- (c) a kindergarten, school, university or other educational institution;
- (d) a medical centre or hospital;
- (e) a protected area;
- (f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organized entertainment.

Significantly disturbed land and significant disturbance means land if:

- (a) it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it:
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance

Examples of a disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a watercourse, waterway, wetland or lake where petroleum activities occur and human intervention is necessary to restore or stabilise the disturbed area;
- (e) areas submerged by hazardous waste storage and dam walls in all cases;

- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- (g) areas where land has become contaminated land and a suitability statement has not been issued.

However, for the purpose of this Authority the following areas are not significantly disturbed:

- (a) areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority);
- (b) areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction;
- (c) areas under permanent infrastructure;
- (d) areas that were significantly disturbed prior to the grant of the environmental authority, unless those areas are re-disturbed by the holder of the environmental authority during the term of the authority;
- (e) minor disturbances such as drill sumps and minor respreading of soil on GPS located seismic lines.

Stable means geo-technical stability of the rehabilitated landform i.e. settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping are unlikely to cause instability.

Temporary petroleum activities means drilling

Permanent petroleum activities means compressors, wells

Top layer of soil means soil, alluvium, weathered rock or other suitable plant growth medium. Top layer material should be non-crusting and low in salinity.

Turkey's nest dam - A dam constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the dam.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

APPENDIX B Environmentally Sensitive Areas**Category A and B environmentally sensitive areas**

Category A and B environmentally sensitive areas are listed in Section 25 and 26 respectively of the *Environmental Protection Regulation 2008*.

Category C environmentally sensitive areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Koala Habitat Area	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	Department of Environment and Resource Management
An area identified as essential habitat by the EPA for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the Nature Conservation Act 1992	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Declared Catchment Areas	<i>Water Act 2000</i>	Department of Environment and Resource Management and/or Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Environment and Resource Management and the Relevant River Trust
Former Designated Landscape Area - Stanbroke Pastoral Holding	<i>Aboriginal Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
Areas under Part 5 Division 2 of the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
State Forest or Timber Reserves	<i>Forestry Act 1959</i>	Department of Environment and Resource Management
DPI Research Sites	<i>Nil</i>	Department of Employment, Economic Development and Innovation
Areas of land occupied by the Bureau of Sugar Experiment Stations.	<i>Sugar Industry Act 1999</i>	Department of Employment, Economic Development and Innovation
Coastal Management Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Resource Management
Declared Areas	<i>Vegetation Management Act 1999</i>	Department of Environment

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
		and Resource Management
An area shown as a wetland on a 'map of referable wetlands'	<i>Environmental Protection Act 1994</i>	Department of Environment and Resource Management
Reserves under the Land Act 1994	<i>Land Act 1994</i>	Department of Environment and Resource Management
An 'of concern' regional ecosystem identified in the database maintained by the EPA called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.	<i>Nil</i>	Department of Environment and Resource Management

Important Note: Regional ecosystem classification is determined according to the Queensland Herbarium Biodiversity Status Classification. Information on ERE's is maintained by the DERM on the Regional Ecosystem Description Database.

APPENDIX C Criteria for environmentally relevant containment facilities

The holder of the environmental authority (petroleum activities) may require environmentally relevant containment facilities to be constructed within the petroleum authority for raw water storage, storage and evaporation of associated water or for the containment of contaminated solids formed from such waters. Environmentally relevant containment facilities are defined as "structures that may or could contain flowable substances that, in the event of collapse of the structure, failure to contain or discharge of either liquor, solids or gas, could or would adversely impact on the environment."

Associated water may be saline, contain hydrocarbons or other substances at certain concentrations that when released to land or waters may cause material or serious environmental harm. This does not prevent or limit the holder of the environmental authority from treating the associated water to a specified standard for subsequent discharge to land or waters, or on-supplied to a third party for beneficial reuse, providing it is authorised by the relevant environmental authority.

Appendix B provides for the environmental regulation of such containment facilities. The regulation of such facilities is based on both a hazard and risk assessment, which includes an assessment of the contents of the containment facility.

The assessment criteria presented in Tables 1 and 2 allow these structures to be classified as:

- High hazard containment facility;
- Medium hazard containment facility; or
- Low hazard containment facility.

High hazard containment facilities that could impact on life or property on collapse or failure are not permitted under this environmental authority and will require either site-specific conditions or will be conditioned under a level 1 environmental authority.

Step 1 - Assessing the contents of the relevant containment facility

The first step in the assessment process is to determine whether the facility contains substances that may be classed as hazardous if released to the environment. If the contents of the relevant containment facility, including either liquor and/or total solids, exceed the limits in Table 1, then the containment facility contains hazardous substances.

Table 1 – Criteria for determining the contents of the containment facility

Contaminant ¹	Liquor ²	Total solids ^{3,4}
Arsenic	0.5 mg/l	250 mg/kg
Boron	5.0 mg/l	15,000 mg/kg
Cadmium	10 µg /	100 mg/kg
Cobalt	1.0 mg/l	500 mg/kg
Copper	1.0 mg/l	5,000 mg/kg
Lead	0.1 mg/l	300 mg/kg
Mercury	2µg/l	75 mg/kg
Nickel	1.0 mg/l	3,000 mg/kg
Zinc	20 mg/l	35,000 mg/kg
Chloride	2,500 mg/l	-
Fluoride	2.0 mg/l	-
Selenium	0.02 mg/l	-
Sulphate	1,000 mg/l	-
Cyanide	10 mg/l	2,500 mg/kg
pH	Between 5.5 and 9.0	Net acid generation of pH <4
Nitrite	30 mg/l	-
Nitrate	400 mg/l	-
Total Dissolved Solids	4000 mg/l	-
Aromatic Hydrocarbons	800 µg/l	-
Polycyclic Aromatic Hydrocarbons	-	-
Naphthalene	16µg/l	-

Benzo (a) pyrene	0.2 C	-
Phenol	320 µg/l	-
Polychlorinated Biphenyls	-	-
Aroclor 1242	0.3 µg /l	-
Aro 1254	0.1 µg /l	-
Total Petroleum Hydrocarbons	10 mg/l (or no visible film)	-
Blue green Algae (Microcystis)	11,000 cells/ml	-

1. Metals should be analysed in accordance with recognised test methods by a NATA certified laboratory.
2. Applies to the liquid contents in the containment facility readily available to the environment (e.g. water available to birds and animals).
3. Total solids include suspended and colloidal solids.
4. Applies to the solids in the containment facility.

Step 2 - Determining other risk factors

The second step in the assessment process is to consider other factors that may increase the hazard category of the containment facility including its size, location and environmental setting. If a proposed containment facility exceeds any of the size and location criteria listed in Table 2, then the structure will be a high hazard containment facility.

Table 2 – Determination of other risk factors

	Threshold criteria for a high hazard containment facilities
Criterion 1 Location with respect to habitation or water infrastructure	In the event of collapse, failure or overflow from the containment facility, would result in one or more of the following actions, it would or could: <ul style="list-style-type: none"> • impact on occupied premises to a depth of more than 300 mm; or • flow to a sensitive or commercial place; or • flow to a riverine area containing permanent water; or • contaminate a water supply for human consumption; or • contaminate a water supply used for livestock.
Criterion 2 Location in catchments	The containment facility is located within a: <ul style="list-style-type: none"> • declared catchment or sub-artesian area; or • watercourse and the containment facilities surface area of water exceeds 1ha.
Criterion 3 Size	The containment facility has a surface area of water greater than 4 ha; or the containment facility has a volume of water greater than 20 mega litres.

Step 3 - Determining the hazard category

Table 3 summarises the process for determining the hazard category of containment facilities on a petroleum authority.

If any proposed containment facility cannot comply with the acceptance criteria listed in Table 1 but can comply with the size and location criteria listed in Table 2, then the structure will be a medium hazard containment facility. Similarly if the structure contains substances that may be hazardous and exceeds the criteria in Table 2 then the structure will be a high hazard containment facility.

Table 3 – Determination of hazard category

Concentration of liquor and total solids	Location and size	Hazard Category
Contents of the containment facility do not exceed limits in Table 1	Containment facility location and size do not trigger criterion 1 listed in table 2	The structure is a low hazard containment facility
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are below the criteria listed in table 2	The structure is a medium hazard containment facility.
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are above the criteria listed in table 2	The structure is a high hazard containment facility.

Design, construction, operation, maintenance and decommissioning criteria

Containment facilities are engineering structures and must be designed by professional engineer(s) who would normally apply the criteria defined below. A professional engineer should also be consulted in the development of the decommissioning plan.

Criteria for Low Hazard Containment Facilities

Low hazard containment facilities should be designed, constructed, operated and decommissioned in accordance with the "Queensland Small Embankment Dam Guideline".

Criteria for Medium Hazard Containment Facilities

In order to comply with the conditions of this environmental authority, design, construction, operation, maintenance and decommissioning of medium hazard containment facilities, must be in accordance with the following.

Design:

- Containment facilities with a capacity up to 3 mega litres are best constructed as *Turkey's Nest* structures;
- Containment facilities should be located to have the smallest practical catchment area;
- Containment facilities must have a spillway capable of passing a design flood, defined as the peak discharge from a critical duration storm with an annual exceedence probability of 1% (i.e. 1 in 100 yr event) or lower;
- The spillway should be located where practicable in the abutment of the containment facility or in the minimum height section of the containment facility;
- Any spillway discharge should be contained within stable defined channels until it enters any natural watercourse or waterway;
- For embankments built on stable foundations, not subject to draw down and out of uniform soil material, the batters shall be no steeper than those shown in the table below, unless otherwise shown to be stable:

Embankment Soil Classification (Universal soil classification)	Upstream Batter	Downstream Batter
GC, SC	2.5:1	2.0:1
CL, ML	3.5:1	2.5:1
CH, MH	3.5:1	2.5:1

GW, GP, GM, SW, SP, SM	Not suitable	Not suitable
------------------------	--------------	--------------

Note: The codes for the Universal Soil Classification (e.g. GC) are detailed in the Australian Standard AS 1726 1993 Geotechnical Site Investigation, Appendix A.

- Where foundation material differs from the embankment fill material, the batters shall be chosen conservatively to be consistent with the weaker material classification.

Construction:

- Embankments must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures, flow velocities, material strength, stability and durability.
- Fine grained soils used in embankment construction should be mechanically compacted when they are near or at the optimum moisture content (i.e. slightly plastic) to improve soil strength, minimise seepage and reduce the risk of piping failure
- Where geo-membranes are used, ensure that they are placed, anchored and joined in accordance with the manufacturer's specification.
- Where geo-membranes are used ensure that they are suitable to prevent leakage of the hazardous contaminants, which are contained within the containment facility.
- Where geo-membranes are used for liners, filters or drains, ensure that the geo-membrane is in contact only with fine-grained soils to prevent punching or tearing of the membrane.
- Embankments built out of pervious material must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures and flow velocities.
- Where foundation material differs from embankment fill material, the embankment should be constructed out of the material, which gives the flatter batter.
- Prior to construction of an embankment, the foundation should be cleared of all:
 - vegetation (grass, shrubs and trees);
 - soils containing organic matter (roots);
 - cracked soils (stiff plastic soils);
 - pervious soils (sand, gravel)
 - pervious material in rock faults, joints or the rock foundation itself.
- Prior to construction of an embankment, all transverse trenches, holes and other irregularities should be plugged or backfilled to create a generally undulating foundation for placement of the embankment.
- Fine-grained soils used in embankment construction should have a consistent texture and be free from foreign matter such as branches, logs, gravels or boulders etc.
- Fine-grained soils including dispersible soils should be placed in the centre of or towards the upstream faces of embankment containment facilities.
- Coarser grained soils and rock materials are to be placed towards and on the outer faces of embankment containment facility to minimise erosion and breaching potential.
- Dispersible and easily erodible soils should not be used on the outer faces of embankment containment facility.
- Provide adequate measures to control seepage through the containment facility wall and the transmission of contaminants through underlying soil layers or rock stratum.
- Embankment containment facility should be constructed with stable earth materials that will not decay or generate leachate or hazardous contaminants.

Operation:

- The containment facility should be operated to maintain a minimum freeboard of 0.5m below the spillway level.
- To ensure that there is no leakage of hazardous wastes from any containment facility associated with the petroleum activity a field based groundwater monitoring program must be established to

ensure there is no contamination of any unsaturated perched systems or existing groundwater aquifers in the vicinity of the works. Three or more monitoring bores specifically designed for this purpose should be located in a cluster between the contaminant source and any environmentally sensitive place. The monitoring program should regularly record:

- i. water levels;
 - ii. water quality;
 - iii. flow rates; and
 - iv. direction of flow.
- (c) As far as practicable minimise seepage and return any contaminated seepage to the containment facility.

Maintenance:

- (a) Maintain the erosion resistance of the downstream face of the containment facility to avoid surface scour, which may lead to failure of the wall;
- (b) Maintain the erosion resistance of the spillway to avoid scouring during the design flood;
- (c) Prevent the establishment of trees or shrubs on water containing embankments (roots initiate seepage paths);
- (d) Control of burrowing insects and animals (initiation of piping paths);
- (e) Repair active erosion and piping processes; and
- (f) During initial filling or commissioning, the containment facility should be monitored for leaks, seepages, embankment deformation or other signs of embankment distress.

Decommissioning:

- (a) Removing (where possible) all remaining liquids in the containment facility (e.g. it is generally acceptable to evaporate the liquid if the containment facility is not to be left to the land owner / holder).
- (b) Remove (where possible) all contaminated solids from the containment facility and encapsulate in a purpose built storage facility, or encapsulate any residual contaminated solids in situ by capping with an appropriate capillary break and with one metre of clay or similar impermeable material;
- (c) Design, install and maintain adequate diversion drains or similar structures to protect or minimise the erosion of any exposed surfaces by stormwater runoff;
- (d) Design, install and maintain adequate surface drainage to prevent water ponding and infiltration into any contaminated materials;
- (e) Address contaminated site issues by referring to Notes 11.2 and 11.3 of this environmental authority;
- (f) Establish a monitoring program to determine the success of the decommissioning plan;
- (g) If required, remove the wall of the containment facility; and
- (h) Rehabilitate the disturbed areas in accordance with the rehabilitation conditions of this environmental authority.

APPENDIX D Schedule of Rehabilitation Costs

OIL ACTIVITIES	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$10,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$500 per line, plus \$200 per km
Borrow pit	\$1,000 each
Evaporation pond	Site-specific estimation
Storage tank	\$5,000 per tank
Contaminated land survey	\$20,000 per facility
Sampling	\$5,000 per facility
Bioremediation land farm	\$5,000 per facility
Infrastructure	Site specific estimation
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$5,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$200 per km
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation

Environmental Authority No. PEN200013707

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Coal Seam Gas wells <350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$1,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Flow lines - buried	\$500 per line
Flow lines - surface	\$200 per line
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

Note: Rehabilitation cost estimates must be based on third party costs for rehabilitation of land that has been "significantly disturbed" and may be reviewed annually by the administering authority.

Date Granted xx xxxxxxxxxxxxxx 2010

Page 25 of 25

Smith Kim

From: Smith Kim
Sent: Friday, 9 September 2011 4:13 PM
To: s.73 irrelevant information
Cc: s.73 irrelevant information
Subject: ATP806 PEN200013707 OME Resources Australia Pty Limited.

Attachments: 09092011 Dec Notice PEN200013707 ATP806.pdf; 09092011 PEN200013707 ATP806.pdf; is-bi-review-and-appeal-court-em1866.pdf



09092011 Dec
Notice PEN200013707 ATP806



09092011



is-bi-review-and-ap
peal-court-...

Hello Fiona,

Please find attached a decision notice, environmental authority and review and appeal rights PEN200013707 on ATP806.

Regards

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management
GPO Box 2454, Brisbane, QLD 4001.

Notice

Environmental Protection Act

Decision to grant an amendment application for a level 2 non-code compliant environmental authority (chapter 5A activities)

This statutory notice is issued by the administering authority pursuant to sections 310Y and 311 of the Environmental Protection Act 1994, to advise you of a decision or action.

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD 4000

Your reference : ATP806 / PEN200013707
Our reference : 315483 / BNE44652

Attention: irrelevant information

Re: Application to amend a level 2 non-code compliant environmental authority (chapter 5A activities) by OME Resources Australia Pty Limited on Authority to Prospect (ATP) 806.

The above mentioned application was received by this office on 22 December 2010. The administering authority has decided to grant the application pursuant to section 310Y of the *Environmental Protection Act 1994* as follows:

Principal Holder	Joint Holder(s)	Resource Authority	Environmental Authority number	Decision
OME Resources Australia Pty Limited	N/A	ATP806	PEN200013707	Granted on 9 September 2011

Should you have any queries in relation to this Notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.

Decision to grant an application for a level 2 non-code compliant
environmental authority (chapter 5A activities)

sch4p4(6) Personal information

Signature

9/9/11

Date

David Drew

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Petroleum & Gas Unit
Department of Environment and Resource
Management
Floor 7, 400 George Street
BRISBANE QLD 4000
GPO Box 2454
BRISBANE QLD 4001
Ph: (07) 3330 5609
Fax: (07) 3330 5634

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under Section 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD
ACN: 100 280 662

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: 9 September 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

sch4p4(6) Personal information

9/9/11
Date

David Drew
Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:
 - *Aboriginal Cultural Heritage Act 2003*;
 - The contaminated land provisions of the *Environmental Protection Act 1994*;
 - *Nature Conservation Act 1992*;
 - *Forestry Act 1959*;
 - *Water Supply (Safety and Reliability) Act 2008*; and
 - *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A	General Conditions
Schedule B	Water
Schedule C	Dams
Schedule D	Land
Schedule E	Environmental Nuisance
Schedule F	Waste
Schedule G	Rehabilitation
Schedule H	Stimulation Activities
Schedule I	Community Issues
Schedule J	Notification Procedures
Appendix A	Definitions

Schedule A – General Conditions

Authorised Petroleum Activities

- (A1) This environmental authority authorises petroleum activities for exploration and appraisal purposes, which are limited to:
- (a) coal seam gas wells including incidental activities such as well pads, water pumps and generators associated with well operations, sumps for storing drilling muds, and flare pits;
 - (b) limited petroleum activities;
 - (c) low impact petroleum activities;
 - (d) low hazard dams;
 - (e) dams other than those defined as low hazard or regulated dams;
 - (f) borrow pits;
 - (g) pipelines associated with production testing (excluding pipelines that require a pipeline license);
 - (h) temporary structures such as accommodation camps and sewage treatment plants; and
 - (i) stimulation activities.

Prevent or Minimise Likelihood of Environmental Harm

- (A2) This environmental authority does not authorise environmental harm unless a condition contained in this environmental authority explicitly authorises that harm. Where there is no condition, the lack of a condition shall not be construed as authorising harm.

Maintenance of Measures, Plant and Equipment

- (A3) The holder of the environmental authority must:
- (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;
 - (b) maintain such measures, plant and equipment in their proper and effective condition; and
 - (c) operate such measures, plant and equipment in a proper and effective manner.
- (A4) No change, replacement or alteration of any plant or equipment is permitted if the change, replacement or alteration materially increases, or is likely to increase, the environmental harm caused by the petroleum activity(ies).

Financial Assurance

- (A5) The holder or proposed holder of this environmental authority must:
- (a) calculate a financial assurance as required by the administering authority; and
 - (b) attach a completed Schedule of Disturbance to the original and any amended work program or development plan; and
 - (c) provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of any original, later or amended work program or development plan; and
 - (d) maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Existing petroleum activities

- (A6) Within one year from the grant of the environmental authority, the holder of the environmental authority must conduct an audit of the existing petroleum activities that commenced before 9 September 2011.

- (A7) The audit of existing petroleum activities required by Condition (A6) must:
- (a) identify all current infrastructure in place (including accurate location) on the tenement prior to 9 September 2011;
 - (b) be included in an audit report;
 - (c) assess whether the current financial assurance held for the environmental authority continues to be of an adequate amount.
- (A8) The audit report required by Condition (A7)(b) must be provided to the administering authority with the first annual return following the issue of this environmental authority.
- (A9) Conditions (D4) to (D18) in Schedule D – Land relating to disturbance only apply to petroleum activities which commenced after 9 September 2011, subject to the petroleum activities being included within the audit of existing petroleum activities and audit report required by Conditions (A6), (A7) and (A8).

Monitoring Program

- (A10) The holder of this environmental authority must:
- (a) develop a monitoring program that will demonstrate compliance with the conditions of the environmental authority;
 - (b) document monitoring and inspections carried out under the monitoring program and any actions taken; and
 - (c) record, compile and keep for a minimum of seven (7) years all monitoring results and data.

Schedule B – Water

Contaminant Release to Water

- (B1) Contaminants must not be directly or indirectly released to waters except as permitted under this environmental authority.

Protection of Riverine Areas

- (B2) The holder of the environmental authority must:
- (a) ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
 - (b) minimise disturbance of all other riverine areas.

River Improvement Areas

- (B3) All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Wild river areas

- (B4) In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Schedule C – Dams

Assessment of Hazard Category

- (C1) The hazard category of each low hazard dam must be assessed by a suitably qualified and experienced person in accordance with the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", as amended from time to time.
- (C2) The hazard assessment required under condition (C1) must occur in any of the following situations:
 - (a) prior to the design and construction of the dam;
 - (b) prior to any change in its purpose or its stored contents;
 - (c) for an existing low hazard dam, within 1 year of the date of grant of this environmental authority
- (C3) A hazard assessment report and certification must be prepared for any dam assessed and the report may include a hazard assessment for more than one dam.
- (C4) The holder must, on receipt of a hazard assessment report and certification, provide to the Administering Authority one paper copy and one electronic copy of the hazard assessment report and certification.
- (C5) All certifications must be in the form set out in the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", as amended from time to time.
- (C6) Regulated dams are not authorised on ATP806.

Construction of Low Hazard Dam to Contain Wetting Front

- (C7) Where a dam is assessed as low hazard, it must be
 - (a) constructed, operated and maintained in accordance with accepted engineering standards currently appropriate for the purpose for which the dam is intended to be used; and
 - (b) designed with a floor and sides made of material that will contain the wetting front and any entrained contaminants within the bounds of the containment system during both its operational life and including any period of decommissioning and rehabilitation.
- (C8) In the event of early signs of loss of structural or hydrological integrity of a low hazard dam, the holder of this environmental authority must:
 - (a) take immediate action to prevent or minimise any actual or potential environmental harm; and
 - (b) report in writing to the administering authority, any findings and actions taken within 20 business days of that event.

Monitoring of Low Hazard Dams

- (C9) The condition of all low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity, based on the advice of a suitably qualified and experienced person. The methods of monitoring and frequency of monitoring shall be as assessed by the person who conducts the hazard assessment based on the particular circumstances of each dam.

Schedule D – Land

Contaminant Release to Land

- (D1) Contaminants must not be directly or indirectly released to land, except as permitted under this environmental authority.

Significant disturbance

- (D2) The holder of this environmental authority must ensure that petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time.

Land Management

- (D3) The holder of the environmental authority must:
- (a) take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and
 - (b) ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and
 - i. stockpiled in a manner that will preserve its biological and chemical properties; and
 - ii. used for rehabilitation purposes.

Environmentally Sensitive Areas

- (D4) The holder of this environmental authority must ensure that the petroleum activity(ies) is only conducted in accordance with *Schedule D, Table 1 – Environmentally Sensitive Areas (ESAs)* below for each of the ESA categories and associated primary and secondary protection zones.

Schedule D, Table 1 – Environmentally Sensitive Areas (ESAs)

ESA Category	Within the ESA	Within primary protection zone of the ESA	Within secondary protection zone of the ESA
All Category A ESAs	No petroleum activities permitted	No petroleum activities permitted	Limited petroleum activities permitted subject to conditions (D5), (D6), (D8) and (D11).
Category B ESAs excluding Endangered Regional Ecosystems	No petroleum activities permitted other than seismic activities subject to condition (D11)	No petroleum activities permitted other than seismic activities subject to condition (D11)	Limited petroleum activities permitted subject to conditions (D5), (D6), (D8) and (D11).
Category B ESAs: Endangered Regional Ecosystems	No petroleum activities permitted other than seismic activities subject to condition (D11) and access tracks subject to conditions (D6), (D8) and (D15).	No petroleum activities permitted other than seismic activities subject to condition (D11) and access tracks subject to conditions (D6), (D8) and (D15).	Limited petroleum activities permitted subject to conditions (D5), (D6), (D8) and (D11).

Category C ESAs excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves	No petroleum activities other than seismic activities permitted subject to condition (D11).	No petroleum activities other than seismic activities permitted subject to condition (D11).	Limited petroleum activities permitted subject to conditions (D5) and (D6).
Category C ESAs: State Forests, Timber Reserves and 'Of Concern' regional ecosystems	Limited petroleum activities permitted subject to conditions (D5) to (D8), and (D12) to (D14).	Limited petroleum activities permitted subject to conditions (D5) to (D8), and (D12) to (D14).	Limited petroleum activities permitted subject to conditions (D5) and (D6).

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves.

Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at:
http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php.

- (D5) Limited petroleum activities carried out in the secondary protection zone in accordance with condition (D4) must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees to the greatest practicable extent.
- (D6) Limited petroleum activities carried out within an environmentally sensitive area, primary protection zone or secondary protection zone as authorised under condition (D4) must not be conducted where there is an overlap with another environmentally sensitive area or primary protection zone where limited petroleum activities are not authorised.
- (D7) Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition (D4), the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:
- pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;
 - undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
 - pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
 - areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.
- (D8) Prior to conducting limited petroleum activity(ies) that involve significant disturbance to land within an ESA, primary protection zones, or secondary protection zones:
- an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;

- (b) the assessment required by condition (D8)(a) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*; and
 - (c) a record of the assessment required by conditions (D8)(a) and (D8)(b) must be kept and submitted to the administering authority upon request.
- (D9) If the assessment required by conditions (D8)(a) and (D8)(b) indicates that the biodiversity status of a Regional Ecosystem mapped as Endangered or Of Concern by the Queensland Herbarium should be in a different conservation value classification, the holder of the environmental authority must advise the administering authority in writing before any significant disturbance to land takes place.
- (D10) If, within the 20 business days following the lodgement of the notification under condition (D9), the administering authority notifies the holder of the environmental authority, in writing, that the Regional Ecosystem mapping requires further validation, then significant disturbance to land in the mapped regional ecosystem is prohibited until the administering authority provides written advice that significant disturbance to land may proceed.
- (D11) Where seismic activities are proposed to be undertaken within Endangered Regional Ecosystems, primary and secondary protection zones of Endangered Regional Ecosystems, secondary protection zones of a Category A ESA, Category C ESAs (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves), or primary protection zone of a Category C ESA (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves) the holder of this environmental authority must:
- (a) not cause significant disturbance and / or clearing of vegetation;
 - (b) use pre-existing access and fence line tracks and other disturbed areas;
 - (c) not construct new access tracks;
 - (d) conduct seismic activities by foot where there are no existing access tracks;
 - (e) not clear or stick rake in any Endangered RE; and
 - (f) utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - (i) deploy and retrieve geophones and cable through the crossing by foot; or
 - (ii) skip acquisition over the watercourse and restart on the other side.
- (D12) Notwithstanding conditions (D4) and (D7), where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in conditions (D4), any vegetation clearing must not exceed any of the following areas:
- (a) for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition (D8)(b) of this environmental authority; and
 - (b) more than 30 m² for the construction of a sump; or
 - (c) more than ten (10) metres in width for tracks; or
 - (d) more than 12 metres in width for flow pipeline construction purposes.

- (D13) For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition (D4), all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.
- (D14) Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, along with a record of the assessment required by condition (D8) must be kept and submitted to the administering authority with each annual return.
- (D15) Access tracks are permitted within the primary protection zone of, or in Endangered Regional Ecosystems, if:
- (a) there is no viable alternative access option that avoids the Endangered Regional Ecosystem; and
 - (b) the access track is pre-existing;
 - (c) the upgrade of the existing access track will not:
 - (i). negatively impact on the Endangered Regional Ecosystem; nor
 - (ii). result in the clearing of native vegetation (other than grass, isolated immature individuals or branch lopping of isolated mature individuals); and
 - (d) the width of an access track is limited to :
 - (i) 6 metres where the pre-existing access track is less than 6 metres in width; and
 - (j) the width of pre-existing access track to a maximum width of 10 metres where the pre-existing access track is greater than 6 metres.

Disturbance to Land – Offsets

- (D16) The environmental authority holder must enter into an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmental value of an environmentally sensitive area or primary protection zone.
- (D17) The environmental offset agreement must be entered into within six (6) months after submitting the record of disturbance required by condition (D14), unless otherwise agreed to by the administering authority.
- (D18) The environmental authority holder must implement any environmental offset agreement entered into in accordance with conditions (D16) and (D17) as soon as practicable after finalisation.

Note: Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy" June 2008 and when the 'Queensland Biodiversity Offset Policy' becomes available.

Clearing Vegetation

- (D19) The holder of the environmental authority must:
- (a) take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
 - (b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

- (D20) The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees to the greatest possible extent.
- Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.*
- (D21) Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not significantly impede vehicle, stock or wildlife movements.
- (D22) The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.
- (D23) The holder of this environmental authority must not clear vegetation or place fill:
- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. impacts associated with edge effects or introduced species);
 - (b) on dispersible soils or highly erodible soils to the greatest practicable extent;
 - (c) on slopes greater than 10% for activities other than limited petroleum activities; or
 - (d) in discharge areas.

Erosion and Sediment Control

- (D24) For the first six (6) months from the date of grant of the environmental authority, an Interim Erosion and Sediment Control Plan must be implemented for the activities to be undertaken under this environmental authority.
- (D25) The Interim Erosion and Sediment Control Plan must:
- (a) prevent or minimise the release of contaminants from disturbed areas to avoid environmental harm from being caused; and
 - (b) include similar types of measures and devices as described in condition (D27).
- (D26) A revised Erosion and Sediment Control Plan, which has been certified by a suitably qualified person, must be developed within six (6) months of the date of grant of this environmental authority.
- (D27) The Erosion and Sediment Control Plan must include but not necessarily be limited to:
- (a) managing and / or diverting uncontaminated stormwater run-off around areas disturbed by the petroleum activity(ies) or where contaminants or wastes are stored or handled that may contribute to contamination of waters;
 - (b) ensuring that contaminated stormwater runoff and incident rainfall is collected, treated, reused, or released in accordance with the conditions of this environmental authority;
 - (c) roofing or minimising the size of areas where contaminants or wastes are stored or handled;
 - (d) revegetating disturbed areas as soon as practicable after the completion of works;

- (e) using materials and or processes (e.g. dry absorbents) to clean up spills that will minimise contamination of waters;
 - (f) placing erosion and sediment control structures to minimise erosion of disturbed areas and prevent the contamination of waters;
 - (g) an inspection and maintenance program for the erosion and sediment control measures;
 - (h) provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from November to April;
 - (i) additional erosion and sediment control measures for construction of wells and pipelines on slopes >10%;
 - (j) a surface water monitoring program designed to detect impacts from sediment runoff into waters;
 - (k) identification of remedial actions required to ensure compliance with the conditions of this environmental authority; and
 - (l) details of strategies and processes to be used in further developing and implementing the Erosion and Sediment Control Plan.
- (D28) The holder of this environmental authority must implement the Erosion and Sediment Control Plan.
- (D29) A copy of the Erosion and Sediment Control Plan must be made available to any potentially affected landholders upon request by that landholder.
- (D30) A copy of the Erosion and Sediment Control Plan must be submitted to DERM at any time upon request.

Heritage places and archaeological artefacts

- (D31) The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Storage of Hazardous Substances, Fuel and Oil

- (D32) The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:
- (a) contained within an on-site containment system;
 - (b) controlled in a manner that prevents environmental harm; and
 - (c) maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 –2004 *Storage and Handling of Flammable and Combustible Liquids*.

Spills and clean up action

- (D33) Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:
- (a) take immediate action to stop any further release;
 - (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
 - (c) restore or rehabilitate the environment to its condition before the release occurred; and
 - (d) take necessary action to prevent a recurrence of the release.

Schedule E – Nuisance

Release of contaminants to the atmosphere

- (E1) The release of odour, dust or any other airborne contaminant(s), or light from the petroleum activity(ies) must not cause an environmental nuisance at any sensitive place.

Nuisance monitoring (other than noise)

- (E2) When the administering authority advises the holder of this environmental authority of a complaint alleging nuisance other than noise, the holder must investigate the complaint as soon as practicable.
- (E3) The holder of this environmental authority must advise the administering authority in writing of the action proposed or undertaken to resolve the complaint within three (3) business days of completing the complaint investigation.
- (E4) When requested by the administering authority, the holder of this environmental authority must undertake monitoring as specified by the administering authority, within a reasonable and practical timeframe nominated by the administering authority to investigate any complaint of environmental nuisance at any sensitive place.
- (E5) The results of the investigation (including an analysis and interpretation of the monitoring results) and the abatement measures implemented must be provided to the administering authority within five (5) business days of receiving the advice under condition (E4), unless a longer time is agreed to in writing by the administering authority.
- (E6) If monitoring in accordance with condition (E4) indicates that emissions exceed the limits set in this environmental authority or are causing environmental nuisance, then the holder of this environmental authority must:
- (a) address the complaint including the use of alternative dispute resolution services if required; and / or
 - (b) implement abatement or attenuation measures so that the authorised petroleum activity(ies) does not result in further environmental nuisance.

Noise

- (E7) Prior to the commencement of each petroleum activity (excluding seismic activities) authorised by this environmental authority, an Interim Noise Management Plan is required to be in place for that activity, which:
- (a) minimises noise impacts resulting from petroleum activities; and
 - (b) ensures compliance with *Schedule E, Table 1 – Noise Limits at Sensitive Receptors As LAeq adj.*
- (E8) Where there is a conflict between the contents of the Interim Noise Management Plan and the conditions of this environmental authority, the conditions of this environmental authority prevail.
- (E9) The holder of this environmental authority must prepare and implement a Final Noise Management Plan which has been certified by a suitably qualified person by 9 December 2011.

- (E10) The Final Noise Management Plan required by condition (E9) must include, but not necessarily be limited to:
- (a) a commitment by the Chief Executive Officer for the holder of this environmental authority, or their delegate, to ensure adequate allocation of staff and resources to the establishment and operation of the Noise Management Plan;
 - (b) definition of roles, responsibilities and authorities within the staffing of the Noise Management Plan;
 - (c) delivery of training to staff and contractors and maintenance of competencies;
 - (d) risk / constraint analysis methods to be undertaken prior to any new operation (e.g. drill site) or installation of new equipment that has the potential to create noise nuisance;
 - (e) procedures and methods to undertake assessments to determine compliance with the noise limits in *Schedule E, Table 1 – Noise limits at Sensitive Receptors* in the event of a valid complaint being received and when there are no alternative arrangements in place, taking in to account any tonal or impulsive noise impacts;
 - (f) procedures for handling noise complaints;
 - (g) community liaison and consultation procedures including but not limited to consultation for when night time petroleum activities (i.e. between 10:00 pm and 6:00 am) are assessed as being likely to exceed 25 dBA at sensitive receptors;
 - (h) procedures for managing records associated with all aspects of the Noise Management Plan including standardised forms for recording monitoring results and complaints;
 - (i) details of petroleum activities and measured and / or predicted noise levels of noise sources associated with those activities;
 - (j) reasonable and practicable control or abatement measures (including relocating the activity, altering the hours of operation, or having an alternate arrangement in place with any potentially affected person) that can be undertaken to ensure compliance with the noise limits in *Schedule E, Table 1 – Noise limits at Sensitive Receptors*;
 - (k) the level of noise at sensitive receptors that would be achieved from implementing the measures detailed under condition (E10)(j); and
 - (l) mediation processes to be used in the event that noise complaints are not able to be resolved.
- (E11) Prior to undertaking petroleum activities that will result in short-term, medium-term or long term noise events that are likely to impact on a sensitive receptor, the holder of this environmental authority must model or calculate any potential noise emissions from the relevant petroleum activity(ies) and determine if noise emissions are likely to exceed the noise levels specified in *Schedule E, Table 1 – Noise limits at Sensitive Receptors*.
- (E12) The emission of noise from the petroleum activity(ies) authorised under this environmental authority must not result in levels greater than those specified in *Schedule E, Table 1 – Noise limits at Sensitive Receptors* in the event of a valid complaint about noise being made to the administering authority.

Schedule E, Table 1– Noise Limits at Sensitive Receptors as $L_{Aeq, adj}$ *

Time Period	Metric	Short-term Noise Event	Medium-term Noise Event	Long Term Noise Event
7:00am – 6:00pm	$L_{Aeq,adj}, 15 \text{ min}$	$L_{ABG} + 10 \text{ dBA}$	$L_{ABG} + 8 \text{ dBA}$	$L_{ABG} + 5 \text{ dBA}$
	Max $L_{pA}, 15 \text{ mins}$	55 dBA	51 dBA	45 dBA
6:00pm – 10:00pm	$L_{Aeq,adj}, 15 \text{ min}$	$L_{ABG} + 10 \text{ dBA}$	$L_{ABG} + 8 \text{ dBA}$	$L_{ABG} + 5 \text{ dBA}$
	Max $L_{pA}, 15 \text{ mins}$	50 dBA	46 dBA	40 dBA
10:00pm – 6:00am	$L_{Aeq,adj}, 15 \text{ min}$	$L_{ABG} + 3 \text{ dBA}$	$L_{ABG} + 3 \text{ dBA}$	$L_{ABG} + 3 \text{ dBA}$
	Max $L_{pA}, 15 \text{ mins}$	38 dBA	36 dBA	33 dBA
6:00am – 7:00am	$L_{Aeq,adj}, 15 \text{ min}$	$L_{ABG} + 10 \text{ dBA}$	$L_{ABG} + 8 \text{ dBA}$	$L_{ABG} + 5 \text{ dBA}$
	Max $L_{pA}, 15 \text{ mins}$	50 dBA	46 dBA	40 dBA
Drilling activities undertaken from 10:00pm – 7:00am	$L_{Aeq,adj}, 15 \text{ min}$	30 dBA (Must be measured indoors at any sensitive receptor)		

L_{Aeq} and Max L_{pA} are to be measured over any 15 minute period.

L_{ABG} is the deemed background noise levels which for the purposes of Schedule E Table 1 - Noise Limits at Sensitive Receptors as $L_{Aeq,adj}$ are:

7:00 am – 6:00 pm: 35 dBA
6:00 pm – 10:00 pm: 30 dBA
10:00 pm – 6:00 am: 25 dBA
6:00 am – 7:00 am: 30 dBA

- (E13) If the noise subject to a complaint is tonal or impulsive, the adjustments detailed in *Schedule E, Table 2 – Adjustments to be Added to Noise Levels at Sensitive Receptors* are to be added to the measured noise level(s) to derive $L_{Aeq, adj}, 15 \text{ min}$.

Schedule E, Table 2– Adjustments to be Added to Noise Levels at Sensitive Receptors

Noise Characteristic	Adjustment to Noise
Tonal characteristic is just audible	+ 2 dBA
Tonal characteristic is clearly audible	+ 5 dBA
Impulsive characteristic is just audible	+ 2 dBA
Impulsive characteristic is clearly audibly	+ 5 dBA

Note: Where the application of a tonal or impulsive adjustment as per Table 2 is unclear or in dispute, refer to AS1055.1 Section 6.6 for a quantitative methodology to confirm the applicability of noise adjustments

- (E14) Where alternative arrangements are in place with an affected person(s) at a sensitive receptor as referred to by condition (E10)(j), the noise limits in *Schedule E, Table 1 – Noise limits at Sensitive Receptors* do not apply at that sensitive receptor for the duration for which the alternative arrangements are in place.

Low Frequency Noise

- (E15) Notwithstanding condition (E11), emission of any low frequency noise must not exceed the following limits in the event of a valid complaint about low frequency noise being made to the administering authority:
- (a) 60 dB(C) measured outside the sensitive receptor; and
 - (b) the difference between the external A-weighted and C-weighted noise levels is no greater than 20 dB; or
 - (c) 50 dB(Z) measured inside the sensitive receptor; and
 - (d) the difference between the internal A-weighted and Z-weighted noise levels is no greater than 15 dB.

Noise Monitoring

- (E16) The holder of this environmental authority must undertake noise monitoring as soon as practicable when requested by the administering authority.
- (E17) The holder of this environmental authority must report the results of noise monitoring to the administering authority within three (3) business days of completion of the monitoring event.
- (E18) Noise monitoring and recording must include, but not necessarily be limited to:
- (a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T=15 mins);
 - (b) $L_{Aeq\ adj, 15\ mins}$;
 - (c) background noise level as $L_{A\ 90, 15\ mins}$;
 - (d) Max $L_{pA, 15\ mins}$;
 - (e) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to measured noise levels;
 - (f) atmospheric conditions including temperature, relative humidity and wind speed and directions;
 - (g) effects due to any extraneous factors such as traffic noise;
 - (h) location, date and time of monitoring;
 - (i) if the complaint concerns low frequency noise, Max $L_{pZ, 15\ mins}$; and
 - (h) if the complaint concerns low frequency noise, one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range for both the noise source and the background noise in the absence of the noise source.
- (E19) The method of measurement and reporting of noise levels and background sound pressure levels must comply with the Department of Environment and Resource Management's "Noise Measurement Manual" 2000 or Australian Standard 1055 as amended from time to time.

Vibration and Blasting

- (E20) A Blast Management Plan must be developed in accordance with Australian Standard 2187 by a suitably qualified person prior to each blasting activity.
- (E21) The Blast Management Plan must include measures to minimise the likelihood of any adverse effects being caused by airblast overpressure and / or ground borne vibrations at any sensitive receptor and demonstrate current best practice environmental management.

- (E22) All blasting must be carried out in a proper manner by a suitably qualified person.
- (E23) All blasting must be carried out in accordance with the Blast Management Plan.
- (E24) Noise from blasting operations must not exceed an airblast overpressure level of 120 dB (linear peak) at any time, when measured at or extrapolated to any sensitive receptor.
- (E25) Ground-borne vibration peak particle velocity caused by blasting operations must not exceed 10 mm/s at any time, when measured at or extrapolated to any sensitive receptor.

Blast and Vibration Monitoring

- (E26) Monitoring and recording of the air blast overpressure and ground borne vibration of every blast must be undertaken.
- (E27) Blast and vibration monitoring must include but not necessarily be limited to:
 - (a) maximum instantaneous charge;
 - (b) location of the blast within the site (including any bench level);
 - (c) airblast overpressure level (dB Linear Peak);
 - (d) peak particle velocity (mm/s);
 - (e) location, date and time of recording;
 - (f) measurement instrumentation and procedure;
 - (g) meteorological conditions for blast monitoring (including temperature, relative humidity, temperature gradient, cloud cover, wind speed and direction); and
 - (h) distances from the blast site to potentially noise-affected buildings or structures.

Schedule F – Waste

Waste Management

- (F1) All general waste must only be removed from the site and sent to a recycling facility or disposal facility licensed to accept the waste under the *Environmental Protection Act 1994*.
- (F2) All regulated waste must only be removed from the site by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994* and sent to a recycling facility or disposal facility licensed to accept the waste.
- (F3) Waste must not be burned or be allowed to be burned on the site, unless it is vegetation and is authorised in writing under the *Forestry Act 1959*.
- (F4) All waste fluids and muds resulting from drilling and exploration petroleum activities must be contained in a properly lined dam or containment structure for disposal, remediation or reuse where applicable.

Coal Seam Gas Water

- (F5) The holder of the environmental authority must ensure that coal seam gas water is not released to land or waters, other than to an appropriate containment facility except as provided for under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*.
- (F6) Despite condition (F5) the holder of the environmental authority must ensure that coal seam gas water to be used for domestic or stock purposes meets the accepted *ANZECC 2000 Water Quality Guidelines for Stock and Domestic Purposes*.

Sewage Management and Disposal

- (F7) The construction and operation of sewage treatment works is authorised if:
 - (a) the combined total daily peak design capacity is less than 21 equivalent persons; or
 - (b) it is operated as a no-release works.
- (F8) The holder of this environmental authority must ensure that:
 - (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
 - (b) sewage effluent is not released to waters (including groundwater);
 - (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
 - (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
 - (e) where sewage sludge is buried on land the sludge is covered with at least **250mm** of top soil and where practicable located above known flood levels;
 - (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
 - (g) there is no surface pond of effluent on land disposal area(s);
 - (h) any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
 - (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Schedule G – Rehabilitation

Rehabilitation

- (G1) As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:
- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
 - (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
 - (c) reprofile all significantly disturbed land to representative contours of the surrounding landscape;
 - (d) on all significantly disturbed land, take all reasonable and practicable measures to:
 - i. re-establish surface drainage lines;
 - ii. reinstate the top layer of the soil profile; and
 - iii. establish groundcover to ensure that erosion is minimised;
 - iv. re-establish vegetation based upon the floristic species composition found in analogue sites (using stock of local provenance where possible and where active revegetation is required); and
 - (e) undertake rehabilitation in a manner such that any actual and potential acid sulfate soils in or on the site are either not disturbed, or submerged, or are treated to prevent and / or minimise environmental harm.

Final Acceptance Criteria for Significantly Disturbed Land

- (G2) All significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet the following final acceptance criteria:
- (a) all significantly disturbed land is reinstated to the pre-disturbed land use unless otherwise agreed to between the holder of this environmental authority, the landholder and the administering authority and is provided for in the Operational Plan;
 - (b) all significantly disturbed land is reinstated to the pre-disturbed soil suitability class;
 - (c) all significantly disturbed land is reinstated so that the distribution of vegetation communities represent that of the pre-disturbed distribution;
 - (d) each vegetation community must be re-established so that the following rehabilitation parameters are achieved:
 - i. the rehabilitated site shows distinct and progressive re-establishment of the various strata which characterise the pre-disturbed vegetation communities;
 - ii. all dominant species within each strata are re-established at densities and frequencies equivalent to that of the pre-disturbed site;
 - iii. notwithstanding (i) and (ii) above, a minimum of 80% species diversity and richness observed in the original site is achieved; and
 - iv. a minimum of 80% foliage cover is achieved when compared to the pre-disturbed vegetation community;
 - (e) each vegetation community must be rehabilitated and maintained until it can be demonstrated that it is a self-sustaining vegetation community;
 - (f) notwithstanding (G2)(e) each vegetation community must be established and maintained for a period of not less than 5 years unless otherwise agreed to by the administering authority;

- (g) habitat structures, including (but not limited to) litter cover, fallen woody material, hollow logs, etc. should be re-established to reflect pre-disturbed values to the greatest extent possible;
- (h) the landform is safe for humans and fauna;
- (i) the landform is stable with no subsidence or erosion gullies for at least five (5) years unless otherwise agreed to by the administering authority;
- (j) erosion is minimised with appropriate sediment traps and erosion control measures installed as determined by a suitably qualified person;
- (k) the water quality of any residual void or water bodies constructed by the petroleum activity(ies) meets criteria for subsequent uses and does not have potential to cause environmental harm;
- (l) there is no ongoing contamination to waters;
- (m) there is no ongoing contamination to groundwater from dams (demonstrated via groundwater monitoring); and
- (n) the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the petroleum activity(ies).

EHP RTI DL Release

Schedule H – Stimulation activities

Well Drilling, Completion and Stimulation

- (H1) The holder of this environmental authority must ensure that restricted stimulation fluids are not used in stimulation.
- (H2) Polycyclic aromatic hydrocarbons or products that contain polycyclic aromatic hydrocarbons must not be used in stimulation fluids in concentrations above the reporting limit.
- (H3) Oil based drilling muds must not be used in the carrying out of the petroleum activity(ies).
- (H4) Synthetic based drilling muds must not be used in the carrying out of the petroleum activity(ies).
- (H5) Accurate and current material safety data sheets for all fluids used in stimulation activities must be published on the environmental authority holder's website.
- (H6) Stimulation activities must not negatively affect water quality at:
 - (a) any active landholders' groundwater bores (subject to access being permitted by the landholder) that are located within a two (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (b) any active landholders' groundwater bores within 200m vertically of the stimulation initiation point; and
 - (c) any other bore that could potentially be adversely impacted by the stimulation activity(ies) in accordance with the findings of the risk assessment required by conditions (H11) and (H12).
- (H7) Stimulation activities must not cause the connection of the target gas producing formation and another aquifer.
- (H8) The holder of this authority must ensure the mechanical integrity of the well system prior to well stimulation such that there is:
 - (a) no significant leakage in the casing, tubing, or packer; and
 - (b) there is no significant fluid movement into another aquifer through vertical channels adjacent to the well bore hole.
- (H9) Practices and procedures must be in place to detect, as soon as practicable, any fractures that cause the connection of a target gas producing formation and another aquifer.
- (H10) Rectification measures must be taken immediately if the holder of this environmental authority either becomes aware that stimulation activities have resulted in a change in water quality at any of the bores that are referred to in condition (H6), or that stimulation activities have caused the connection of the target gas producing formation and another aquifer.

Coal Seam Gas Stimulation Risk Assessment

- (H11) Prior to undertaking coal seam gas well stimulation activities, the holder of this environmental authority must develop a risk assessment to ensure that stimulation activities are managed to prevent environmental harm.
- (H12) The stimulation risk assessment required by condition (H11) must include, but not necessarily be limited to:
- (a) a process description of the stimulation activity to be applied, including equipment and a comparison to best international practice;
 - (b) provide details of where, when and how often stimulation is to be undertaken on the tenures covered by this environmental authority;
 - (c) a geological model of the field to be stimulated including geological names, descriptions and depths of the target gas producing formation(s);
 - (d) naturally occurring geological faults;
 - (e) seismic history of the region (e.g. earth tremors, earthquakes);
 - (f) proximity of overlying and underlying aquifers;
 - (g) description of the depths that aquifers with environmental values occur, both above and below the target gas producing formation;
 - (h) the environmental values of groundwater in the area;
 - (i) description of overlying and underlying formations in respect of porosity, permeability, hydraulic conductivity, faulting and fracture propensity;
 - (j) consideration of barriers or known direct connections between the target gas producing formation and the overlying and underlying aquifers;
 - (k) a description of the well mechanical integrity testing program;
 - (l) process control and assessment techniques to be applied for determining extent of stimulation activities (e.g. microseismic measurements, modelling etc);
 - (m) practices and procedures to ensure that the stimulation activities are designed to be contained within the target gas producing formation having regard to its identification under condition (H12)(j);
 - (n) locations of landholders' active groundwater bores;
 - (o) groundwater transmissivity, flow rate, hydraulic conductivity and direction(s) of flow;
 - (p) a description of the chemicals used in stimulation activities (including estimated total mass, estimated composition, chemical abstract service numbers and properties), their mixtures and the resultant compounds that are formed after stimulation;
 - (q) a mass balance estimating the concentrations and absolute masses of chemicals that will be reacted, returned to the surface or left in the target gas producing formation subsequent to stimulation;
 - (r) an environmental hazard assessment of the chemicals used including their mixtures and the resultant chemicals that are formed after stimulation including:
 - (i). toxicological and ecotoxicological information of chemicals used;
 - (ii). information on the persistence and bioaccumulation potential of the chemicals used;
 - (iii). identification of the stimulation fluid chemicals of potential concern derived from the risk assessment;
 - (s) an environmental hazard assessment of use, formation of, and detection of polycyclic aromatic hydrocarbons in stimulation activities;
 - (t) an environmental hazard assessment of leaving stimulation chemicals in the target gas producing formation for extended periods subsequent to stimulation;

- (u) human health exposure pathways to operators and the regional population;
 - (v) risk characterisation of environmental impacts based on the environmental hazard assessment; and
 - (w) potential environmental or health impacts which may result from stimulation activities including but not limited to water quality, air quality (including suppression of dust and other airborne contaminants), noise and vibration.
- (H13) The stimulation risk assessments must be carried out for every well or group of wells in an area of like geological and hydrogeological characteristics to be stimulated prior to stimulation activities being carried out at that well.

Stimulation Baseline Monitoring

- (H14) Prior to undertaking any stimulation activity, the holder of this environmental authority must undertake a baseline bore assessment of the quality of:
- (a) all active landholders' groundwater bores (subject to access being permitted by the landholder) that are located within a two (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (b) all active landholders' groundwater bores identified pursuant to condition (H14)(a) and within 200 vertical metres of the stimulation initiation point; and
 - (c) any other bore that could potentially be adversely impacted by the stimulation activity(ies) in accordance with the findings of the risk assessment required by conditions (H11) and (H12).
- (H15) Prior to undertaking any stimulation activity(ies), the holder of this environmental authority must have sufficient water quality data to accurately represent water quality in the well to be stimulated. The data must include as a minimum the results of analyses for the parameters in condition (H16).
- (H16) The baseline bore and well assessments must include relevant analytes and physico-chemical parameters to be monitored in order to establish baseline water quality and must include, but not necessarily be limited to:
- (a) pH;
 - (b) electrical conductivity [$\mu\text{S}/\text{m}$];
 - (c) total suspended solids [mg/L];
 - (d) evolved (produced) gas (i.e. methane, carbon dioxide, hydrogen sulphide) [mg/L];
 - (e) alkalinity (bicarbonate, carbonate, hydroxide and total as CaCO_3) [mg/L];
 - (f) sodium adsorption ratio (SAR);
 - (g) anions (chloride, fluoride, sulphate) [mg/L];
 - (h) cations (aluminium, calcium, magnesium, potassium, sodium) [mg/L];
 - (i) dissolved metals (including but not necessarily being limited to: aluminium, barium, borate (boron), cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, and zinc) [$\mu\text{g}/\text{L}$];
 - (j) total arsenic [$\mu\text{g}/\text{L}$];
 - (k) total petroleum hydrocarbons [$\mu\text{g}/\text{L}$];
 - (l) BTEX (as benzene, toluene, ethylbenzene, and total xylene) [$\mu\text{g}/\text{L}$];

- (m) polycyclic aromatic hydrocarbons (including but not necessarily being limited to: naphthalene, phenanthrene, benzo[a]pyrene) [$\mu\text{g/L}$];
 - (n) sodium hypochlorite [mg/L];
 - (o) sodium hydroxide [mg/L];
 - (p) formaldehyde [mg/L];
 - (q) ethanol [mg/L]; and
 - (r) gross alpha or gross beta or radionuclides by gamma spectroscopy [Bq/L].
- (H17) If sampling required by condition (H16) indicates that Total Xylene exceeds 75ppb, then the holder of this environmental authority must undertake further speciation for levels of ortho-xylene, para-xylene, and meta-xylene.

Stimulation Impact Monitoring Program

- (H18) A Stimulation Impact Monitoring Program which has been certified by a suitably qualified person must be developed prior to the carrying out of stimulation activities.
- (H19) The Stimulation Impact Monitoring Program must be able to detect adverse impacts to water quality from stimulation activities and must consider the findings of the risk assessment required by conditions (H11) and (H12) that relate to stimulation activities and must include:
- (a) the stimulation fluids to be used in stimulation activities at sufficient frequency and which sufficiently represents the quantity and quality of the fluids used; and
 - (b) flow back waters from stimulation activities at sufficient frequency and which sufficiently represents the quality of that flow back water; and
 - (c) flow back waters from stimulation activities at sufficient frequency and accuracy to demonstrate that 150 % of the volume used in stimulation activities has been extracted from the stimulated well;
 - (d) all active landholders' groundwater bores (subject to access being permitted by the landholder) that are:
 - (i) within a two (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (ii) that draw water from the target gas producing formation; or
 - (iii) within 200 vertical meters of the stimulation initiation point; and
 - (e) any other bore that could potentially be adversely impacted by the stimulation activities in accordance with the findings risk assessment required by conditions (H11) and (H12).
- (H20) The Stimulation Impact Monitoring Program must provide for monitoring of:
- (a) analytes and physico-chemical parameters relevant to baseline bore and well assessments to enable data referencing and comparison including, but not necessarily being limited to the analytes and physico-chemical parameters in condition (H16); and
 - (b) any other analyte or physico-chemical parameters that will enable detection of adverse water quality impacts and the inter-connection with a non-target aquifer as a result of stimulation activities including chemical compounds that are actually or potentially formed by chemical reactions with each other or coal seam materials during stimulation activities.
- (H21) The Stimulation Impact Monitoring Program must provide for monitoring of the bores in condition (H19)(d) at the following minimum frequency:

- (a) monthly for the first six (6) months subsequent to the stimulation activity(ies) being undertaken; then
 - (b) annually for the first five (5) years subsequent to the stimulation activity(ies) being undertaken or until analytes and physico-chemical parameters listed in condition (H16) are not detected in concentrations above baseline bore monitoring data on two (2) consecutive monitoring occasions.
- (H22) The holder of this environmental authority must implement the Stimulation Impact Monitoring Program.
- (H23) The results of the Stimulation Impact Monitoring Program must be made available to any potentially affected landholder upon request by that landholder.

EHP RTI DL Release

Schedule I – Community Issues

- (I1) The holder of this environmental authority must maintain a record of all valid complaints and incidents causing environmental harm, and actions taken in response to the valid complaint or incident.
- (I2) The holder of this environmental authority must record the following details for all complaints received:
- (a) name, address and contact number for complainant;
 - (b) time and date of valid complaint;
 - (c) reasons for the complaint as stated by the complainant;
 - (d) investigations undertaken in response to the valid complaint;
 - (e) conclusions formed;
 - (f) actions taken to resolve valid complaint;
 - (g) any abatement measures implemented to mitigate the cause of the valid complaint; and
 - (h) name and contact details of the person responsible for resolving the valid complaint.

EHP RTI DL Release

Schedule J – Notification Procedures

- (J1) The holder of this environmental authority must telephone the Department of Environment and Resource Management's Pollution Hotline (telephone: 1300 130 372) and any affected landholder, occupier or their nominated representative as soon as reasonably practicable, but within 24 hours after becoming aware of:
- (a) any release of contaminants not in accordance with the conditions of this environmental authority; or
 - (b) any event where environmental harm (excluding environmental nuisance) has been caused or may be caused; or
 - (c) any detection of restricted stimulation fluids from stimulation fluid monitoring; or
 - (d) any result from baseline **bore**, well or stimulation water impact monitoring that exceeds a water quality objective for the protection of an environmental value of that water resource.
- (J2) Notwithstanding condition (J1), the holder of this environmental authority must telephone the Department of Environment and Resource Management's Pollution Hotline (telephone: 1300 130 372) as soon as reasonably practicable, but within 24 hours after becoming aware of:
- (a) any non-compliance with any condition of this environmental authority other than in relation to a release of contaminants;
 - (b) a potential or actual loss of structural or hydraulic integrity of a dam;
 - (c) when the level of the contents of any regulated dam reaches the mandatory reporting level; or
 - (d) any incident where there is a potential or actual loss of well integrity (e.g. when the annulus pressure during stimulation increases by more than 3.5 MPa from the pressure immediately preceding stimulation).
- (J3) Subject to condition (J1), the holder of this environmental authority must report spills of contaminants (including but not limited to hydrocarbons, coal seam gas water or mixtures of both) of the following volumes or kind:
- (a) releases of any volume of contaminants to water;
 - (b) releases of volumes of contaminants to land greater than:
 - (i) 200L of hydrocarbons;
 - (ii) 200L of stimulation additives;
 - (iii) 500L of stimulation fluids;
 - (iv) 1000 L of brine; or
 - (v) 5 000 L of coal seam gas water;
 - (c) releases of any volumes of contaminants where potential serious or material environmental harm has occurred or may occur.
- (J4) The notification of emergencies or incidents as required by conditions (J1), (J2) and (J3) must include but not be limited to the following information:
- (a) the environmental authority number and name of the holder;
 - (b) the tenure type and number where the emergency or incident occurred;
 - (c) the name and telephone number of the designated contact person;
 - (d) the location of the emergency or incident (GDA94);
 - (e) the date and time that the emergency or incident occurred;

- (f) the date and time the holder of this environmental authority became aware of the emergency or incident;
 - (g) details of the nature of the event and the circumstances in which it occurred;
 - (h) the estimated quantity and type of any contaminants involved in the incident;
 - (i) the actual or potential suspected cause of the emergency or incident;
 - (j) a description of the land use at the site of the emergency or incident (e.g. grazing, pasture, forest etc) and / or the name of any relevant waters and other environmentally sensitive features;
 - (k) a description of the possible impacts from the emergency or incident;
 - (l) a description of whether stock and / or wildlife were exposed to any contaminants released and measures taken to prevent access for the duration of the emergency or incident;
 - (m) any sampling conducted or proposed, relevant to the emergency or incident;
 - (n) landholder details and details of landholder consultation;
 - (o) immediate actions taken to control the impacts of the emergency or incident and how environmental harm was mitigated at the time of the emergency or incident; and
 - (p) whether further examination / root cause analysis is required and if so, the expected date by when this examination will be completed and reported to the administering authority.
- (J5) Within 10 business days following the initial notification unless a longer time is agreed to by the administering authority, a written report must be provided to the administering authority, including the following (where relevant to the emergency or incident):
- (a) the information required by condition (J4);
 - (b) the root cause of the emergency or incident;
 - (c) the confirmed quantities and types of any contaminants involved in the incident;
 - (d) results and interpretation of any analysis of samples taken at the time of the emergency or incident (including the analysis results of any impact monitoring);
 - (e) a final assessment of the impacts from the emergency or incident including any actual or potential environmental harm that has occurred or may occur in the longer term as a result of the release;
 - (f) the success or otherwise of actions taken at the time of the incident to prevent or minimise environmental harm;
 - (g) results and current status of landholder consultation, including commitment to resolve any outstanding issues / concerns; and
 - (h) actions and / or procedural changes to prevent a recurrence of the emergency or incident.
- (J6) As soon as reasonably practicable, but not more than 48 hours, after becoming aware of one of the circumstances described in conditions (H6) or (H13) that relate to stimulation **activities**, the holder of this environmental authority must give written notice of the event, its nature and the circumstances in which it happened:
- (a) to the administering authority; and
 - (b) to each owner and occupier of land that is, has been, or is reasonably likely to be, affected by the event.
- (J7) As soon as reasonably practicable after becoming aware of one of the circumstances described in conditions (H6) or (H7), that relate to stimulation activities, the holder of this environmental authority must give the administering authority written notice of:

- (a) the rectification measures implemented under condition (H10);
 - (b) the results of any monitoring carried out on those rectification measures; and
 - (c) the success of the rectification measures implemented.
- (J8) Within 10 business days following the initial notification of an emergency or incident or receipt of monitoring results indicating any significant changes in groundwater quality caused by the petroleum activity(ies) other than that relating to the circumstances described in condition (H6), then the analysis results indicating these changes, including any proposed actions to mitigate the changes in groundwater quality information must be submitted to the administering authority.
- (J9) If groundwater contamination caused by the petroleum activity(ies) is encountered, the following must be reported to satisfy requirements under condition (J8):
- (a) the level of environmental harm caused as a result of such contamination to soils and groundwater;
 - (b) the conduct of a geodetic survey of all monitoring bores to determine the relative water surface elevations of each bore and reported in metres relative to the AHD; and
 - (c) the determination of groundwater flow direction, groundwater flow rate and hydraulic conductivity.

End of Conditions

Appendix A – Definitions

Acid sulfate soils means soil or sediment containing highly acidic soil horizons or layers affected by the oxidation of iron sulfides (*actual acid sulfate soils*) and / or soil or sediment containing iron sulfides or other sulfidic material that has not been exposed to air and oxidised (*potential acid sulfate soils*). The term acid sulfate soil generally includes both actual and potential acid sulfate soils. Actual and potential acid sulfate soils are often found in the same soil profile, with actual acid sulfate soils generally overlying potential acid sulfate soil horizons.

Accepted engineering standards, in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.

Active for the purposes of landholders' groundwater bores means bores that are able to continue to provide a reasonable yield of water in terms of quantity for the bores authorised purpose or use.

Administering authority means:

- a) for a matter, the administration and enforcement of which has been devolved to a local government under section 514 of the *Environmental Protection Act 1994* – the local government; or
- b) for all other matters – the Chief Executive of the Department of Environment and Resource Management; or
- c) another State Government Department, Authority, Storage Operator, Board or Trust, whose role is to administer provisions under other enacted legislation.

AHD means Australian Height Datum and is the datum used for the determination of elevations in Australia. The determination uses a national network of benchmarks and tide gauges and sets mean sea level at zero elevation.

Alternative arrangement means a written agreement between the holder of this environmental authority and an affected or potentially affected person at a sensitive receptor for a defined noise nuisance impact and may include an agreed period of time for which the arrangement is in place. An agreement for alternative arrangement may include, but not necessarily be limited to a range of noise abatement measures to be installed at a sensitive receptor and / or provision of alternative accommodation for the duration of the defined noise nuisance impact.

Analogue site means an area of land which contains values and characteristics representative of the pre-disturbance site. Such values must encompass land use, topographic, soil, vegetation and other ecological characteristics. Note: Analogue sites can be the pre-disturbed site of interest where significant surveying has been undertaken to establish benchmark parameters.

Analytes means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.

Annual exceedance probability or **AEP** is the probability that a given rainfall total accumulated over a given duration will be exceeded in any one year.

Appraisal well means a petroleum well to test the potential of one (1) or more natural underground reservoirs for producing or storing petroleum. For clarity, an appraisal well does not include an exploration well.

Appropriately qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and

analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Associated works in relation to a dam, means:

- o any kind and all things associated with the construction and operation of a dam; and
- o any land used for those operations.

Archaeological artefact means:

- (a) any artefact that is evidence of an aspect of Queensland's history, whether it is located in, on or below the surface of land, and not
- (b) a thing that is Aboriginal cultural heritage under the *Aboriginal Cultural Heritage Act 2003* or Torres Strait Islander cultural heritage under the *Torres Strait Islander Cultural Heritage Act 2003*.

Archaeological investigation means a physical investigation of the place carried out by a person or persons with recognised qualifications, experience or standing in historical archaeology, mining history, cultural heritage management, or related discipline for the purpose of investigating, recording or conserving archaeological artefacts on the place.

Archaeological place means a place entered in the Queensland heritage register under Part 5 of the *Queensland Heritage Act 1992*.

Assessed or assess by a suitably qualified and experienced person in relation to a hazard assessment of a dam means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- (a) what has been assessed and the precise nature of that assessment;
- (b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- (c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- (d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

Associated works in relation to a dam means:

- (a) operations of any kind and all things constructed, erected or installed for that dam; and
- (b) any land used for those operations.

Australian Standard 1055 means Australian Standard 1055.1:1997 "Description and Measurement of Environmental Noise – General procedures".

Australian Standard 2187 means Australian Standard 2187.0:1998 "Explosives—Storage, transport and use, Part 0", Australian Standard 2187.1:1998 "Explosives—Storage, transport and use Part 1" and Australian Standard 2187.2:2006 "Explosives—Storage and use, Part 2" or any updated versions that becomes available from time to time.

Australian Standard 2885 means Australian Standard 2885.0:2008 "Pipelines – Gas and Liquid Petroleum General Requirements", Australian Standard 2885.1:2007 "Pipelines – Gas and Liquid Petroleum Design and Construction" and Australian Standard 2885.3:2001 "Pipelines – Gas and Liquid Petroleum Operation and Maintenance", or any updated versions that becomes available from time to time.

Australian / New Zealand Standard 5667.11 means Australian / New Zealand Standard 5667.11: 1998 "Water Quality – Sampling – Guidance on sampling at Groundwaters".

Australian / New Zealand Standard 5667.12 means Australian / New Zealand Standard 5667.12:1999 "Guidance on Sampling of Bottom Sediments" for permanent, semi-permanent water holes and water storages".

Authorised person means a person holding office as an authorised person under an appointment under the *Environmental Protection Act 1994* by the chief executive or chief executive officer of a local government.

Background noise level means the sound pressure level, measured in the absence of the noise under investigation, as the $L_{A90, T}$ being the A-weighted sound pressure level exceeded for 90 percent of the measurement time period T of not less than 15 minutes, using Fast response.

Bed and banks for a watercourse or wetland means land over which the water of the watercourse or wetland normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed or banks that is from time to time covered by floodwater.

Beneficial use means:

- (a) with respect to dams, that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:
 - i. of benefit to that owner in that it adds real value to their business or to the general community,
 - ii. in accordance with relevant provisions of the *Environmental Protection Act 1994*,
 - iii. sustainable by virtue of written undertakings given by that owner to maintain that dam, and
 - iv. the transfer and use have been approved or authorised under any relevant legislation; or
- (b) with respect to associated water, see **DERM's Coal Seam Gas Water Management Policy** and *Notice of decision to approve a resource for beneficial use – associated water* which can be accessed on Department of Environment and Resource Management's website at www.derm.qld.gov.au.

Black earth means a type of soil, also known as vertosols and is a soil order of the Australian Soil Classification. These are clay soils with shrink / swell properties that display strong cracks when dry and / or lenticular structural aggregates at depth. They have high soil fertility and a large water holding capacity.

Bore means a water observation bore or a water supply bore that is either sub-artesian or artesian.

Brine means either saline water with a total dissolved solid concentration greater than 40 000 mg/l. or coal seam gas water after it has been concentrated through water treatment processes and/or evaporation.

Bund or bunded in relation to spill containment systems for fabricated or manufactured tanks or containers designed to a recognised standard means an embankment or wall of brick, stone, concrete or other impervious material which may form part or all of the perimeter of a compound and provides a barrier to retain liquid. Since the bund is the main part of a spill containment system, the whole system (or bunded area) is sometimes colloquially referred to within industry as the bund. The bund is designed to contain spillages and leaks from liquids used, stored or processed above ground and to facilitate clean-up operations. As well as being used to prevent pollution of the receiving environment, bunds are also used for fire protection, product recovery and process isolation.

Business day has the meaning in the *Acts Interpretation Act 1954* and means a day that is not—

- o a Saturday or Sunday; or

- o a public holiday, special holiday or bank holiday in the place in which any relevant act is to be or may be done; or
- o a day between the 26th of December through to the 1st of January in the following year.

BTEX means benzene, toluene, ethylbenzene, ortho-xylene, para-xylene, meta-xylene and total xylene..

Category A Environmentally Sensitive Area means any area listed in Section 25 of the *Environmental Protection Regulation 2008*.

Category B Environmentally Sensitive Area means any area listed in Section 26 of the *Environmental Protection Regulation 2008*.

Category C Environmentally Sensitive Area means any of the following areas:

- o Nature Refuges as defined under the *Nature Conservation Act 1992*;
- o Koala Habitat Areas as defined under the *Nature Conservation (Koala) Conservation Plan 2006*;
- o State Forests or Timber Reserves as defined under the *Forestry Act 1959*;
- o Declared catchment areas under the *Water Act 2000*;
- o Resources reserves under the *Nature Conservation Act 1992*
- o An area identified as "Essential Habitat" under the *Vegetation Management Act 1999* for a species of wildlife listed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*;
- o Any wetland shown on the Map of Referable Wetlands available from the Department of Environment and Resource Management's website; or
- o Of Concern Regional Ecosystems identified in the database maintained by the Department of Environment and Resource Management called 'RE description database' containing RE numbers and descriptions.

Certification or **certified** by a suitably qualified and experienced person in relation to a **design plan**, 'as constructed' drawings or an annual report regarding dams, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- (a) exactly what is being certified and the precise nature of that certification;
- (b) the relevant legislative, regulatory and technical criteria on which the certification has been based;
- (c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- (d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

Certify or **certification** or **certified** in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams in this environmental authority means a Statutory Declaration by a suitably qualified person accompanying the written document stating that:

- o all relevant material has been considered in the written document; and
- o that the content of the written document is accurate and true; and
- o that the written document meets the requirements of the relevant conditions of the environmental authority.

Clearing means:

- (a) in relation to grass, scrub or bush - the removal of vegetation by disturbing root systems and exposing underlying soil (including burning), but does not include—
 - i the flattening or compaction of vegetation by vehicles if the vegetation remains living; or
 - ii the slashing or mowing of vegetation to facilitate access tracks; or
 - iii the clearing of noxious or introduced plant species; and
- (b) in relation to trees - cutting down, ringbarking, pushing over, poisoning or destroying in any way.

Coal Seam Gas (CSG) water means groundwater that is necessarily or unavoidably brought to the surface in the process of coal seam gas exploration or production. CSG water typically contains significant concentrations of salts, has a high sodium adsorption ratio (SAR) and may contain other contaminants that have the potential to cause environmental harm if released to land or waters through inappropriate management. CSG water is a waste, as defined under section 13 of the *Environmental Protection Act 1994*.

Coal seam gas water dams include any type of dam (storage or evaporation) used to contain groundwater that is necessarily or unavoidably brought to the surface in the process of coal seam gas exploration or production.

Construction in relation to a dam includes building a new dam and modifying or lifting an existing dam but does not include investigations and testing necessary for the purposes of preparing a design plan.

Cultural heritage significance means aesthetic, architectural, historical, scientific, social or other significance, to the present generation or past or future generations, as assessed against the following criteria:

- (a) the place is important in demonstrating the evolution or pattern of Queensland's history;
- (b) the place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage;
- (c) the place has potential to yield information that will contribute to an understanding of Queensland's history;
- (d) the place is important in demonstrating the principal characteristics of a particular class of cultural places;
- (e) the place is important because of its aesthetic significance;
- (f) the place is important in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) the place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) the place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.

Dam means a land-based structure or a void that is designed to contain, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does *not* mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.

Dam crest volume means the volume of material that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls without regard to flows entering or leaving (e.g. via a spillway).

Design plan is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include 'as constructed' drawings.

Design storage allowance or **DSA** means an available volume, estimated in accordance with the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time, that must be provided in a dam to an annual exceedance probability specified in that Manual.

Declared pest plants are listed in Schedule 2 of the *Land Protection (Pest and Stock Route Management) Regulation 2003*.

DERM means Queensland Department of Environment and Resource Management.

Design plan is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include 'as constructed' drawings.

Development well means a petroleum well which produces or stores petroleum. For clarity, a development well does not include an appraisal well.

Discharge area means:

- that part of the land surface where groundwater discharge produces a net movement of water out of the groundwater; and
- identified by an assessment process consistent with the document "Salinity Management Handbook" Queensland Department of Natural Resources, 1997, as amended from time to time; or
- identified by an approved salinity hazard map held by the Department of Environment and Resource Management.

Dispersible soils are structurally unstable soils that readily break down into their constituent particles in water (e.g. the clay material disintegrates into particles less than 2 microns across within 24 hours when soil crumbs are submerged in distilled water). These soils are also known as sodic soils and have a high percentage of sodium ions (in soluble or exchangeable form).

Document has the meaning in the *Acts Interpretation Act 1954* and means:

- any paper or other material on which there is writing; and
- any paper or other material on which there are marks; and
- figures, symbols or perforations having a meaning for a person qualified to interpret them; and
- any disc, tape or other article or any material from which sounds, images, writings or messages are capable of being produced or reproduced (with or without the aid of another article or device).

Ecosystem functioning means the interactions between and within living and non-living components of an ecosystem and generally correlates with the size, shape and location of an area of vegetation.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to the 'completion' of the petroleum activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority.

Equivalent person means an equivalent person as defined in item 63 of Schedule 2 in the *Environmental Protection Regulation 2008*.

Existing low hazard dam means any low hazard dam that was constructed, or where a low hazard dam's construction had substantially commenced, on 9 September 2011; as captured by the audit of existing petroleum activities and audit report requirement of conditions (A6), (A7) and (A8) of this environmental authority.

Exploration well means a petroleum well that is drilled to:

- o explore for the presence of petroleum or natural underground reservoirs suitable for storing petroleum; or
- o obtain stratigraphic information for the purpose of exploring for petroleum.

For clarity, an exploration well does not include an appraisal or development well.

Fill means any kind of material in solid form (whether or not naturally occurring) capable of being deposited at a place but does not include material that forms a part of, or is associated with, a structure constructed in a watercourse, wetland or spring including a bridge, road, causeway, pipeline, rock revetment, drain outlet works, erosion prevention structure or fence.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of preventing or minimising environmental harm from, or rehabilitating areas significantly disturbed by, the petroleum activities.

Flowable substance means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

Foreseeable future is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptably low probability of failure before that time.

Hazard in relation to a **dam** as defined means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

Hazard category means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time.

Heritage place means any place that may be of **cultural heritage significance**, or any place with potential to contain **archaeological artefacts** that are an important source of information about Queensland's history.

High bank means the defining terrace or bank or, if no bank is present, the point on the active floodplain, which confines the average annual peak flows in a watercourse.

Highly erodible soils means very unstable soils that are generally described as Sodosols with hard-setting, fine sandy loam to silty clay loam surfaces (solodics, solodised solonetz and solonetz) or soils with a dispersible layer located less than 25cm deep or soils less than 25cm deep.

High value regrowth vegetation means

- o any of the following:
 - an endangered regional ecosystem;

- an of concern regional ecosystem;
- a least concern regional ecosystem; and
- have not been cleared since 31 December 1989; and
- is shown on a regrowth vegetation map.

Hydraulic performance means the capacity of a **regulated dam** to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (Version 1.0, 2008)* published on DERM's website under www.derm.qld.gov.au.

Impulsive noise means sound characterised by brief excursions of sound pressure (acoustic impulses) that significantly exceed the background sound pressure. The duration of a single impulsive sound is usually less than one second.

Infrastructure means water storage dams, roads and tracks, equipment, buildings and other structures built for the purpose and duration of the conduct of the petroleum activities, but does not include other facilities required for the long term management of the impact of those activities or the protection of potential resources. Such other facilities include dams other than water storage dams (e.g. evaporation ponds), pipelines and assets that have been decommissioned, rehabilitated and lawfully recognised as being subject to subsequent transfer with ownership of the land.

L_{Aeq, adj, 15 mins} means the A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within any 15 minute period has the same square sound pressure as a sound level that varies with time.

L_{A 90, adj, 15 mins} means the A-weighted sound pressure level, adjusted for tonal character, that is equal to or exceeded for 90% of any 15 minutes sample period equal, using Fast response

Lake means:

- a lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
- the bed and banks and any other element confining or containing the water.

Leachate means a liquid that contains soluble, suspended or miscible contaminants likely to have been derived from material which is stored, processed or disposed of on site and which the liquid has passed through or emerged from, or is likely to have passed through or emerged from.

Levee means a dyke or bund that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or **flowable substances** at any other times.

Level 1 environmental authority means an environmental authority (chapter 5A activities) for a level 1 chapter 5A activity pursuant to section 23 of the *Environmental Protection Regulation 2008*.

Limited petroleum activities mean only the following petroleum activities:

- well sites not exceeding 1 hectare disturbance and multi-well sites not exceeding 1.5 hectare disturbance. Well sites may include the following infrastructure:
 - well pads;
 - water pumps and generators associated with well operations;
 - sumps for storing drilling muds;

- flare pits;
- ponds used to contain and / or store stimulation fluid;
- geophysical surveys (including seismic petroleum activities);
- ecological geological surveys (including seismic petroleum activities);
- gathering / flow pipelines from a well head to the initial compression facility;
- supporting access tracks; and
- communication and power lines that are necessary for the undertaking of petroleum activities and that are located within well sites, well pads and pipeline right of ways without increasing the disturbance area of petroleum activities.

For clarity, limited petroleum activities exclude and exclusions are not necessarily limited to:

- the construction of infrastructure for processing or storing petroleum or by-products;
- low hazard dams (that do not meet the limitations prescribed above);
- regulated dams;
- borrow pits;
- compressor stations;
- campsites / workforce accommodation;
- pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence) except for those pipelines authorized under the conditions of Schedule D of the Environmental Authority;
- waste disposal; or
- other supporting infrastructure for the project (e.g. sewage treatment plants).

Limited regulated waste means any of the following regulated wastes, asbestos, clinical waste or quarantine waste that has been rendered non-infectious, fish processing waste, food processing waste, poultry processing waste, tyres or treatment tank sludge or residue produced in the carrying out of an activity in relation to sewage treatment and water supply activities.

Long term noise event is a noise exposure, when perceived at a sensitive receptor, persists for a period of greater than five (5) days, even when there are respite periods when the noise is inaudible within those five (5) days.

Low hazard dam means any dam that is:

- not classified as high or significant as assessed using the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time; and
- that contains contaminants in concentrations which exceed the values or range shown in Table 3 of the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by
- the Department of Environment and Resource Management, as amended from time to time at any time.

Low impact petroleum activities means limited petroleum activities which do not result in the clearing of native vegetation, cause disruption to soil profiles through earthworks or excavation or result in significant disturbance to land. Examples of such activities include but are not necessarily limited to soil surveys, topographic surveys, cadastral surveys and ecological surveys and traversing land by car or foot via existing access tracks or routes or in such a way that does not result in permanent damage to vegetation.

Max $L_{pA, 15 \text{ min}}$ means the absolute maximum instantaneous A-weighted sound pressure level, measured over 15 minutes.

Month has the meaning in the Acts Interpretation Act 1954 and means a calendar month and is a period starting at the beginning of any day of one (1) of the 12 named months and ending—

- o immediately before the beginning of the corresponding day of the next named month; or
- o if there is no such corresponding day—at the end of the next named month.

Medium term noise event is a noise exposure, when perceived at a sensitive receptor, persists for an aggregate period not greater than five (5) days and does not re-occur for a period of at least four (4) weeks. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a difference source or source location.

Meter means a device for measuring, or giving an output signal proportional to, quantities of water passed and/or the rate of flow in a pipe."

Month has the meaning in the Acts Interpretation Act 1954 and means a calendar month and is a period starting at the beginning of any day of one (1) of the 12 named months and ending—

- o immediately before the beginning of the corresponding day of the next named month; or
- o if there is no such corresponding day—at the end of the next named month.

NATA accreditation means accreditation by the National Association of Testing Authorities Australia.

Noxious means harmful or injurious to health or physical well being.

'Of concern' regional ecosystem means an 'of concern' regional ecosystem identified in the database maintained by the Department of Environment and Resource Management called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions. The database is available for inspection on the Department of Environment and Resource Management's website at www.epa.qld.gov.au/nature_conservation/biodiversity/regional_ecosystems/.

Offensive means causing unreasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

Oil-based drilling mud means mud where the base fluid is a petroleum product such as diesel fuel.

Overland flow water means water, including floodwater, flowing over land, other than in a watercourse or lake:

- (a) after having fallen as rain or in any other way; or
- (b) after rising to the surface naturally from underground.

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc) which is to be left by agreement with the landowner.

Pest means species:

- o declared under the *Land Protection (Pest and Stock route Management) Act 2002*;
- o declared under Local Government model local laws; and
- o which may become invasive in the future.

Petroleum authority is:

- (a) a 1923 Act petroleum tenure granted under the *Petroleum Act 1923*; or
- (b) a resource authority granted under the *Petroleum and Gas (Production and Safety) Act 2004*; or

- (c) a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the *Petroleum (Submerged Lands) Act 1982*.

Populated area includes towns and cities which have a populated of 200 or more people and with a minimum density of 40 people / km².

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Regulated dam means any dam in the significant or high hazard category as assessed using the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time.

Regulated waste means non-domestic waste mentioned in Schedule 7 of the *Environmental Protection Regulation 2008* (whether or not it has been treated or immobilised), and includes—

- (a) for an element – any chemical compound containing the element; and
- (b) anything that has contained the waste.

Rehabilitation means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land

Release of a contaminant into the environment includes:

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to allow the contaminant to escape; and
- (d) to fail to prevent the contaminant from escaping.

Regrowth vegetation map means a map certified by the chief executive as the regrowth vegetation map for the State and showing for the State:

- o areas of regrowth vegetation, identified on the map as high-value regrowth vegetation, that—
 - are any of the following:
 - (i) an endangered regional ecosystem;
 - (ii) an of concern regional ecosystem;
 - (iii) a least concern regional ecosystem; and
 - have not been cleared since 31 December 1989; and
- o particular watercourses in the Burdekin, Mackay Whitsunday and Wet Tropics catchments, identified on the map as regrowth watercourses; and
- o areas the chief executive decides under section 20AI to show on the map as high value regrowth vegetation.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Remnant vegetation means vegetation, part of which forms the predominant canopy of the vegetation—

- o covering more than 50% of the undisturbed predominant canopy; and
- o averaging more than 70% of the vegetation's undisturbed height; and
- o composed of species characteristic of the vegetation's undisturbed predominant canopy cover.

Reporting limit means the lowest concentration that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes, the reporting limit is selected as the lowest non-zero standard in the calibration curve. Results that fall below the reporting limit will be reported as "less than" the value of the reporting limit. The reporting limit is also referred to as the practical quantitation limit or the limit of quantitation.

Restricted stimulation fluids means fluids used for the purpose of stimulation, including fracturing, that contain the following chemicals, unless otherwise provided for under the *Environmental Protection Regulation 2008*:

- o petroleum hydrocarbons containing benzene, ethylbenzene, toluene or xylene; or
- o chemicals that produce, or are likely to produce, benzene, ethylbenzene, toluene or xylene as the chemical breaks down in the environment.

The amount of any chemical is not measured in relation to water included in the restricted stimulation fluid.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means a area within a 300 metre buffer from the boundary of a primary protection zone.

Sensitive place means:

- o a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel; or
- o a library, childcare centre, kindergarten, school, university or other educational institution;
- o a medical centre, surgery or hospital; or
- o a protected area; or
- o a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment; or
- o a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads.

Sensitive receptor means an area or place where noise (including low frequency, vibration and blasting) is measured investigate whether nuisance impacts are occurring and includes:

- o a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel; or
- o a library, childcare centre, kindergarten, school, university or other educational institution;
- o a medical centre, surgery or hospital; or
- o a protected area; or
- o a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment; or
- o a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads.

Short term noise event is a noise exposure, when perceived at a sensitive receptor, persists for an aggregate period not greater than eight hours and does not re-occur for a period of at least seven (7) days. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same

receptor location for a period of one hour or more, even if it originates from a different source or source location.

Significantly disturbed land or significant disturbance to land or significant disturbance means disturbance to land as defined in section 28 of the *Environmental Protection Regulation 2008*.

Site means the area within the petroleum authority or authorities to which this environmental authority relates.

Spillway means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

Spring means the land to which water rises naturally from below the ground and the land over which the water then flows.

Stable in relation to land means landform dimensions are or will be stable within **tolerable limits** now and in the **foreseeable future**. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

State heritage place means a place entered in the Queensland heritage register under Part 4 of the *Queensland Heritage Act 1992*.

Stimulation means a technique used to increase the permeability of a natural underground reservoir, including for example, hydraulic fracturing / hydrofracturing, fracture acidizing and the use of proppant treatments.

Stimulation fluid means the fluid injected into an aquifer to increase the permeability of a natural underground reservoir.

Suitably qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Suitably qualified and experienced person in relation to dams means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, or at the relevant time holds a 'deemed registration' within the meaning of the *Mutual Recognition (Queensland) Act 1992*; and has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) a total of five years of suitable experience and demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology and geochemistry, and
- (c) a total of five years of suitable experience and demonstrated expertise each, in three of the following categories:
 - investigation and design of dams.
 - Construction, operation and maintenance of dams.
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology.
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes.
 - hydrogeology with particular reference to seepage, groundwater.

- solute transport processes and monitoring thereof.
- dam safety.

Suitably qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Synthetic based drilling mud means a mud where the base fluid is a synthetic oil, consisting of chemical compounds which are artificially made or synthesised by chemically modifying petroleum components or other raw materials rather than the whole crude oil.

Thing means a material object without life or consciousness or some entity, object or creature which is not or cannot be specifically designated or precisely described.

Threatening processes are processes, features and actions that can have a detrimental effect upon the health and viability of an area of vegetation. For example, altered hydrology, land use practices, invasion by pest and weed species, land degradation, edge effects and fragmentation.

Tight gas means:

- a form of unconventional gas found up to 4500m in depth from the surface; and
- is located in relatively impermeable hard rock, impermeable/non porous sandstone, or impermeable limestone.

Tolerable limits means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

Topsoil means the surface (top) layer of a soil profile which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.

Trenchless methods means construction methods for the installation of pipelines and cables below the ground with minimal excavation. Trenchless methods can include, but not necessarily be limited to:

- moling
- pipe ramming method
- horizontal directional drilling
- utility tunneling, pipe jacking, auger boring
- microtunnelling and pipe jacking
- on-line replacement

Unacceptable risk is when the results of a hazard assessment indicates that there is both a high consequence and a high likelihood of an event occurring such that the risk is classified as "high", "very high" or "extreme".

Valid complaint means a complaint the administering authority considers is not frivolous, nor vexatious, nor based on mistaken belief.

Void means any man-made, open excavation in the ground (includes borrow pits, drill sumps, frac pits, flare pits, cavitation pits and trenches).

Waters includes all or any part of a creek, river, stream, lake, lagoon, pond, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.

Watercourse has the meaning provided in section 5 of the *Water Act 2000* and includes the bed and banks and any other element of a river, creek or stream confining or containing water.

Wetland means a wetland as defined under the Queensland Wetlands Program and are areas of permanent or periodic / intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six (6) metres. To be classified as a wetland, the area must have one or more of the following attributes:

- at least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle, or
- the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers, or
- the substratum is not soil and is saturated with water, or covered by water at some time.

For the purposes of Chapter 5A activities, wetlands do not include springs and watercourse and those wetlands that are defined in the document entitled "*Wetland Mapping and Classification Methodology*" (Department of Environment and Resource Management, 2005) as:

- H2M1 Riverine or ex-riverine (lacustrine) water bodies associated with dams and weirs located in a channel;
- H2M3p Ponded pastures;
- H2M5 Palustrine / lacustrine water bodies where ecological character has changed due to gross mechanical disturbance (e.g. cropping);
- H2M6 Palustrine / lacustrine water bodies that have been converted, completely or mostly, to a ring tank or other controlled storage;
- H2M7 Riverine water bodies that have been converted mostly to canals or irrigation channels;
- H3C1 Artificial stand-alone water storages not within a natural water body or channel; or
- H3C2 Artificial Channel drain / canal –bore drains, swales, **bore**s and irrigation channel overflows / ponding.

Wild river declaration is a statutory instrument under the *Wild Rivers Act 2005*. A declaration lists the relevant natural values to be preserved and delineates certain parts of the wild river area and the different constraints that may apply in these areas. With reference to environmental authorities for petroleum, each declaration also specifies conditions to be included in a new [environmental] authority if the activity is to be located within the wild river area.

Year means a period of 12 months.

80th percentile in relation to release limits means that not more than one (1) of the measured values is to exceed the stated release limit for any five (5) consecutive samples where:

- the consecutive samples are taken over a five (5) **month** period; and
- the consecutive samples are taken at approximately equal periods.

Smith Kim

From: Smith Kim
Sent: Friday, 1 April 2011 4:42 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Draft noise conditions [REDACTED] ATP806 [REDACTED]

Attachments: [REDACTED]
 [REDACTED] Draft Conditions - ATP806 OME.doc; [REDACTED]
 [REDACTED]

Hi [REDACTED]
 Section 78B(2) RTI Act

Please review the attached draft EA conditions and provide written comments by 8 April 2011 (please advise if more time is required) as follows:

- a) agree with the proposed conditions; or
- b) disagree with the proposed conditions; and
- c) support (b) with reasons."

I have tried to make the conditions as standard as possible across all 4 EAs. The delegate has also requested that QGC have the most current noise conditions for Level 2 petroleum activities. I have attached these conditions as an addendum and would appreciate QGC's comments in the same format as above.

I will forward extension notices next week to allow for the review and negotiation of conditions after you have provided feedback on the approximate time required to review them.

New or changed conditions are highlighted in grey, deleted conditions are shown in strikethrough.

[REDACTED]
 s.73 irrelevant information



Draft Conditions -
 ATP806 OME....

[REDACTED]
 s.73 irrelevant information

Thanks
 Kim

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

NOISE AND VIBRATION

Condition 59

A Noise Management Plan which has been **certified** by a **suitably qualified person** must be developed prior to the commencement of the petroleum activity(ies) authorised under this environmental authority.

Condition 60

The Noise Management Plan must have due regard to the Department of Environment and Resource Management's procedural guide "Coal Seam Gas Industry – Control of Noise from Gasfield Petroleum Activities" (2011), as amended from time to time.

Condition 61

The Noise Management Plan must include, but not necessarily be limited to:

- (a) a commitment by the Chief Executive Officer for the holder of this environmental authority, or their delegate, to ensure adequate allocation of staff and resources to the establishment and operation of the Noise Management Plan;
- (b) definition of roles, responsibilities and authorities within the staffing of the Noise Management Plan;
- (c) delivery of training to staff and contractors and maintenance of competencies;
- (d) risk/constraint analysis methods to be undertaken prior to any new operation (e.g. drill site) or installation of new equipment that has the potential to create noise nuisance;
- (e) procedures and methods to undertake assessments to determine compliance with the noise limits in Schedule E, Table 1 – Noise limits at Sensitive Receptors in the event of a **valid complaint** being received and when there are **no alternative arrangements** in place, taking in to account any tonal or **impulsive noise** impacts;
- (f) procedures for handling noise complaints;
- (g) community liaison and consultation procedures including but not limited to consultation for when night time petroleum activities (i.e. between 10:00 pm and 6:00 am) are likely to exceed 25 dBA;
- (h) procedures for managing records associated with all aspects of the Noise Management Plan including standardised forms for recording monitoring results and complaints;
- (i) details of petroleum activities and measured and/or predicted noise levels of noise sources associated with those activities;
- (j) reasonable and practicable control or abatement measures (including relocating the activity, altering the hours of operation, or having an alternate arrangement in place with any potentially affected person) that can be undertaken to ensure compliance with the noise limits in Schedule E, Table 1 – Noise limits at Sensitive Receptors;
- (k) the level of noise at **sensitive receptors** that would be achieved from implementing the measures detailed under condition 61 (j); and

- (l) mediation processes to be used in the event that noise complaints are not able to be resolved.

Condition 62

The holder of this environmental authority must implement the Noise Management Plan.

Condition 63

Prior to undertaking petroleum activities that will result in **short-term, medium-term or long term noise events** that are likely to impact on a sensitive receptor, the holder of this environmental authority must model or calculate any potential noise emissions from the relevant petroleum activity(ies) to ensure that noise emissions will not exceed the noise levels specified in Schedule E, Table 1 – Noise limits at Sensitive Receptors.

Condition 64

The emission of noise from the petroleum activity(ies) authorised under this environmental authority must not result in levels greater than those specified in Table 1 – Noise limits at Sensitive Receptors in the event of a valid complaint about noise being made to the administering authority.

Table 1 – Noise Limits at Sensitive Receptors

Time Period	Metric	Short Term Noise Event	Medium Term Noise Event	Long Term Noise Event
7:00 am – 6:00 pm	$L_{Aeq,adj, 15 \text{ min}}$	45 dBA	43 dBA	40 dBA
6:00 pm – 10:00 pm	$L_{Aeq,adj, 15 \text{ min}}$	40 dBA	38 dBA	35 dBA
10:00 pm – 6:00 am	$L_{Aeq,adj, 15 \text{ min}}$	28 dBA	28 dBA	28 dBA
	Max $L_{pA, 15 \text{ mins}}$	55 dBA	55 dBA	55 dBA
6:00 am – 7:00 am	$L_{Aeq,adj, 15 \text{ min}}$	40 dBA	38 dBA	35 dBA

Notes:

1. L_{Aeq} and Max L_{pA} are to be measured over any 15 minute period
2. The noise limits in Table 1 have been set based on the following deemed background noise levels * L_{ABG}):

7:00 am - 6:00 pm:	35 dBA
6:00 pm – 10:00 pm:	30 dBA
10:00 pm – 6:00 am:	25 dBA
6:00 am – 7:00 am:	30 dBA
3. Reference should also be made to the Coal Seam Gas Procedural Guide – Control of Noise from Gasfield Activities for the determination of the noise limits.

Condition 65

If the noise subject to a complaint is tonal or impulsive, the adjustments detailed in Table 2 – Adjustments to be Added to Noise Levels at Sensitive Receptors are to be added to the measured noise level(s) to derive $L_{Aeq, adj, 15 min}$.

Table 2 – Adjustments to be Added to Noise Levels at Sensitive Receptors

Noise Characteristic	Adjustment to Noise
Tonal characteristic is just audible	+ 2 dBA
Tonal characteristic is clearly audible	+ 5 dBA
Impulsive characteristic is just audible	+ 2 dBA
Impulsive characteristic is clearly audibly	+ 5 dBA

Condition 66

Where alternative arrangements are in place with an affected person(s) at a sensitive receptor as referred to by condition 61 (j), the noise limits in Table 1 – Noise limits at Sensitive Receptors do not apply at that sensitive receptor for the duration for which the alternative arrangements are in place.

Condition 67

Notwithstanding condition 65, emission of any noise below 315 Hz must not cause an environmental nuisance.

Condition 68

Low frequency noise from the petroleum activity(ies) is not considered to be an environmental nuisance under condition 67 if monitoring shows that noise emissions do not exceed the following limits:

- (a) 50 dB(Z) measured inside the sensitive receptor; and
- (b) the difference between the internal A-weighted and Z-weighted noise levels is no greater than 15 dB.

Condition 69

The method of measurement and reporting of noise levels must comply with the latest edition of the Department of Environment and Resource Management's (Environmental Protection Agency's) Noise Measurement Manual (2000) or the most recent version of AS1055 *Acoustics – Description and measurement of environmental noise*.

Condition 70 – Vibration and Blasting

Blasting activities must not be conducted on [insert tenure numbers relevant to the environmental authority]

OR – Conditions 70A - F

Condition 70A – Vibration and Blasting

A Blast Management Plan must be developed in accordance with **Australian Standard 2187** by a suitably qualified person prior to each blasting activity.

Condition 70B

The Blast Management Plan must include measures to minimise the likelihood of any adverse effects being caused by airblast overpressure and/or ground borne vibrations at any sensitive receptor and demonstrate current best practice environmental management.

Condition 70C

All blasting must be carried out in a proper manner by a suitably qualified person.

Condition 70D

All blasting must be carried out in accordance with the Blast Management Plan.

Condition 70E

Noise from blasting operations must not exceed an airblast overpressure level of 120 dB (linear peak) at any time, when measured at or extrapolated to any sensitive receptor.

Condition 70F

Ground-borne vibration peak particle velocity caused by blasting operations must not exceed 10 mm/s at any time, when measured at or extrapolated to any sensitive receptor.

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under section 309X (new application) / 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD

ACN [REDACTED]

Comment [ks1]: Please
provide a company extract with
ACN

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: [REDACTED] April 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*;
- The contaminated land provisions of the *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992*;
- *Forestry Act 1959*;
- *Water Supply (Safety and Reliability) Act 2008*; and
- *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A	General Conditions
Appendix A	Definitions
Appendix B	Environmentally Sensitive Areas
Appendix C	Criteria for environmentally relevant containment facilities
Appendix D	Schedule of Rehabilitation Costs

Schedule A- General conditions

Condition 1— Significant Disturbance

The holder of the environmental authority must ensure that petroleum activities do not cause more than a ha of any land to be significantly disturbed at a petroleum works site at any one time.

Condition 1 – Significant disturbance

The holder of this environmental authority must ensure that:

- Petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time;
- Prior to conducting petroleum activity(ies) that involve significant disturbance to land, an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;
- The assessment required by Condition 1 (b) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*; and
- A record of the assessment required by Conditions 1 (b) and 1 (c) must be kept and submitted to the administering authority upon request.

Condition 2 – Work Program, Development Plan

The applicant for or holder of the environmental authority must submit to the administering authority a copy of the original or any amended work program or development plan for the relevant application for or granted petroleum authority.

Condition 3 – Financial Assurance

The holder of the environmental authority must:

- calculate a financial assurance in accordance with the Schedule of Rehabilitation Costs and Schedule of Disturbance in Appendix C of this Authority;
- attach the Schedule of Disturbance to the original or any amended Work Program or Development Plan;
- provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of the original or any amended Work Program or development plan; and
- maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Condition 5 – Land Management

The holder of the environmental authority must:

- take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and
- ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and
 - stockpiled in a manner that will preserve its biological and chemical properties; and
 - used for rehabilitation purposes (refer condition 14).

Condition 6 – Vegetation

The holder of the environmental authority must:

- take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
- manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

Condition 7 – Protection of Riverine Areas

The holder of the environmental authority must:

- ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
- minimise disturbance of all other riverine areas.

Condition 8 – Erosion and Sedimentation Control

The holder of the environmental authority must take all reasonable and practicable measures to prevent or minimise:

- erosion of areas disturbed by petroleum activities; and
- sedimentation of any waters as a result of petroleum activities.

Condition 9 – Dust Management

The holder of the environmental authority (petroleum activities) must ensure that:

- dust or particulate matter or both resulting from a petroleum activity must not cause an environmental nuisance at any sensitive place or commercial place; and
- when requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.

Condition 10 - Noise Management

- Noise emitted from the temporary petroleum activities must not exceed the noise acoustic quality objective of 55 dB(A) at any sensitive or commercial place.
- Noise emitted from the permanent petroleum activities must not exceed the noise levels, specified in the table below, at any sensitive place or commercial place.

Time period	Noise level at a sensitive place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am–6 pm	Background noise level plus 5 dB(A)
6pm–10pm	Background noise level plus 5 dB(A)
10pm–7am	Background noise level plus 3 dB(A)
Time period	Noise level at a commercial place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am–6 pm	Background noise level plus 10 dB(A)
6pm–10pm	Background noise level plus 10 dB(A)
10pm–7am	Background noise level plus 8 dB(A)

General note: In no case is the background noise level, $L_{A90, 15-min}$ to be less than 25 dB(A). In the event that measured background noise level is less than 25 dB(A), then 25 dB(A) is to be used.

- (c) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.
- (d) The method of measurement and reporting of noise levels must be in accordance with most recent edition of the EPA's Noise Measurement Manual.

Condition 11 – Waste Management

The holder of the environmental authority must:

- (a) ensure that petroleum activities do not result in the release or likely release of a contaminants to land or waters that results in unlawful environmental harm; and
- (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

Condition 12 - Sewage Management and Disposal

The holder of this environmental authority must ensure that:

- (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
- (b) sewage effluent is not released to waters (including groundwater);
- (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
- (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
- (e) where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
- (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
- (g) there is no surface pond of effluent on land disposal area(s);
- (h) any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
- (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Condition 13 – Storage of Hazardous Substances, Fuel and Oil

The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:

- (a) contained within an on-site containment system;
- (b) controlled in a manner that prevents environmental harm; and
- (c) maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 – 2004 *Storage and Handling of Flammable and Combustible Liquids*.

Condition 14 – Spills and clean up action

Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:

- (a) take immediate action to stop any further release;
- (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
- (c) restore or rehabilitate the environment to its condition before the release occurred; and
- (d) take necessary action to prevent a recurrence of the release.

Condition 15 – Associated Water

- (a) The holder of the environmental authority must ensure that associated water is not released to land or waters, other than to an appropriate containment facility except as provided for:
- under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*; and
 - Condition 15 (c).
- (b) Despite 15 (a) (i), the holder of the environmental authority must ensure that associated water to be used for domestic or stock purposes meets the accepted *ANZECC 2000 Water Quality Guidelines for Stock and Domestic Purposes*.
- (c) Despite 15 (a), the holder of the environmental authority may apply to the administrative authority to allow associated water that meets a nominated set of water quality standards to:
- be released to land or waters; or
 - be used for a specific purpose, provided the potential user has given written advice about the proposed use and environmental safeguards that will be implemented to prevent material or serious environmental harm.

Condition 16 – Containment Facilities

- (a) The holder of the environmental authority must ensure all environmentally relevant containment facilities are:
- designed, constructed, operated, maintained and decommissioned in accordance with the criteria outlined in Appendix B; and
 - not located within 100 m of any natural drainage feature (i.e. watercourses, waterway, wetland or lank).
- (b) The holder of the environmental authority must ensure all drill sumps are installed and maintained to prevent any discharge through the bed or banks of the sumps from causing environmental harm or environmental nuisance in any waters.

Condition 17 – Containment Facilities and Other Excavations

For all environmentally relevant activities and other excavations which are constructed as part of the petroleum activities, the holder of the environmental authority must where relevant either:

- (a) provide safe access for livestock where contained water quality is adequate for live stock; or
- (b) construct and maintain bunds and/or fences sufficient to exclude livestock.

Condition 18 – Rehabilitation

As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:

- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
- (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
- (c) on all significantly disturbed land, take all reasonable and practicable measures to:
- re-establish surface drainage lines;
 - reinstate the top layer of the soil profile; and
 - promote establishment of vegetation of the same species and density of cover to that of the surrounding undisturbed areas.

Condition 19 – Infrastructure

All Infrastructure, constructed by or for the holder of the environmental authority, including water storage structures, must be removed by the holder from the site and the sites rehabilitated according to condition 18, prior to surrender of the petroleum authority, except where it is to remain with the written agreement of the administering authority and post petroleum authority landowner / holder.

Condition 20 – Environmentally Sensitive Areas

The holder of the environmental authority must ensure that petroleum activities:

- (a) are not conducted within a category A or B environmentally sensitive area;
- (b) do not cause a significant disturbance within 1km of a category A environmentally sensitive area or within 500m of a category B environmentally sensitive area unless authorised under this environmental authority; and
- (c) are not conducted in a category C environmentally sensitive area unless there is a written agreement to enter the area for those activities from the relevant administering authority.

The holder of this environmental authority must ensure that the petroleum activity(ies):

- (a) is not conducted in any Category A or B or C Environmentally Sensitive Area;
- (b) is not conducted within the primary protection zone of any Category A, B or C Environmentally Sensitive Area; and
- (c) does not involve petroleum activity(ies) other than limited petroleum activities within the secondary protection zone of a Category A, B or C Environmentally Sensitive Area.

Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at:

http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php.

Condition 20A

Limited petroleum activities carried out in the secondary protection zone in accordance with condition 20 (c) must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees

Condition 20B

Despite condition 20, limited petroleum activities may be undertaken within the primary protection zone of, or in the following specified Category C Environmentally Sensitive Areas:

- (a) Of Concern Regional Ecosystems;
- (b) State Forests;
- (c) Timber Reserves

provided that it does not overlap with any other Category A, B or C Environmentally Sensitive Area or its associated primary protection zone.

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves.

Condition 20C

Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition 20B, the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:

- (a) pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;

- (b) undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
- (c) pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
- (d) areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.

Condition 20D

Despite condition 20, seismic survey activities may be undertaken within Endangered RE, and primary and secondary protection zones of Endangered RE provided that they do not overlap with any other Category A, B, or C ESA or associated protection zones.

Condition 20E

Where seismic activities are proposed to be undertaken within Endangered RE, and primary and secondary protection zones of Endangered RE, the holder of this environmental authority must:

- (a) not cause disturbance and/or clearing of vegetation;
- (b) use pre-existing access and fence line tracks and other disturbed areas;
- (c) not construct new access tracks;
- (d) conduct seismic activities by foot where there are no existing access tracks;
- (e) not clear or stick rake in any Endangered RE; and
- (f) utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - (i) deploy and retrieve geophones and cable through the crossing by foot; or
 - (ii) skip acquisition over the watercourse and restart on the other side.

Condition 20F

Notwithstanding conditions 20B and 20C, where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in conditions 20B, any vegetation clearing must not exceed any of the following areas:

- (a) for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition 1 of this environmental authority; and
- (b) more than 30 m² for the construction of a sump; or
- (c) more than six (6) metres in width for tracks; or
- (d) more than 12 metres in width for flow pipeline construction purposes.

Condition 20G

For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition 20B, all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Condition 20H

Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, must be kept and submitted to the administering authority with each annual return.

Condition 20I – Disturbance to Land – Offsets

The environmental authority holder must enter in to an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmental value.

Condition 20J

The environmental offset agreement must be entered in to within six (6) months after submitting the record of disturbance required by condition 20H, unless otherwise agreed to by the administering authority.

Condition 20K

The environmental authority holder must implement any environmental offset agreement entered in to in accordance with conditions 20I and 20J as soon as practicable after finalisation.

Note: Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy" June 2008.

Condition 21- Exploration within Buffer of ERE

For exploration activities the environmental authority holder must comply with each of the standard environmental conditions contained in the *Code of Environmental Compliance for Exploration and Mineral Development Projects*, except Condition 13, which is replaced by 21 (a) to 21 (n) conditions.

- (a) The environmental authority holder is authorised to construct 1 borehole within the ERE buffer. The subsequent conditions, B2-1 to B4-2, authorises the environmental disturbance related to this borehole;
- (b) The operational area of the drill site within the 500m buffer must not exceed 1000m²;
- (c) The drill hole within the buffer of the ERE is limited to less than 200mm in diameter;
- (d) The construction of sumps within the ERE buffer must not exceed 10m²;
- (e) Topsoil stripping within the ERE buffer is limited to an area no greater than 25m x 25m;
- (f) The environmental holder must minimise disturbance within the ERE buffer and avoid clearing of trees;
- (g) Existing access and fence line tracks must be used wherever possible. Any new tracks are to be constructed by linking natural cleared or disturbed areas;
- (h) Track construction must avoid clearing of trees;
- (i) Where new tracks are required they will not be constructed greater than 5m in width;
- (j) Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised;
- (k) No clearing or disturbance for access to borehole will take place within the ERE;
- (l) Exploration within the ERE buffer must not involve costeaning or bulk sampling activities; and
- (m) Exploration camps must not be established within the ERE or ERE buffer; and
- (n) Rehabilitation of drill sites and sumps will be in accordance with the *Code of Environmental Compliance for Exploration and Mineral Development Projects*.

Condition 22- Seismic Activity within ERE Buffer

~~The holder of the environmental authority is authorized to undertake seismic acquisition within the 500 metre buffer of the Endangered Regional Ecosystem (ERE). The seismic activity is restricted to cleared areas and is not authorised to enter the dominant ERE.~~

Condition 22 A– River Improvement Areas

All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Condition 22B – Wild river areas

In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Condition 23 – Heritage places and archaeological artefacts

The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 24 – Clearing vegetation

The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees.

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

Condition 24A

The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils;
- (c) on slopes greater than 10% for activities other than pipelines and wells; or
- (d) in discharge areas.

Condition 24C

Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not impede vehicle, stock or wildlife movements.

Condition 25 – Maintenance of land rehabilitation

Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate:

- (a) the stability of landforms;
- (b) that erosion control measures remain effective;
- (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters;
- (d) that plants show healthy growth and recruitment is occurring; and
- (e) that rehabilitated areas are free of any declared pest plants.

Condition 26 – Rehabilitation Success

Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.

Condition 23 27 – Monitoring and Complaints

The holder of the environmental authority must:

- (a) develop and implement a monitoring program that will demonstrate compliance with this Authority;
- (b) document the monitoring and inspections carried out under the program and any actions taken;
- (c) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident; and
- (d) retain the record of complaints required by this condition for 5 years.

Condition 24 28– Notification

The holder of the environmental authority must:

- (a) record and initially notify the administering authority as soon as practicable, but within 24 hours, of any emergency or incident that demonstrates non-compliance to the standard environmental conditions; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

The holder of this environmental authority must:

- (a) telephone DERM's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental authority or any event where environmental harm has been caused or threatened; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

Condition 29 - Existing petroleum activities

Conditions 1, 20-20K, and 24-24B relating to disturbance only apply to petroleum activities which commenced after [redacted]

- (a) the holder of this environmental authority conducting an audit of the existing petroleum activities which commenced [redacted] against the land disturbance conditions of the previous environmental authority dated 5 October 2007; and
- (b) the audit report being provided to the administering authority by [redacted]

Condition 30

The holder of this environmental authority must ensure that records containing construction dates of existing and future petroleum infrastructure are available to the administering authority upon request.

End of Conditions

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond, compressor site and campsite. The following petroleum activities are excluded from the definition of petroleum works site: roads and tracks, seismic survey lines, and non-licensed gathering systems.

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Release of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Riverine area refers to the land confined to the flood flow channel of a watercourse.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means a area within a 300 metre buffer from the boundary of a primary protection zone.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off significantly disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off significantly disturbed areas. This may include silt fences, hay bales or grassed strips.

Sensitive place means

- (a) a dwelling, mobile home or caravan park, residential marina or other residential place;
- (b) a motel, hotel or hostel;
- (c) a kindergarten, school, university or other educational institution;
- (d) a medical centre or hospital;
- (e) a protected area;
- (f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organized entertainment.

Significantly disturbed land and significant disturbance means land if:

- (a) it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance

Examples of a disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a watercourse, waterway, wetland or lake where petroleum activities occur and human intervention is necessary to restore or stabilise the disturbed area;

- (e) areas submerged by hazardous waste storage and dam walls in all cases;
- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- (g) areas where land has become contaminated land and a suitability statement has not been issued.

However, for the purpose of this Authority the following areas are not significantly disturbed:

- (a) areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority).
- (b) areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction.
- (c) areas under permanent infrastructure.
- (d) areas that were significantly disturbed prior to the grant of the environmental authority, unless those areas are re-disturbed by the holder of the environmental authority during the term of the authority.
- (e) minor disturbances such as drill sumps and minor respreading of soil on GPS located seismic lines.

Stable means geo-technical stability of the rehabilitated landform i.e. settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping are unlikely to cause instability.

Temporary petroleum activities means drilling

Permanent petroleum activities means compressors, wells

Top layer of soil means soil, alluvium, weathered rock or other suitable plant growth medium. Top layer material should be non-crusting and low in salinity.

Turkey's nest dam - A dam constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the dam.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

Condition 24C

Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not impede vehicle, stock or wildlife movements.

Condition 25 – Maintenance of land rehabilitation

Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate:

- (a) the stability of landforms;
- (b) that erosion control measures remain effective;
- (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters;
- (d) that plants show healthy growth and recruitment is occurring; and
- (e) that rehabilitated areas are free of any declared pest plants.

Condition 26 – Rehabilitation Success

Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.

Condition 23 27 – Monitoring and Complaints

The holder of the environmental authority must:

- (a) develop and implement a monitoring program that will demonstrate compliance with this Authority;
- (b) document the monitoring and inspections carried out under the program and any actions taken;
- (c) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident; and
- (d) retain the record of complaints required by this condition for 5 years.

Condition 24 28– Notification

The holder of the environmental authority must:

- (a) record and initially notify the administering authority as soon as practicable, but within 24 hours, of any emergency or incident that demonstrates non-compliance to the standard environmental conditions; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

The holder of this environmental authority must:

- (a) telephone DERM's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental authority or any event where environmental harm has been caused or threatened; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

Condition 29 – Existing petroleum activities

Conditions 1, 20-20K, and 24-24B relating to disturbance only apply to petroleum activities which commenced after [redacted]

- (a) the holder of this environmental authority conducting an audit of the existing petroleum activities which commenced [redacted] against the land disturbance conditions of the previous environmental authority dated 5 October 2007; and
- (b) the audit report being provided to the administering authority by [redacted]

Condition 30

The holder of this environmental authority must ensure that records containing construction dates of existing and future petroleum infrastructure are available to the administering authority upon request.

End of Conditions

Appendix A - Definitions

APPEA Code means the current APPEA, Code of Environmental Practice.

AS 2885 Australian Standard Pipelines – Gas and Liquid Petroleum

Associated water is underground water taken from or interfered with from a petroleum well during the course of or resulting from carrying out petroleum activities. Associated water may be potable or suitable for stock purposes, or saline, high in fluoride, contain hydrocarbons, and/or is otherwise contaminated by a hazardous contaminant and become a hazardous waste.

Commercial place means a place used as an office or for business or commercial purposes.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to: the "completion" of the particular activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority. Under the APPEA Code "completion" refers to the point at which the particular survey, program or operation has been rehabilitated and abandoned.

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by:

- (a) noise, dust, odour, light; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

Evaporation pond means a dam or interceptor pond constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the pond.

Environmentally sensitive area (as determined from the EPA GIS data base) means a location, however large or small, that has environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

"ERE" means Endangered Regional Ecosystem.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of rehabilitating areas significantly disturbed by the petroleum activities.

Hazardous contaminant means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Land degradation includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

Licensed waste disposal facility is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the *Environmental Protection Regulation 1998*.

Limited petroleum activities mean only the following petroleum activities:

- o geophysical surveys (including seismic petroleum activities);
- o well sites;
- o well pads;
- o water pumps and generators associated with well operations;
- o sumps;
- o flare pits;
- o gathering / flow pipelines from a well head to the initial compression facility; and
- o supporting access tracks.

For clarity, limited petroleum activities exclude and are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o dams;
- o borrow pits;
- o ponds used to contain and/or store stimulation fluids;
- o compressor stations;
- o campsites / workforce accommodation;
- o power supplies;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence)
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc), which is to be left by agreement with the landowner.

Pest means species:

- o declared under the *Land Protection (Pest and Stock route Management) Act 2002*;
- o declared under Local Government model local laws; and
- o which may become invasive in the future.

Petroleum activity is defined in the *EP Act* as an activity:

- a) authorised on a petroleum tenure granted under the *Petroleum Act 1923*; or
- b) authorised on a petroleum authority granted under the *P&G Act*; or
- c) exploring for or mining minerals under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the *Petroleum (Submerged Lands) Act 1982*; or
- d) rehabilitating or remediating environmental harm because of an activity mentioned in paragraphs (a) to (c); or
- e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d); or
- f) required under a condition of an environmental authority (petroleum activities); or
- g) required under a condition of an environmental authority (petroleum activities) that has ended or ceased to have effect, if the condition:
 - i. continues to apply after the authority has ended or ceased to have effect; and
 - ii. has not been complied with.

Petroleum Authority includes Authority to Prospect, Petroleum Lease, Data Acquisition Authority Water Monitoring Authority, Petroleum Facility Licence, Survey Licence and Pipeline Licence issued or granted under the *Petroleum Act 1923* or *Petroleum and Gas (Production and Safety) Act 2004*.

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond, compressor site and campsite. The following petroleum activities are excluded from the definition of petroleum works site: roads and tracks, seismic survey lines, and non-licensed gathering systems.

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Release of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Riverine area refers to the land confined to the flood flow channel of a watercourse.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means a area within a 300 metre buffer from the boundary of a primary protection zone.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off significantly disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off significantly disturbed areas. This may include silt fences, hay bales or grassed strips.

Sensitive place means

- (a) a dwelling, mobile home or caravan park, residential marina or other residential place;
- (b) a motel, hotel or hostel;
- (c) a kindergarten, school, university or other educational institution;
- (d) a medical centre or hospital;
- (e) a protected area;
- (f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organized entertainment.

Significantly disturbed land and significant disturbance means land if:

- (a) it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance

Examples of a disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a watercourse, waterway, wetland or lake where petroleum activities occur and human intervention is necessary to restore or stabilise the disturbed area;

- (e) areas submerged by hazardous waste storage and dam walls in all cases;
- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- (g) areas where land has become contaminated land and a suitability statement has not been issued.

However, for the purpose of this Authority the following areas are not significantly disturbed:

- (a) areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority).
- (b) areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction.
- (c) areas under permanent infrastructure.
- (d) areas that were significantly disturbed prior to the grant of the environmental authority, unless those areas are re-disturbed by the holder of the environmental authority during the term of the authority.
- (e) minor disturbances such as drill sumps and minor respreading of soil on GPS located seismic lines.

Stable means geo-technical stability of the rehabilitated landform i.e. settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping are unlikely to cause instability.

Temporary petroleum activities means drilling

Permanent petroleum activities means compressors, wells

Top layer of soil means soil, alluvium, weathered rock or other suitable plant growth medium. Top layer material should be non-crusting and low in salinity.

Turkey's nest dam - A dam constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the dam.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

APPENDIX B Environmentally Sensitive Areas**Category A and B environmentally sensitive areas**

Category A and B environmentally sensitive areas are listed in Section 25 and 26 respectively of the *Environmental Protection Regulation 2008*.

Category C environmentally sensitive areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Koala Habitat Area	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	Department of Environment and Resource Management
An area identified as essential habitat by the EPA for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the Nature Conservation Act 1992	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Declared Catchment Areas	<i>Water Act 2000</i>	Department of Environment and Resource Management and/or Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Environment and Resource Management and the Relevant River Trust
Former Designated Landscape Area - Stanbrooke Pastoral Holding	<i>Aboriginal Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
Areas under Part 5 Division 2 of the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
State Forest or Timber Reserves	<i>Forestry Act 1959</i>	Department of Environment and Resource Management
DPI Research Sites	<i>Nil</i>	Department of Employment, Economic Development and Innovation
Areas of land occupied by the Bureau of Sugar Experiment Stations.	<i>Sugar Industry Act 1999</i>	Department of Employment, Economic Development and Innovation
Coastal Management Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Resource Management

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Declared Areas	<i>Vegetation Management Act 1999</i>	Department of Environment and Resource Management
An area shown as a wetland on a 'map of referable wetlands'	<i>Environmental Protection Act 1994</i>	Department of Environment and Resource Management
Reserves under the Land Act 1994	<i>Land Act 1994</i>	Department of Environment and Resource Management
An 'of concern' regional ecosystem identified in the database maintained by the EPA called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.	<i>Nil</i>	Department of Environment and Resource Management

Important Note: Regional ecosystem classification is determined according to the Queensland Herbarium Biodiversity Status Classification. Information on ERE's is maintained by the DERM on the Regional Ecosystem Description Database.

APPENDIX C Criteria for environmentally relevant containment facilities

The holder of the environmental authority (petroleum activities) may require environmentally relevant containment facilities to be constructed within the petroleum authority for raw water storage, storage and evaporation of associated water or for the containment of contaminated solids formed from such waters. Environmentally relevant containment facilities are defined as "structures that may or could contain flowable substances that, in the event of collapse of the structure, failure to contain or discharge of either liquor, solids or gas, could or would adversely impact on the environment."

Associated water may be saline, contain hydrocarbons or other substances at certain concentrations that when released to land or waters may cause material or serious environmental harm. This does not prevent or limit the holder of the environmental authority from treating the associated water to a specified standard for subsequent discharge to land or waters, or on-supplied to a third party for beneficial reuse, providing it is authorised by the relevant environmental authority.

Appendix B provides for the environmental regulation of such containment facilities. The regulation of such facilities is based on both a hazard and risk assessment, which includes an assessment of the contents of the containment facility.

The assessment criteria presented in Tables 1 and 2 allow these structures to be classified as:

- High hazard containment facility;
- Medium hazard containment facility; or
- Low hazard containment facility.

High hazard containment facilities that could impact on life or property on collapse or failure are not permitted under this environmental authority and will require either site-specific conditions or will be conditioned under a level 1 environmental authority.

Step 1 - Assessing the contents of the relevant containment facility

The first step in the assessment process is to determine whether the facility contains substances that may be classed as hazardous if released to the environment. If the contents of the relevant containment facility, including either liquor and/or total solids, exceed the limits in Table 1, then the containment facility contains hazardous substances.

Table 1 – Criteria for determining the contents of the containment facility

Contaminant ¹	Liquor ²	Total solids ^{3,4}
Arsenic	0.5 mg/l	250 mg/kg
Boron	5.0 mg/l	15,000 mg/kg
Cadmium	10 µg /	100 mg/kg
Cobalt	1.0 mg/l	500 mg/kg
Copper	1.0 mg/l	5,000 mg/kg
Lead	0.1 mg/l	300 mg/kg
Mercury	2µg/l	75 mg/kg
Nickel	1.0 mg/l	3,000 mg/kg
Zinc	20 mg/l	35,000 mg/kg
Chloride	2,500 mg/l	-
Fluoride	2.0 mg/l	-
Selenium	0.02 mg/l	-
Sulphate	1,000 mg/l	-
Cyanide	10 mg/l	2,500 mg/kg
pH	Between 5.5 and 9.0	Net acid generation of pH <4
Nitrite	30 mg/l	-
Nitrate	400 mg/l	-
Total Dissolved Solids	4000 mg/l	-
Aromatic Hydrocarbons	600 µg/l	-
Polycyclic Aromatic Hydrocarbons	-	-

Naphthalene	16µg/l	
Benzo (a) pyrene	0.2 C	
Phenol	320 µg/l	-
Polychlorinated Biphenyls		-
Aroclor 1242	0.3 µg /l	
Aro 1254	0.1 µg /l	
Total Petroleum Hydrocarbons	10 mg/l (or no visible film)	
Blue green Algae (Microcystis)	11,000 cells/ml	-

1. Metals should be analysed in accordance with recognised test methods by a NATA certified laboratory.
2. Applies to the liquid contents in the containment facility readily available to the environment (e.g. water available to birds and animals).
3. Total solids include suspended and colloidal solids.
4. Applies to the solids in the containment facility.

Step 2 - Determining other risk factors

The second step in the assessment process is to consider other factors that may increase the hazard category of the containment facility including its size, location and environmental setting. If a proposed containment facility exceeds any of the size and location criteria listed in Table 2, then the structure will be a high hazard containment facility.

Table 2 – Determination of other risk factors

	Threshold criteria for a high hazard containment facilities
Criterion 1 Location with respect to habitation or water infrastructure	In the event of collapse, failure or overflow from the containment facility, would result in one or more of the following actions, it would or could: <ul style="list-style-type: none">• impact on occupied premises to a depth of more than 300 mm; or• flow to a sensitive or commercial place; or• flow to a riverine area containing permanent water; or• contaminate a water supply for human consumption; or• contaminate a water supply used for livestock.
Criterion 2 Location in catchments	The containment facility is located within a: <ul style="list-style-type: none">• declared catchment or sub-artesian area; or• watercourse and the containment facilities surface area of water exceeds 1ha.
Criterion 3 Size	The containment facility has a surface area of water greater than 4 ha; or the containment facility has a volume of water greater than 20 mega litres.

Step 3 - Determining the hazard category

Table 3 summarises the process for determining the hazard category of containment facilities on a petroleum authority.

If any proposed containment facility cannot comply with the acceptance criteria listed in Table 1 but can comply with the size and location criteria listed in Table 2, then the structure will be a medium hazard containment facility. Similarly if the structure contains substances that may be hazardous and exceeds the criteria in Table 2 then the structure will be a high hazard containment facility.

Table 3 – Determination of hazard category

Concentration of liquor and total solids	Location and size	Hazard Category
Contents of the containment facility do not exceed limits in Table 1	Containment facility location and size do not trigger criterion 1 listed in table 2	The structure is a low hazard containment facility
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are below the criteria listed in table 2	The structure is a medium hazard containment facility.
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are above the criteria listed in table 2	The structure is a high hazard containment facility.

Design, construction, operation, maintenance and decommissioning criteria

Containment facilities are engineering structures and must be designed by professional engineer(s) who would normally apply the criteria defined below. A professional engineer should also be consulted in the development of the decommissioning plan.

Criteria for Low Hazard Containment Facilities

Low hazard containment facilities should be designed, constructed, operated and decommissioned in accordance with the "Queensland Small Embankment Dam Guideline".

Criteria for Medium Hazard Containment Facilities

In order to comply with the conditions of this environmental authority, design, construction, operation, maintenance and decommissioning of medium hazard containment facilities, must be in accordance with the following.

Design:

- Containment facilities with a capacity up to 3 mega litres are best constructed as *Turkey's Nest* structures;
- Containment facilities should be located to have the smallest practical catchment area;
- Containment facilities must have a spillway capable of passing a design flood, defined as the peak discharge from a critical duration storm with an annual exceedence probability of 1% (i.e. 1 in 100 yr event) or lower;
- The spillway should be located where practicable in the abutment of the containment facility or in the minimum height section of the containment facility;
- Any spillway discharge should be contained within stable defined channels until it enters any natural watercourse or waterway;
- For embankments built on stable foundations, not subject to draw down and out of uniform soil material, the batters shall be no steeper than those shown in the table below, unless otherwise shown to be stable:

Embankment Soil Classification (Universal soil classification)	Upstream Batter	Downstream Batter

GC, SC	2.5:1	2.0:1
CL, ML	3.5:1	2.5:1
CH, MH	3.5:1	2.5:1
GW, GP, GM, SW, SP, SM	Not suitable	Not suitable

Note: The codes for the Universal Soil Classification (e.g. GC) are detailed in the Australian Standard AS 1726 1993 Geotechnical Site Investigation, Appendix A.

- Where foundation material differs from the embankment fill material, the batters shall be chosen conservatively to be consistent with the weaker material classification.

Construction:

- Embankments must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures, flow velocities, material strength, stability and durability.
- Fine grained soils used in embankment construction should be mechanically compacted when they are near or at the optimum moisture content (i.e. slightly plastic) to improve soil strength, minimise seepage and reduce the risk of piping failure
- Where geo-membranes are used, ensure that they are placed, anchored and joined in accordance with the manufacturer's specification.
- Where geo-membranes are used ensure that they are suitable to prevent leakage of the hazardous contaminants, which are contained within the containment facility.
- Where geo-membranes are used for liners, filters or drains, ensure that the geo-membrane is in contact only with fine-grained soils to prevent punching or tearing of the membrane.
- Embankments built out of pervious material must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures and flow velocities.
- Where foundation material differs from embankment fill material, the embankment should be constructed out of the material, which gives the flatter batter.
- Prior to construction of an embankment, the foundation should be cleared of all:
 - vegetation (grass, shrubs and trees);
 - soils containing organic matter (roots);
 - cracked soils (stiff plastic soils);
 - pervious soils (sand, gravel)
 - pervious material in rock faults, joints or the rock foundation itself.
- Prior to construction of an embankment, all transverse trenches, holes and other irregularities should be plugged or backfilled to create a generally undulating foundation for placement of the embankment.
- Fine-grained soils used in embankment construction should have a consistent texture and be free from foreign matter such as branches, logs, gravels or boulders etc.
- Fine-grained soils including dispersible soils should be placed in the centre of or towards the upstream faces of embankment containment facilities.
- Coarser grained soils and rock materials are to be placed towards and on the outer faces of embankment containment facility to minimise erosion and breaching potential.
- Dispersible and easily erodible soils should not be used on the outer faces of embankment containment facility.
- Provide adequate measures to control seepage through the containment facility wall and the transmission of contaminants through underlying soil layers or rock stratum.
- Embankment containment facility should be constructed with stable earth materials that will not decay or generate leachate or hazardous contaminants.

Operation:

- (a) The containment facility should be operated to maintain a minimum freeboard of 0.5m below the spillway level.
- (b) To ensure that there is no leakage of hazardous wastes from any containment facility associated with the petroleum activity a field based groundwater monitoring program must be established to ensure there is no contamination of any unsaturated perched systems or existing groundwater aquifers in the vicinity of the works. Three or more monitoring bores specifically designed for this purpose should be located in a cluster between the contaminant source and any environmentally sensitive place. The monitoring program should regularly record:
- i. water levels;
 - ii. water quality;
 - iii. flow rates; and
 - iv. direction of flow.
- (c) As far as practicable minimise seepage and return any contaminated seepage to the containment facility.

Maintenance:

- (a) Maintain the erosion resistance of the downstream face of the containment facility to avoid surface scour, which may lead to failure of the wall;
- (b) Maintain the erosion resistance of the spillway to avoid scouring during the design flood;
- (c) Prevent the establishment of trees or shrubs on water containing embankments (roots initiate seepage paths);
- (d) Control of burrowing insects and animals (initiation of piping paths);
- (e) Repair active erosion and piping processes; and
- (f) During initial filling or commissioning, the containment facility should be monitored for leaks, seepages, embankment deformation or other signs of embankment distress.

Decommissioning:

- (a) Removing (where possible) all remaining liquids in the containment facility (e.g. it is generally acceptable to evaporate the liquid if the containment facility is not to be left to the land owner / holder).
- (b) Remove (where possible) all contaminated solids from the containment facility and encapsulate in a purpose built storage facility, or encapsulate any residual contaminated solids in situ by capping with an appropriate capillary break and with one metre of clay or similar impermeable material;
- (c) Design, install and maintain adequate diversion drains or similar structures to protect or minimise the erosion of any exposed surfaces by stormwater runoff;
- (d) Design, install and maintain adequate surface drainage to prevent water ponding and infiltration into any contaminated materials;
- (e) Address contaminated site issues by referring to Notes 11.2 and 11.3 of this environmental authority;
- (f) Establish a monitoring program to determine the success of the decommissioning plan;
- (g) If required, remove the wall of the containment facility; and
- (h) Rehabilitate the disturbed areas in accordance with the rehabilitation conditions of this environmental authority.

APPENDIX D Schedule of Rehabilitation Costs

OIL ACTIVITIES	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$10,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$500 per line, plus \$200 per km
Borrow pit	\$1,000 each
Evaporation pond	Site-specific estimation
Storage tank	\$5,000 per tank
Contaminated land survey	\$20,000 per facility
Sampling	\$5,000 per facility
Bioremediation land farm	\$5,000 per facility
Infrastructure	Site specific estimation
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$5,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$200 per km
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Coal Seam Gas wells <350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$1,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Flow lines - buried	\$500 per line
Flow lines - surface	\$200 per line
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

Note: Rehabilitation cost estimates must be based on third party costs for rehabilitation of land that has been "significantly disturbed" and may be reviewed annually by the administering authority.

Smith Kim

From: [REDACTED] s.73 irrelevant information

Sent: Friday, 9 September 2011 2:59 PM

To: Drew David (400 George St)

Cc: Smith Kim

Subject: RE: Bowen EA amendments

- (A1) This environmental authority authorises petroleum activities for exploration and appraisal purposes, which are limited to
- (a) wells including incidental activities such as well pads, water pumps and generators associated with well operations, sumps for storing drilling muds, and flare pits;
 - (b) limited petroleum activities;
 - (c) low impact petroleum activities;
 - (d) low hazard dams;
 - (e) dams other than those defined as low hazard or regulated dams;
 - (f) borrow pits;
 - (g) pipelines associated with production testing (excluding pipelines that require a pipeline license);
 - (h) temporary structures such as accommodation camps and sewage treatment plants; and
 - (i) stimulation activities.

Hi David, if the other word amendments are made in red then we agree and would like you to issue the EAs.

Thanks

Regards

Section 78B(2) RTI Act

[REDACTED] s.73 irrelevant information

From: Drew David (400 George St) [mailto:David.A.Drew@derm.qld.gov.au]

Sent: Friday, 9 September 2011 2:54 PM

To: [REDACTED] s.73 irrelevant information

Cc: Smith Kim

Subject: RE: Bowen EA amendments

[REDACTED] s.73 irrelevant information

I called and left a msg. Unfortunately I have a mtg to go to.

Rod and I have considered your most recent email and DERM will be maintaining the "limited to..." terminology rather than "including...", as it provides assurances that any new or emerging CSG technologies are not included.

Therefore DERM seeks to grant the 5 ATPs (reflecting this) this afternoon. Please advise if you agree this afternoon so we can grant them today.

Regards, David

David Drew

A/Manager

Gas and Petroleum Unit

Environmental and Natural Resource Regulation

Department of Environment and Resource Management

p (07) 3330 5970

f (07) 3330 5634

<mailto:david.a.drew@derm.qld.gov.au>

400 George Street BRISBANE QLD 4000

GPO BOX 2454 BRISBANE QLD 4001

From: [REDACTED] Section 78B, Section 78B(2)(c) - individuals privacy

GPO BOX 2454 BRISBANE QLD 4001

From: Smith Kim
Sent: Friday, 9 September 2011 12:03 PM
To: s.73 irrelevant information
Cc: Drew David (400 George St); Broadfoot Angus; s.73 irrelevant information
Subject: RE: Bowen EA amendments

s.73 irrelevant information

Yes, very close.

A1 - The whole point of the scoping statement is to provide a limit to activities so that the public knows exactly what we are authorising, otherwise it's just a token condition. Referring to a different department's act isn't desirable either. I have tried to comprehensively list the activities (in DERM's terminology) as much as possible. If you believe that we've left something off the list let me know.

D15 now allows tracks up to 10m where the existing tracks allow for it.

Today is doable if you get back to us ASAP.

Thanks
Kim

From: s.73 irrelevant information
Sent: Thursday, 8 September 2011 11:45 AM
To: Drew David (400 George St); Smith Kim; Broadfoot Angus
Cc: Kent Rod; s.73 irrelevant information
Subject: Bowen EA amendments

Hi guys,

We are very close now, we made some enhancements to your wording, sorry but we have to get this right, or the conditions just still will not work for us and after all this negotiation we are just about there. Please give me a call if you have any questions or troubles with my suggestions. We do need to get this signed off tomorrow (Friday 9th September).

In particular we still have some wording issues with conditions A1 (in particular the *limited to* text) and D15(d) (the 6m wide limit)

Thanks

s.73 irrelevant information

<<DRAFT CONDITIONS ATP806 8 Sept 2011.doc>>

s.73 irrelevant information

QGC - A BG Group business

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and

Release

delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this email or attachment is personal or unconnected with our business, BG Energy Holdings Limited accepts no liability or responsibility for it. Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

+-----+

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

+-----+

EHP RTI DL Release

Smith Kim

From: Smith Kim
Sent: Wednesday, 7 September 2011 11:13 AM
To: [REDACTED]
Cc: [REDACTED] Drew David (400 George St); Broadfoot Angus
Subject: RE: DRAFT CONDITIONS ATP806 1 September 2011
Importance: High
Attachments: DRAFT CONDITIONS ATP806 7 Sept 2011.doc

s.73 irrelevant information

DERM's proposed wording track changed for your review.
Please cc Angus, myself and David in to any response. David won't be in tomorrow to sign off on the EAs, so pending on the timing of your response they could be signed off this afternoon or Friday.

Thanks
Kim

From: [REDACTED] s.73 irrelevant information
Sent: Thursday, 1 September 2011 5:47 PM
To: Drew David (400 George St); Broadfoot Angus; Smith Kim
Cc: [REDACTED] Beutel, Paul
Subject: DRAFT CONDITIONS ATP806 1 September 2011

<<DRAFT CONDITIONS ATP806 1 September 2011.doc>>

Hi David,

Here are our comments with regards to the 5 ATPs currently under amendment (ATP

s.73 irrelevant information ATP806 [REDACTED] s.73 irrelevant information

Please give me a call if you have any questions

Regards

[REDACTED]
s.73 irrelevant information

QGC - A BG Group business

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered
address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK

Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this email or attachment is personal or unconnected with our business, BG Energy Holdings Limited accepts no liability or responsibility for it. Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

EHP RTI DL Release

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

Release

DERM Permit¹ Number: PEN200013707

Under Section 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD
ACN: 100 280 662

in respect to carrying out a Level 2 chapter-5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: XX August 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*;
- The contaminated land provisions of the *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992*;
- *Forestry Act 1959*;
- *Water Supply (Safety and Reliability) Act 2008*; and
- *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A	General Conditions
Schedule B	Water
Schedule C	Dams
Schedule D	Land
Schedule E	Environmental Nuisance
Schedule F	Waste
Schedule G	Rehabilitation
Schedule H	Stimulation Activities
Schedule I	Community Issues
Schedule J	Notification Procedures

Appendix A	Definitions
------------	-------------

Schedule A – General Conditions**Authorised Petroleum Activities**

- (A1) This environmental authority authorises petroleum activities for exploration purposes only, which are limited to: limited petroleum activities, borrow pits, temporary accommodation camps, stimulation activities, and low hazard dams.

Prevent or Minimise Likelihood of Environmental Harm

- (A2) This environmental authority does not authorise environmental harm unless a condition contained in this environmental authority explicitly authorises that harm. Where there is no condition, the lack of a condition shall not be construed as authorising harm.

Maintenance of Measures, Plant and Equipment

- (A3) The holder of the environmental authority must:
- (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;
 - (b) maintain such measures, plant and equipment in their proper and effective condition; and
 - (c) operate such measures, plant and equipment in a proper and effective manner.
- (A4) No change, replacement or alteration of any plant or equipment is permitted if the change, replacement or alteration materially increases, or is likely to increase, the environmental harm caused by the petroleum activity(ies).

Financial Assurance

- (A5) The holder or proposed holder of this environmental authority must:
- (a) calculate a financial assurance as required by the administering authority; and
 - (b) attach a completed Schedule of Disturbance to the original and any amended work program or development plan; and
 - (c) provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of any original, later or amended work program or development plan; and
 - (d) maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Existing petroleum activities

- (A6) Within one year from the grant of the environmental authority, the holder of the environmental authority must conduct an audit of the existing petroleum activities that commenced before XX August 2011.
- (A7) The audit of existing petroleum activities required by Condition (A6) must:
- (a) identify all current infrastructure in place (including accurate location) on the tenement prior to XX August 2011;
 - (b) be included in an audit report;
 - (c) assess whether the current financial assurance held for the environmental authority continues to be of an adequate amount.

- (A8) The audit report required by Condition (A7)(b) must be provided to the administering authority with the first annual return following the issue of this environmental authority.
- (A9) Conditions (D4) to (D18) in Schedule D – Land relating to disturbance only apply to petroleum activities which commenced after XX August 2011, subject to the petroleum activities being included within the audit of existing petroleum activities and audit report required by Conditions (A6), (A7) and (A8).

Monitoring Program

- (A10) The holder of this environmental authority must:
- (a) develop a monitoring program that will demonstrate compliance with the conditions of the environmental authority;
 - (b) document monitoring and inspections carried out under the monitoring program and any actions taken; and
 - (c) record, compile and keep for a minimum of seven (7) years all monitoring results and data.

Schedule B – Water**Contaminant Release to Water**

- (B1) Contaminants must not be directly or indirectly released to waters except as permitted under this environmental authority.

Protection of Riverine Areas

- (B2) The holder of the environmental authority must:
- (a) ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
 - (b) minimise disturbance of all other riverine areas.

River Improvement Areas

- (B3) All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Wild river areas

- (B4) In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Date Granted XX August 2011

Page 5 of 45

Schedule C – Dams**Assessment of Hazard Category**

- (C1) The hazard category of each low hazard dam must be assessed by a suitably qualified and experienced person in accordance with the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", as amended from time to time.
- (C2) The hazard assessment required under condition (C1) must occur in any of the following situations:
- (a) prior to the design and construction of the dam;
 - (b) prior to any change in its purpose or its stored contents;
 - (c) for an existing low hazard dam, within 1 year of the date of grant of this environmental authority
- (C3) A hazard assessment report and certification must be prepared for any dam assessed and the report may include a hazard assessment for more than one dam.
- (C4) The holder must, on receipt of a hazard assessment report and certification, provide to the Administering Authority one paper copy and one electronic copy of the hazard assessment report and certification.
- (C5) All certifications must be in the form set out in the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", as amended from time to time.
- (C6) Regulated dams are not authorised on ATP806.

Construction of Low Hazard Dam to Contain Wetting Front

- (C7) Where a dam is assessed as low hazard, it must be
- (a) constructed, operated and maintained in accordance with accepted engineering standards currently appropriate for the purpose for which the dam is intended to be used; and
 - (b) designed with a floor and sides made of material that will contain the wetting front and any entrained contaminants within the bounds of the containment system during both its operational life and including any period of decommissioning and rehabilitation.
- (C8) In the event of early signs of loss of structural or hydrological integrity of a low hazard dam, the holder of this environmental authority must:
- (a) take immediate action to prevent or minimise any actual or potential environmental harm; and
 - (b) report in writing to the administering authority, any findings and actions taken within 20 business days of that event.

Monitoring of Low Hazard Dams

- (C9) The condition of all low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity, based on the advice of a suitably qualified and experienced person. The methods of monitoring and frequency of monitoring shall be as assessed by the person who conducts the hazard assessment based on the particular circumstances of each dam.

Date Granted XX August 2011

Page 6 of 45

Schedule D – Land

Contaminant Release to Land

- (D1) Contaminants must not be directly or indirectly released to land, except as permitted under this environmental authority.

Significant disturbance

- (D2) The holder of this environmental authority must ensure that petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time.

Land Management

- (D3) The holder of the environmental authority must:
- (a) take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and
 - (b) ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and
 - i. stockpiled in a manner that will preserve its biological and chemical properties; and
 - ii. used for rehabilitation purposes.

Environmentally Sensitive Areas

- (D4) The holder of this environmental authority must ensure that the petroleum activity(ies) is only conducted in accordance with *Schedule D, Table 1 – Environmentally Sensitive Areas (ESAs)* below for each of the ESA categories and associated primary and secondary protection zones.

Schedule D, Table 1 – Environmentally Sensitive Areas (ESAs)

ESA Category	Within the ESA	Within primary protection zone of the ESA	Within secondary protection zone of the ESA
All Category A ESAs	No petroleum activities permitted	No petroleum activities permitted	Limited petroleum activities permitted subject to conditions (D5), (D6), (D8) and (D11).
Category B ESAs excluding Endangered Regional Ecosystems	No petroleum activities permitted other than seismic activities subject to condition (D11)	No petroleum activities permitted other than seismic activities subject to condition (D11)	Limited petroleum activities permitted subject to conditions (D5), (D6), (D8) and (D11).
Category B ESAs: Endangered Regional Ecosystems	No petroleum activities permitted other than seismic activities subject to condition (D11) and access tracks subject to conditions (D6), (D8) and (D15).	No petroleum activities permitted other than seismic activities subject to condition (D11) and access tracks subject to conditions (D6), (D8) and (D15).	Limited petroleum activities permitted subject to conditions (D5), (D6), (D8) and (D11).

Date Granted XX August 2011

Page 7 of 45

Category C ESAs excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves	No petroleum activities other than seismic activities permitted subject to condition (D11).	No petroleum activities other than seismic activities permitted subject to condition (D11).	Limited petroleum activities permitted subject to conditions (D5) and (D6).
Category C ESAs: State Forests, Timber Reserves and 'Of Concern' regional ecosystems	Limited petroleum activities permitted subject to conditions (D5) to (D8), and (D12) to (D14).	Limited petroleum activities permitted subject to conditions (D5) to (D8), and (D12) to (D14).	Limited petroleum activities permitted subject to conditions (D5) and (D6).

Comment (ks1): DERM - authorising the upgrading of tracks in these ESAs would be detrimental and have unwarranted impacts on EVs.

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves.

Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at: http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php

- (D5) Limited petroleum activities carried out in the secondary protection zone in accordance with condition (D4) must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees to the greatest practicable extent.
- (D6) Limited petroleum activities carried out within an environmentally sensitive area, primary protection zone or secondary protection zone as authorised under condition (D4) must not be conducted where there is an overlap with another environmentally sensitive area or primary protection zone where limited petroleum activities are not authorised.
- (D7) Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition (D4), the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:
- (a) pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;
 - (b) undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
 - (c) pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
 - (d) areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.
- (D8) Prior to conducting limited petroleum activity(ies) that involve significant disturbance to land within an ESA, primary protection zones, or secondary protection zones:
- (a) an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;

Date Granted XX August 2011

Page 8 of 45

- (b) the assessment required by condition (D8)(a) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*; and
- (c) a record of the assessment required by conditions (D8)(a) and (D8)(b) must be kept and submitted to the administering authority upon request.
- (D9) If the assessment required by conditions (D8)(a) and (D8)(b) indicates that the biodiversity status of a Regional Ecosystem mapped as Endangered or Of Concern by the Queensland Herbarium should be in a different conservation value classification, the holder of the environmental authority must advise the administering authority in writing before any significant disturbance to land takes place.
- (D10) If, within the 20 business days following the lodgement of the notification under condition (D9), the administering authority notifies the holder of the environmental authority, in writing, that the Regional Ecosystem mapping requires further validation, then significant disturbance to land in the mapped regional ecosystem is prohibited until the administering authority provides written advice that significant disturbance to land may proceed.
- (D11) Where seismic activities are proposed to be undertaken within Endangered Regional Ecosystems, primary and secondary protection zones of Endangered Regional Ecosystems, secondary protection zones of a Category A ESA, Category C ESAs (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves), or primary protection zone of a Category C ESA (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves) the holder of this environmental authority must:
- not cause significant disturbance and / or clearing of vegetation;
 - use pre-existing access and fence line tracks and other disturbed areas;
 - not construct new access tracks;
 - conduct seismic activities by foot where there are no existing access tracks;
 - not clear or stick rake in any Endangered RE; and
 - utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - deploy and retrieve geophones and cable through the crossing by foot; or
 - skip acquisition over the watercourse and restart on the other side.
- (D12) Notwithstanding conditions (D4) and (D7), where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in conditions (D4), any vegetation clearing must not exceed any of the following areas:
- for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition (D8)(b) of this environmental authority; and
 - more than 30 m² for the construction of a sump; or
 - more than ten (10) metres in width for tracks; or
 - more than 12 metres in width for flow pipeline construction purposes.

- (D13) For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition (D4), all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.
- (D14) Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, along with a record of the assessment required by condition (D8) must be kept and submitted to the administering authority with each annual return.
- (D15) The use and/or upgrade of existing access tracks within the primary protection zone of or in Endangered Regional Ecosystems are only permitted where:
- there are no existing tracks outside of the Endangered Regional Ecosystem or primary protection zone which can be utilised and/or upgraded for access tracks;
 - operational works, maintenance, enhancement and widening of the tracks does not negatively impact on the endangered regional ecosystem in terms of viability, ecosystem functioning, composition and extent;
 - road/track widening only occurs where it will not result in the clearing of native vegetation (other than isolated immature individuals or lopping of isolated mature individuals and branches respectively); and
 - tracks (inclusive of road/track shoulders and erosion measures (gutters, swales etc)) must not exceed 6m in width.

Comment [ks2]: DERM's wording is in line with what QGC proposed at the meeting on 30/8/11.

Clearing outside of this scope would require an amendment application with further details provided for assessment. DERM delegates do not agree with 'approval in writing from the administering authority'.

Comment [ks3]: 6m is in line with the Level 1 model condition widths for tracks in EREs and PPZs. Overtaking/passing areas should be conducted outside of these areas.

Disturbance to Land – Offsets

- (D16) The environmental authority holder must enter into an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmental value of an environmentally sensitive area or primary protection zone.
- (D17) The environmental offset agreement must be entered into within six (6) months after submitting the record of disturbance required by condition (D14), unless otherwise agreed to by the administering authority.
- (D18) The environmental authority holder must implement any environmental offset agreement entered into in accordance with conditions (D16) and (D17) as soon as practicable after finalisation.
- Note: Offset requirements will be determined in accordance with principles and guidelines of the 'Queensland Government Environmental Offsets Policy' June 2008 and when the 'Queensland Biodiversity Offset Policy' becomes available.*

Clearing Vegetation

- (D19) The holder of the environmental authority must:
- take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
 - manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.
- (D20) The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees to the greatest possible extent.

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

- (D21) Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not significantly impede vehicle, stock or wildlife movements.
- (D22) The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.
- (D23) The holder of this environmental authority must not clear vegetation or place fill:
- in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. impacts associated with edge effects or introduced species);
 - on dispersible soils or highly erodible soils to the greatest practicable extent;
 - on slopes greater than 10% for activities other than limited petroleum activities; or
 - in discharge areas.

Erosion and Sediment Control

- (D24) For the first six (6) months from the date of grant of the environmental authority, an Interim Erosion and Sediment Control Plan must be implemented for the activities to be undertaken under this environmental authority.
- (D25) The Interim Erosion and Sediment Control Plan must:
- prevent or minimise the release of contaminants from disturbed areas to avoid environmental harm from being caused; and
 - include similar types of measures and devices as described in condition (D27).
- (D26) A revised Erosion and Sediment Control Plan, which has been certified by a suitably qualified person, must be developed within six (6) months of the date of grant of this environmental authority.
- (D27) The Erosion and Sediment Control Plan must include but not necessarily be limited to:
- managing and / or diverting uncontaminated stormwater run-off around areas disturbed by the petroleum activity(ies) or where contaminants or wastes are stored or handled that may contribute to contamination of waters;
 - ensuring that contaminated stormwater runoff and incident rainfall is collected, treated, reused, or released in accordance with the conditions of this environmental authority;
 - roofing or minimising the size of areas where contaminants or wastes are stored or handled;
 - revegetating disturbed areas as soon as practicable after the completion of works;
 - using materials and or processes (e.g. dry absorbents) to clean up spills that will minimise contamination of waters;

- placing erosion and sediment control structures to minimise erosion of disturbed areas and prevent the contamination of waters;
- an inspection and maintenance program for the erosion and sediment control measures;
- provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from November to April;
- additional erosion and sediment control measures for construction of wells and pipelines on slopes >10%;
- a surface water monitoring program designed to detect impacts from sediment runoff into waters;
- identification of remedial actions required to ensure compliance with the conditions of this environmental authority; and
- details of strategies and processes to be used in further developing and implementing the Erosion and Sediment Control Plan.

- (D28) The holder of this environmental authority must implement the Erosion and Sediment Control Plan.
- (D29) A copy of the Erosion and Sediment Control Plan must be made available to any potentially affected landholders upon request by that landholder.
- (D30) A copy of the Erosion and Sediment Control Plan must be submitted to DERM at any time upon request.

Heritage places and archaeological artefacts

- (D31) The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Storage of Hazardous Substances, Fuel and Oil

- (D32) The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:
- contained within an on-site containment system;
 - controlled in a manner that prevents environmental harm; and
 - maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 – 2004 *Storage and Handling of Flammable and Combustible Liquids*.

Spills and clean up action

- (D33) Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:
- take immediate action to stop any further release;
 - take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
 - restore or rehabilitate the environment to its condition before the release occurred; and
 - take necessary action to prevent a recurrence of the release.

Schedule E – Nuisance**Release of contaminants to the atmosphere**

- (E1) The release of odour, dust or any other airborne contaminant(s), or light from the petroleum activity(ies) must not cause an environmental nuisance at any sensitive place.

Nuisance monitoring (other than noise)

- (E2) When the administering authority advises the holder of this environmental authority of a complaint alleging nuisance other than noise, the holder must investigate the complaint as soon as practicable.
- (E3) The holder of this environmental authority must advise the administering authority in writing of the action proposed or undertaken to resolve the complaint within three (3) business days of completing the complaint investigation.
- (E4) When requested by the administering authority, the holder of this environmental authority must undertake monitoring as specified by the administering authority, within a reasonable and practical timeframe nominated by the administering authority to investigate any complaint of environmental nuisance at any sensitive place.
- (E5) The results of the investigation (including an analysis and interpretation of the monitoring results) and the abatement measures implemented must be provided to the administering authority within five (5) business days of receiving the advice under condition (E4), unless a longer time is agreed to in writing by the administering authority.
- (E6) If monitoring in accordance with condition (E4) indicates that emissions exceed the limits set in this environmental authority or are causing environmental nuisance, then the holder of this environmental authority must:
- address the complaint including the use of alternative dispute resolution services if required; and / or
 - implement abatement or attenuation measures so that the authorised petroleum activity(ies) does not result in further environmental nuisance.

Noise

- (E7) Prior to the commencement of each petroleum activity (excluding seismic activities) authorised by this environmental authority, an Interim Noise Management Plan is required to be in place for that activity, which:
- minimises noise impacts resulting from petroleum activities; and
 - ensures compliance with *Schedule E, Table 1 – Noise Limits at Sensitive Receptors As LAeq adj.*
- (E8) Where there is a conflict between the contents of the Interim Noise Management Plan and the conditions of this environmental authority, the conditions of this environmental authority prevail.
- (E9) The holder of this environmental authority must prepare and implement a Final Noise Management Plan which has been certified by a suitably qualified person by XX December 2011.

- (E10) The Final Noise Management Plan required by condition (E9) must include, but not necessarily be limited to:
- a commitment by the Chief Executive Officer for the holder of this environmental authority, or their delegate, to ensure adequate allocation of staff and resources to the establishment and operation of the Noise Management Plan;
 - definition of roles, responsibilities and authorities within the staffing of the Noise Management Plan;
 - delivery of training to staff and contractors and maintenance of competencies;
 - risk / constraint analysis methods to be undertaken prior to any new operation (e.g. drill site) or installation of new equipment that has the potential to create noise nuisance;
 - procedures and methods to undertake assessments to determine compliance with the noise limits in *Schedule E, Table 1 – Noise limits at Sensitive Receptors* in the event of a valid complaint being received and when there are no alternative arrangements in place, taking into account any tonal or impulsive noise impacts;
 - procedures for handling noise complaints;
 - community liaison and consultation procedures including but not limited to consultation for when night time petroleum activities (i.e. between 10:00 pm and 6:00 am) are assessed as being likely to exceed 25 dBA at sensitive receptors;
 - procedures for managing records associated with all aspects of the Noise Management Plan including standardised forms for recording monitoring results and complaints;
 - details of petroleum activities and measured and / or predicted noise levels of noise sources associated with those activities;
 - reasonable and practicable control or abatement measures (including relocating the activity, altering the hours of operation, or having an alternate arrangement in place with any potentially affected person) that can be undertaken to ensure compliance with the noise limits in *Schedule E, Table 1 – Noise limits at Sensitive Receptors*;
 - the level of noise at sensitive receptors that would be achieved from implementing the measures detailed under condition (E10)(i); and
 - mediation processes to be used in the event that noise complaints are not able to be resolved.
- (E11) Prior to undertaking petroleum activities that will result in short-term, medium-term or long term noise events that are likely to impact on a sensitive receptor, the holder of this environmental authority must model or calculate any potential noise emissions from the relevant petroleum activity(ies) and determine if noise emissions are likely to exceed the noise levels specified in *Schedule E, Table 1 – Noise limits at Sensitive Receptors*.
- (E12) The emission of noise from the petroleum activity(ies) authorised under this environmental authority must not result in levels greater than those specified in *Schedule E, Table 1 – Noise limits at Sensitive Receptors* in the event of a valid complaint about noise being made to the administering authority.

Schedule E, Table 1— Noise Limits at Sensitive Receptors as $L_{Aeq, adj}$

Time Period	Metric	Short-term Noise Event	Medium-term Noise Event	Long Term Noise Event
7:00am – 6:00pm	$L_{Aeq, adj, 15 \text{ min}}$	$L_{ABG} + 10 \text{ dBA}$	$L_{ABG} + 8 \text{ dBA}$	$L_{ABG} + 5 \text{ dBA}$
	Max $L_{pA, 15 \text{ mins}}$	55 dBA	51 dBA	45 dBA
6:00pm – 10:00pm	$L_{Aeq, adj, 15 \text{ min}}$	$L_{ABG} + 10 \text{ dBA}$	$L_{ABG} + 8 \text{ dBA}$	$L_{ABG} + 5 \text{ dBA}$
	Max $L_{pA, 15 \text{ mins}}$	50 dBA	46 dBA	40 dBA
10:00pm – 6:00am	$L_{Aeq, adj, 15 \text{ min}}$	$L_{ABG} + 3 \text{ dBA}$	$L_{ABG} + 3 \text{ dBA}$	$L_{ABG} + 3 \text{ dBA}$
	Max $L_{pA, 15 \text{ mins}}$	38 dBA	36 dBA	33 dBA
6:00am – 7:00am	$L_{Aeq, adj, 15 \text{ min}}$	$L_{ABG} + 10 \text{ dBA}$	$L_{ABG} + 8 \text{ dBA}$	$L_{ABG} + 5 \text{ dBA}$
	Max $L_{pA, 15 \text{ mins}}$	50 dBA	46 dBA	40 dBA
Drilling activities undertaken from 10:00pm – 7:00am	$L_{Aeq, adj, 15 \text{ min}}$	30 dBA (Must be measured indoors at any sensitive receptor)		

L_{Aeq} and Max L_{pA} are to be measured over any 15 minute period.

L_{ABG} is the deemed background noise levels which for the purposes of Schedule E Table 1 - Noise Limits at Sensitive Receptors as $L_{Aeq, adj}$ are:

7:00 am – 6:00 pm: 35 dBA
 6:00 pm – 10:00 pm: 30 dBA
 10:00 pm – 6:00 am: 25 dBA
 6:00 am – 7:00 am: 30 dBA

- (E13) If the noise subject to a complaint is tonal or impulsive, the adjustments detailed in Schedule E, Table 2— Adjustments to be Added to Noise Levels at Sensitive Receptors are to be added to the measured noise level(s) to derive $L_{Aeq, adj, 15 \text{ min}}$.

Schedule E, Table 2— Adjustments to be Added to Noise Levels at Sensitive Receptors

Noise Characteristic	Adjustment to Noise
Tonal characteristic is just audible	+ 2 dBA
Tonal characteristic is clearly audible	+ 5 dBA
Impulsive characteristic is just audible	+ 2 dBA
Impulsive characteristic is clearly audibly	+ 5 dBA

Note: Where the application of a tonal or impulsive adjustment as per Table 2 is unclear or in dispute, refer to AS1055.1 Section 6.6 for a quantitative methodology to confirm the applicability of noise adjustments

- (E14) Where alternative arrangements are in place with an affected person(s) at a sensitive receptor as referred to by condition (E10)(j), the noise limits in Schedule E, Table 1— Noise limits at Sensitive Receptors do not apply at that sensitive receptor for the duration for which the alternative arrangements are in place.

Low Frequency Noise

- (E15) Notwithstanding condition (E11), emission of any low frequency noise must not exceed the following limits in the event of a valid complaint about low frequency noise being made to the administering authority:
- 60 dB(C) measured outside the sensitive receptor; and
 - the difference between the external A-weighted and C-weighted noise levels is no greater than 20 dB; or
 - 50 dB(Z) measured inside the sensitive receptor; and
 - the difference between the internal A-weighted and Z-weighted noise levels is no greater than 15 dB.

Noise Monitoring

- (E16) The holder of this environmental authority must undertake noise monitoring as soon as practicable when requested by the administering authority.
- (E17) The holder of this environmental authority must report the results of noise monitoring to the administering authority within three (3) business days of completion of the monitoring event.
- (E18) Noise monitoring and recording must include, but not necessarily be limited to:
- $L_{Aeq, T}$ (where N equals the statistical levels of 1, 10 and 90 and T=15 mins);
 - $L_{Aeq, adj, 15 \text{ mins}}$;
 - background noise level as $L_{Aeq, 90, 15 \text{ mins}}$;
 - Max $L_{pA, 15 \text{ mins}}$;
 - the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to measured noise levels;
 - atmospheric conditions including temperature, relative humidity and wind speed and directions;
 - effects due to any extraneous factors such as traffic noise;
 - location, date and time of monitoring;
 - if the complaint concerns low frequency noise, Max $L_{pZ, 15 \text{ mins}}$; and
 - if the complaint concerns low frequency noise, one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range for both the noise source and the background noise in the absence of the noise source.
- (E19) The method of measurement and reporting of noise levels and background sound pressure levels must comply with the Department of Environment and Resource Management's "Noise Measurement Manual" 2000 or Australian Standard 1055 as amended from time to time.

Vibration and Blasting

- (E20) A Blast Management Plan must be developed in accordance with Australian Standard 2187 by a suitably qualified person prior to each blasting activity.
- (E21) The Blast Management Plan must include measures to minimise the likelihood of any adverse effects being caused by airblast overpressure and / or ground borne vibrations at any sensitive receptor and demonstrate current best practice environmental management.

(E22) All blasting must be carried out in a proper manner by a suitably qualified person.

(E23) All blasting must be carried out in accordance with the Blast Management Plan.

(E24) Noise from blasting operations must not exceed an airblast overpressure level of 120 dB (linear peak) at any time, when measured at or extrapolated to any sensitive receptor.

(E25) Ground-borne vibration peak particle velocity caused by blasting operations must not exceed 10 mm/s at any time, when measured at or extrapolated to any sensitive receptor.

Blast and Vibration Monitoring

(E26) Monitoring and recording of the air blast overpressure and ground borne vibration of every blast must be undertaken.

(E27) Blast and vibration monitoring must include but not necessarily be limited to:

- (a) maximum instantaneous charge;
- (b) location of the blast within the site (including any bench level);
- (c) airblast overpressure level (dB Linear Peak);
- (d) peak particle velocity (mm/s);
- (e) location, date and time of recording;
- (f) measurement instrumentation and procedure;
- (g) meteorological conditions for blast monitoring (including temperature, relative humidity, temperature gradient, cloud cover, wind speed and direction); and
- (h) distances from the blast site to potentially noise-affected buildings or structures.

Schedule F – Waste

Waste Management

(F1) All general waste must only be removed from the site and sent to a recycling facility or disposal facility licensed to accept the waste under the *Environmental Protection Act 1994*.

(F2) All regulated waste must only be removed from the site by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994* and sent to a recycling facility or disposal facility licensed to accept the waste.

(F3) Waste must not be burned or be allowed to be burned on the site, unless it is vegetation and is authorised in writing under the *Forestry Act 1959*.

(F4) All waste fluids and muds resulting from drilling and exploration petroleum activities must be contained in a properly lined dam or containment structure for disposal, remediation or reuse where applicable.

Coal Seam Gas Water

(F5) The holder of the environmental authority must ensure that coal seam gas water is not released to land or waters, other than to an appropriate containment facility except as provided for under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*.

(F6) Despite condition (F5) the holder of the environmental authority must ensure that coal seam gas water to be used for domestic or stock purposes meets the accepted ANZECC 2000 *Water Quality Guidelines for Stock and Domestic Purposes*.

Sewage Management and Disposal

(F7) The construction and operation of sewage treatment works is authorised if:

- (a) the combined total daily peak design capacity is less than 21 equivalent persons; or
- (b) it is operated as a no-release works.

(F8) The holder of this environmental authority must ensure that:

- (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
- (b) sewage effluent is not released to waters (including groundwater);
- (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
- (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
- (e) where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
- (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
- (g) there is no surface pond of effluent on land disposal area(s);
- (h) any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and

- (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Schedule G – Rehabilitation

Rehabilitation

- (G1) As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:
- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
 - (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
 - (c) reprofile all significantly disturbed land to representative contours of the surrounding landscape;
 - (d) on all significantly disturbed land, take all reasonable and practicable measures to:
 - i. re-establish surface drainage lines;
 - ii. reinstate the top layer of the soil profile; and
 - iii. establish groundcover to ensure that erosion is minimised;
 - iv. re-establish vegetation based upon the floristic species composition found in analogue sites (using stock of local provenance where possible and where active revegetation is required); and
 - (e) undertake rehabilitation in a manner such that any actual and potential acid sulfate soils in or on the site are either not disturbed, or submerged, or are treated to prevent and / or minimise environmental harm.

Final Acceptance Criteria for Significantly Disturbed Land

- (G2) All significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet the following final acceptance criteria:
- (a) all significantly disturbed land is reinstated to the pre-disturbed land use unless otherwise agreed to between the holder of this environmental authority, the landholder and the administering authority and is provided for in the Operational Plan;
 - (b) all significantly disturbed land is reinstated to the pre-disturbed soil suitability class;
 - (c) all significantly disturbed land is reinstated so that the distribution of vegetation communities represent that of the pre-disturbed distribution;
 - (d) each vegetation community must be re-established so that the following rehabilitation parameters are achieved:
 - i. the rehabilitated site shows distinct and progressive re-establishment of the various strata which characterise the pre-disturbed vegetation communities;
 - ii. all dominant species within each strata are re-established at densities and frequencies equivalent to that of the pre-disturbed site;
 - iii. not withstanding (i) and (ii) above, a minimum of 80% species diversity and richness observed in the original site is achieved; and
 - iv. a minimum of 80% foliage cover is achieved when compared to the pre-disturbed vegetation community;
 - (e) each vegetation community must be rehabilitated and maintained until it can be demonstrated that it is a self-sustaining vegetation community;
 - (f) not withstanding (G2)(e) each vegetation community must be established and maintained for a period of not less than 5 years unless otherwise agreed to by the administering authority;

Deleted: Infrastructure ¶
(G1). All above ground infrastructure used for the petroleum activities must be removed prior to surrender of this environmental authority, except where it is to remain under a resource authority pursuant to Petroleum and Gas (Production and Safety) Act 2004.¶

- (g) habitat structures, including (but not limited to) litter cover, fallen woody material, hollow logs, etc. should be re-established to reflect pre-disturbed values to the greatest extent possible;
- (h) the landform is safe for humans and fauna;
- (i) the landform is stable with no subsidence or erosion gullies for at least five (5) years unless otherwise agreed to by the administering authority;
- (j) erosion is minimised with appropriate sediment traps and erosion control measures installed as determined by a suitably qualified person;
- (k) the water quality of any residual void or water bodies constructed by the petroleum activity(ies) meets criteria for subsequent uses and does not have potential to cause environmental harm;
- (l) there is no ongoing contamination to waters;
- (m) there is no ongoing contamination to groundwater from dams (demonstrated via groundwater monitoring); and
- (n) the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the petroleum activity(ies).

Schedule H – Stimulation activities

Well Drilling, Completion and Stimulation

- (H1) The holder of this environmental authority must ensure that restricted stimulation fluids are not used in stimulation.
- (H2) Polycyclic aromatic hydrocarbons or products that contain polycyclic aromatic hydrocarbons must not be used in stimulation fluids in concentrations above the reporting limit.
- (H3) Oil based drilling muds must not be used in the carrying out of the petroleum activity(ies).
- (H4) Synthetic based drilling muds must not be used in the carrying out of the petroleum activity(ies).
- (H5) Accurate and current material safety data sheets for all fluids used in stimulation activities must be published on the environmental authority holder's website.
- (H6) Stimulation activities must not negatively affect water quality at:
 - (a) any active landholders' groundwater bores (subject to access being permitted by the landholder) that are located within a two (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (b) any active landholders' groundwater bores within 200m vertically of the stimulation initiation point; and
 - (c) any other bore that could potentially be adversely impacted by the stimulation activity(ies) in accordance with the findings of the risk assessment required by conditions (H11) and (H12).
- (H7) Stimulation activities must not cause the connection of the target gas producing formation and another aquifer.
- (H8) The holder of this authority must ensure the mechanical integrity of the well system prior to well stimulation such that there is:
 - (a) no significant leakage in the casing, tubing, or packer; and
 - (b) there is no significant fluid movement into another aquifer through vertical channels adjacent to the well bore hole.
- (H9) Practices and procedures must be in place to detect, as soon as practicable, any fractures that cause the connection of a target gas producing formation and another aquifer.
- (H10) Rectification measures must be taken immediately if the holder of this environmental authority either becomes aware that stimulation activities have resulted in a change in water quality at any of the bores that are referred to in condition (H6), or that stimulation activities have caused the connection of the target gas producing formation and another aquifer.

Coal Seam Gas Stimulation Risk Assessment

- (H11) Prior to undertaking coal seam gas well stimulation activities, the holder of this environmental authority must develop a risk assessment to ensure that stimulation activities are managed to prevent environmental harm.
- (H12) The stimulation risk assessment required by condition (H11) must include, but not necessarily be limited to:
- (a) a process description of the stimulation activity to be applied, including equipment and a comparison to best international practice;
 - (b) provide details of where, when and how often stimulation is to be undertaken on the tenures covered by this environmental authority;
 - (c) a geological model of the field to be stimulated including geological names, descriptions and depths of the target gas producing formation(s);
 - (d) naturally occurring geological faults;
 - (e) seismic history of the region (e.g. earth tremors, earthquakes);
 - (f) proximity of overlying and underlying aquifers;
 - (g) description of the depths that aquifers with environmental values occur, both above and below the target gas producing formation;
 - (h) the environmental values of groundwater in the area;
 - (i) description of overlying and underlying formations in respect of porosity, permeability, hydraulic conductivity, faulting and fracture propensity;
 - (j) consideration of barriers or known direct connections between the target gas producing formation and the overlying and underlying aquifers;
 - (k) a description of the well mechanical integrity testing program;
 - (l) process control and assessment techniques to be applied for determining extent of stimulation activities (e.g. microseismic measurements, modelling etc);
 - (m) practices and procedures to ensure that the stimulation activities are designed to be contained within the target gas producing formation having regard to its identification under condition (H12)(j);
 - (n) locations of landholders' active groundwater bores;
 - (o) groundwater transmissivity, flow rate, hydraulic conductivity and direction(s) of flow;
 - (p) a description of the chemicals used in stimulation activities (including estimated total mass, estimated composition, chemical abstract service numbers and properties), their mixtures and the resultant compounds that are formed after stimulation;
 - (q) a mass balance estimating the concentrations and absolute masses of chemicals that will be reacted, returned to the surface or left in the target gas producing formation subsequent to stimulation;
 - (r) an environmental hazard assessment of the chemicals used including their mixtures and the resultant chemicals that are formed after stimulation including:
 - (i). toxicological and ecotoxicological information of chemicals used;
 - (ii). information on the persistence and bioaccumulation potential of the chemicals used;
 - (iii). identification of the stimulation fluid chemicals of potential concern derived from the risk assessment;
 - (s) an environmental hazard assessment of use, formation of, and detection of polycyclic aromatic hydrocarbons in stimulation activities;
 - (t) an environmental hazard assessment of leaving stimulation chemicals in the target gas producing formation for extended periods subsequent to stimulation;

Date Granted XX August 2011

Page 23 of 45

- (u) human health exposure pathways to operators and the regional population;
- (v) risk characterisation of environmental impacts based on the environmental hazard assessment; and
- (w) potential environmental or health impacts which may result from stimulation activities including but not limited to water quality, air quality (including suppression of dust and other airborne contaminants), noise and vibration.

- (H13) The stimulation risk assessments must be carried out for every well or group of wells in an area of like geological and hydrogeological characteristics to be stimulated prior to stimulation activities being carried out at that well.

Stimulation Baseline Monitoring

- (H14) Prior to undertaking any stimulation activity, the holder of this environmental authority must undertake a baseline bore assessment of the quality of:
- (a) all active landholders' groundwater bores (subject to access being permitted by the landholder) that are located within a two (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (b) all active landholders' groundwater bores identified pursuant to condition (H14)(a) and within 200 vertical metres of the stimulation initiation point; and
 - (c) any other bore that could potentially be adversely impacted by the stimulation activity(ies) in accordance with the findings of the risk assessment required by conditions (H11) and (H12).
- (H15) Prior to undertaking any stimulation activity(ies), the holder of this environmental authority must have sufficient water quality data to accurately represent water quality in the well to be stimulated. The data must include as a minimum the results of analyses for the parameters in condition (H16).
- (H16) The baseline bore and well assessments must include relevant analytes and physico-chemical parameters to be monitored in order to establish baseline water quality and must include, but not necessarily be limited to:
- (a) pH;
 - (b) electrical conductivity [$\mu\text{S}/\text{m}$];
 - (c) total suspended solids [mg/L];
 - (d) evolved (produced) gas (i.e. methane, carbon dioxide, hydrogen sulphide) [mg/L];
 - (e) alkalinity (bicarbonate, carbonate, hydroxide and total as CaCO_3) [mg/L];
 - (f) sodium adsorption ratio (SAR);
 - (g) anions (chloride, fluoride, sulphate) [mg/L];
 - (h) cations (aluminium, calcium, magnesium, potassium, sodium) [mg/L];
 - (i) dissolved metals (including but not necessarily being limited to: aluminium, barium, borate (boron), cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, and zinc) [$\mu\text{g}/\text{L}$];
 - (j) total arsenic [$\mu\text{g}/\text{L}$];
 - (k) total petroleum hydrocarbons [$\mu\text{g}/\text{L}$];
 - (l) BTEX (as benzene, toluene, ethylbenzene, and total xylene) [$\mu\text{g}/\text{L}$];

Date Granted XX August 2011

Page 24 of 45

- (m) polycyclic aromatic hydrocarbons (including but not necessarily being limited to: naphthalene, phenanthrene, benzo[a]pyrene) [$\mu\text{g/L}$];
- (n) sodium hypochlorite [mg/L];
- (o) sodium hydroxide [mg/L];
- (p) formaldehyde [mg/L];
- (q) ethanol [mg/L]; and
- (r) gross alpha or gross beta or radionuclides by gamma spectroscopy [Bq/L].

(H17) If sampling required by condition (H16) indicates that Total Xylene exceeds 75ppb, then the holder of this environmental authority must undertake further speciation for levels of ortho-xylene, para-xylene, and meta-xylene.

Stimulation Impact Monitoring Program

(H18) A Stimulation Impact Monitoring Program which has been certified by a suitably qualified person must be developed prior to the carrying out of stimulation activities.

(H19) The Stimulation Impact Monitoring Program must be able to detect adverse impacts to water quality from stimulation activities and must consider the findings of the risk assessment required by conditions (H11) and (H12) that relate to stimulation activities and must include:

- (a) the stimulation fluids to be used in stimulation activities at sufficient frequency and which sufficiently represents the quantity and quality of the fluids used; and
- (b) flow back waters from stimulation activities at sufficient frequency and which sufficiently represents the quality of that flow back water; and
- (c) flow back waters from stimulation activities at sufficient frequency and accuracy to demonstrate that 150 % of the volume used in stimulation activities has been extracted from the stimulated well;
- (d) all active landholders' groundwater bores (subject to access being permitted by the landholder) that are:
 - (i) within a two (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (ii) that draw water from the target gas producing formation; or
 - (iii) within 200 vertical meters of the stimulation initiation point; and
- (e) any other bore that could potentially be adversely impacted by the stimulation activities in accordance with the findings risk assessment required by conditions (H11) and (H12).

(H20) The Stimulation Impact Monitoring Program must provide for monitoring of:

- (a) analytes and physico-chemical parameters relevant to baseline bore and well assessments to enable data referencing and comparison including, but not necessarily being limited to the analytes and physico-chemical parameters in condition (H16); and
- (b) any other analyte or physico-chemical parameters that will enable detection of adverse water quality impacts and the inter-connection with a non-target aquifer as a result of stimulation activities including chemical compounds that are actually or potentially formed by chemical reactions with each other or coal seam materials during stimulation activities.

(H21) The Stimulation Impact Monitoring Program must provide for monitoring of the bores in condition (H19)(d) at the following minimum frequency:

- (a) monthly for the first six (6) months subsequent to the stimulation activity(ies) being undertaken; then
- (b) annually for the first five (5) years subsequent to the stimulation activity(ies) being undertaken or until analytes and physico-chemical parameters listed in condition (H16) are not detected in concentrations above baseline bore monitoring data on two (2) consecutive monitoring occasions.

(H22) The holder of this environmental authority must implement the Stimulation Impact Monitoring Program.

(H23) The results of the Stimulation Impact Monitoring Program must be made available to any potentially affected landholder upon request by that landholder.

Schedule I – Community Issues

- (11) The holder of this environmental authority must maintain a record of all valid complaints and incidents causing environmental harm, and actions taken in response to the valid complaint or incident.
- (12) The holder of this environmental authority must record the following details for all complaints received:
- (a) name, address and contact number for complainant;
 - (b) time and date of valid complaint;
 - (c) reasons for the complaint as stated by the complainant;
 - (d) investigations undertaken in response to the valid complaint;
 - (e) conclusions formed;
 - (f) actions taken to resolve valid complaint;
 - (g) any abatement measures implemented to mitigate the cause of the valid complaint; and
 - (h) name and contact details of the person responsible for resolving the valid complaint.

Schedule J – Notification Procedures

- (J1) The holder of this environmental authority must telephone the Department of Environment and Resource Management's Pollution Hotline (telephone: 1300 130 372) and any affected landholder, occupier or their nominated representative as soon as reasonably practicable, but within 24 hours after becoming aware of:
- (a) any release of contaminants not in accordance with the conditions of this environmental authority; or
 - (b) any event where environmental harm (excluding environmental nuisance) has been caused or may be caused; or
 - (c) any detection of restricted stimulation fluids from stimulation fluid monitoring; or
 - (d) any result from baseline bore, well or stimulation water impact monitoring that exceeds a water quality objective for the protection of an environmental value of that water resource.
- (J2) Notwithstanding condition (J1), the holder of this environmental authority must telephone the Department of Environment and Resource Management's Pollution Hotline (telephone: 1300 130 372) as soon as reasonably practicable, but within 24 hours after becoming aware of:
- (a) any non-compliance with any condition of this environmental authority other than in relation to a release of contaminants;
 - (b) a potential or actual loss of structural or hydraulic integrity of a dam;
 - (c) when the level of the contents of any regulated dam reaches the mandatory reporting level; or
 - (d) any incident where there is a potential or actual loss of well integrity (e.g. when the annulus pressure during stimulation increases by more than 3.5 MPa from the pressure immediately preceding stimulation).
- (J3) Subject to condition (J1), the holder of this environmental authority must report spills of contaminants (including but not limited to hydrocarbons, coal seam gas water or mixtures of both) of the following volumes or kind:
- (a) releases of any volume of contaminants to water;
 - (b) releases of volumes of contaminants to land greater than:
 - (i) 200L of hydrocarbons;
 - (ii) 200L of stimulation additives;
 - (iii) 500L of stimulation fluids;
 - (iv) 1000 L of brine; or
 - (v) 5 000 L of coal seam gas water;
 - (c) releases of any volumes of contaminants where potential serious or material environmental harm has occurred or may occur.
- (J4) The notification of emergencies or incidents as required by conditions (J1), (J2) and (J3) must include but not be limited to the following information:
- (a) the environmental authority number and name of the holder;
 - (b) the tenure type and number where the emergency or incident occurred;
 - (c) the name and telephone number of the designated contact person;
 - (d) the location of the emergency or incident (GDA94);
 - (e) the date and time that the emergency or incident occurred;

- (f) the date and time the holder of this environmental authority became aware of the emergency or incident;
 - (g) details of the nature of the event and the circumstances in which it occurred;
 - (h) the estimated quantity and type of any contaminants involved in the incident;
 - (i) the actual or potential suspected cause of the emergency or incident;
 - (j) a description of the land use at the site of the emergency or incident (e.g. grazing, pasture, forest etc) and / or the name of any relevant waters and other environmentally sensitive features;
 - (k) a description of the possible impacts from the emergency or incident;
 - (l) a description of whether stock and / or wildlife were exposed to any contaminants released and measures taken to prevent access for the duration of the emergency or incident;
 - (m) any sampling conducted or proposed, relevant to the emergency or incident;
 - (n) landholder details and details of landholder consultation;
 - (o) immediate actions taken to control the impacts of the emergency or incident and how environmental harm was mitigated at the time of the emergency or incident; and
 - (p) whether further examination / root cause analysis is required and if so, the expected date by when this examination will be completed and reported to the administering authority.
- (J5) Within 10 business days following the initial notification unless a longer time is agreed to by the administering authority, a written report must be provided to the administering authority, including the following (where relevant to the emergency or incident):
- (a) the information required by condition (J4);
 - (b) the root cause of the emergency or incident;
 - (c) the confirmed quantities and types of any contaminants involved in the incident;
 - (d) results and interpretation of any analysis of samples taken at the time of the emergency or incident (including the analysis results of any impact monitoring);
 - (e) a final assessment of the impacts from the emergency or incident including any actual or potential environmental harm that has occurred or may occur in the longer term as a result of the release;
 - (f) the success or otherwise of actions taken at the time of the incident to prevent or minimise environmental harm;
 - (g) results and current status of landholder consultation, including commitment to resolve any outstanding issues / concerns; and
 - (h) actions and / or procedural changes to prevent a recurrence of the emergency or incident.
- (J6) As soon as reasonably practicable, but not more than 48 hours, after becoming aware of one of the circumstances described in conditions (H6) or (H13) that relate to stimulation activities, the holder of this environmental authority must give written notice of the event, its nature and the circumstances in which it happened:
- (a) to the administering authority; and
 - (b) to each owner and occupier of land that is, has been, or is reasonably likely to be, affected by the event.
- (J7) As soon as reasonably practicable after becoming aware of one of the circumstances described in conditions (H6) or (H7), that relate to stimulation activities, the holder of this environmental authority must give the administering authority written notice of:

- (a) the rectification measures implemented under condition (H10);
 - (b) the results of any monitoring carried out on those rectification measures; and
 - (c) the success of the rectification measures implemented.
- (J8) Within 10 business days following the initial notification of an emergency or incident or receipt of monitoring results indicating any significant changes in groundwater quality caused by the petroleum activity(ies) other than that relating to the circumstances described in condition (H6), then the analysis results indicating these changes, including any proposed actions to mitigate the changes in groundwater quality information must be submitted to the administering authority.
- (J9) If groundwater contamination caused by the petroleum activity(ies) is encountered, the following must be reported to satisfy requirements under condition (J8):
- (a) the level of environmental harm caused as a result of such contamination to soils and groundwater;
 - (b) the conduct of a geodetic survey of all monitoring bores to determine the relative water surface elevations of each bore and reported in metres relative to the AHD; and
 - (c) the determination of groundwater flow direction, groundwater flow rate and hydraulic conductivity.

End of Conditions

Appendix A – Definitions

Acid sulfate soils means soil or sediment containing highly acidic soil horizons or layers affected by the oxidation of iron sulfides (*actual acid sulfate soils*) and / or soil or sediment containing iron sulfides or other sulfidic material that has not been exposed to air and oxidised (*potential acid sulfate soils*). The term acid sulfate soil generally includes both actual and potential acid sulfate soils. Actual and potential acid sulfate soils are often found in the same soil profile, with actual acid sulfate soils generally overlying potential acid sulfate soil horizons.

Accepted engineering standards, in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.

Active for the purposes of landholders' groundwater bores means bores that are able to continue to provide a reasonable yield of water in terms of quantity for the bores authorised purpose or use.

Administering authority means:

- a) for a matter, the administration and enforcement of which has been devolved to a local government under section 514 of the *Environmental Protection Act 1994* – the local government; or
- b) for all other matters – the Chief Executive of the Department of Environment and Resource Management; or
- c) another State Government Department, Authority, Storage Operator, Board or Trust, whose role is to administer provisions under other enacted legislation.

AHD means Australian Height Datum and is the datum used for the determination of elevations in Australia. The determination uses a national network of benchmarks and tide gauges and sets mean sea level at zero elevation.

Alternative arrangement means a written agreement between the holder of this environmental authority and an affected or potentially affected person at a sensitive receptor for a defined noise nuisance impact and may include an agreed period of time for which the arrangement is in place. An agreement for alternative arrangement may include, but not necessarily be limited to a range of noise abatement measures to be installed at a sensitive receptor and / or provision of alternative accommodation for the duration of the defined noise nuisance impact.

Analogue site means an area of land which contains values and characteristics representative of the pre-disturbance site. Such values must encompass land use, topographic, soil, vegetation and other ecological characteristics. Note: Analogue sites can be the pre-disturbed site of interest where significant surveying has been undertaken to establish benchmark parameters.

Analytes means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.

Annual exceedance probability or AEP is the probability that a given rainfall total accumulated over a given duration will be exceeded in any one year.

Appraisal well means a petroleum well to test the potential of one (1) or more natural underground reservoirs for producing or storing petroleum. For clarity, an appraisal well does not include an exploration well.

Appropriately qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and

analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Associated works in relation to a dam, means:

- o any kind and all things associated with the construction and operation of a dam; and
- o any land used for those operations.

Archaeological artefact means:

- (a) any artefact that is evidence of an aspect of Queensland's history, whether it is located in, on or below the surface of land, and not
- (b) a thing that is Aboriginal cultural heritage under the *Aboriginal Cultural Heritage Act 2003* or Torres Strait Islander cultural heritage under the *Torres Strait Islander Cultural Heritage Act 2003*.

Archaeological investigation means a physical investigation of the place carried out by a person or persons with recognised qualifications, experience or standing in historical archaeology, mining history, cultural heritage management, or related discipline for the purpose of investigating, recording or conserving archaeological artefacts on the place.

Archaeological place means a place entered in the Queensland heritage register under Part 5 of the *Queensland Heritage Act 1992*.

Assessed or assess by a suitably qualified and experienced person in relation to a hazard assessment of a dam means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- (a) what has been assessed and the precise nature of that assessment;
- (b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- (c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- (d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

Associated works in relation to a dam means:

- (a) operations of any kind and all things constructed, erected or installed for that dam; and
- (b) any land used for those operations.

Australian Standard 1055 means Australian Standard 1055.1:1997 "Description and Measurement of Environmental Noise – General procedures".

Australian Standard 2187 means Australian Standard 2187.0:1998 "Explosives—Storage, transport and use, Part 0", Australian Standard 2187.1:1998 "Explosives—Storage, transport and use Part 1" and Australian Standard 2187.2:2006 "Explosives—Storage and use, Part 2" or any updated versions that becomes available from time to time.

Australian Standard 2885 means Australian Standard 2885.0:2006 "Pipelines – Gas and Liquid Petroleum General Requirements", Australian Standard 2885.1:2007 "Pipelines – Gas and Liquid Petroleum Design and Construction" and Australian Standard 2885.3:2001 "Pipelines – Gas and Liquid Petroleum Operation and Maintenance", or any updated versions that becomes available from time to time.

Australian / New Zealand Standard 5667.11 means Australian / New Zealand Standard 5667.11: 1998 "Water Quality – Sampling – Guidance on sampling at Groundwaters".

Australian / New Zealand Standard 5667.12 means Australian / New Zealand Standard 5667.12:1999 "Guidance on Sampling of Bottom Sediments" for permanent, semi-permanent water holes and water storages".

Authorised person means a person holding office as an authorised person under an appointment under the *Environmental Protection Act 1994* by the chief executive or chief executive officer of a local government.

Background noise level means the sound pressure level, measured in the absence of the noise under investigation, as the $L_{A90,T}$ being the A-weighted sound pressure level exceeded for 90 percent of the measurement time period T of not less than 15 minutes, using Fast response.

Bed and banks for a watercourse or wetland means land over which the water of the watercourse or wetland normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed or banks that is from time to time covered by floodwater.

Beneficial use means:

- (a) with respect to dams, that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:
 - i. of benefit to that owner in that it adds real value to their business or to the general community,
 - ii. in accordance with relevant provisions of the *Environmental Protection Act 1994*,
 - iii. sustainable by virtue of written undertakings given by that owner to maintain that dam, and
 - iv. the transfer and use have been approved or authorised under any relevant legislation; or
- (b) with respect to associated water, see DERM's *Coal Seam Gas Water Management Policy* and *Notice of decision to approve a resource for beneficial use - associated water* which can be accessed on Department of Environment and Resource Management's website at www.derm.qld.gov.au.

Black earth means a type of soil, also known as vertosols and is a soil order of the Australian Soil Classification. These are clay soils with shrink / swell properties that display strong cracks when dry and / or lenticular structural aggregates at depth. They have high soil fertility and a large water holding capacity.

Bore means a water observation bore or a water supply bore that is either sub-artesian or artesian.

Brine means either saline water with a total dissolved solid concentration greater than 40 000 mg/l. or coal seam gas water after it has been concentrated through water treatment processes and/or evaporation.

Bund or bunded in relation to spill containment systems for fabricated or manufactured tanks or containers designed to a recognised standard means an embankment or wall of brick, stone, concrete or other impervious material which may form part or all of the perimeter of a compound and provides a barrier to retain liquid. Since the bund is the main part of a spill containment system, the whole system (or bunded area) is sometimes colloquially referred to within industry as the bund. The bund is designed to contain spillages and leaks from liquids used, stored or processed above ground and to facilitate clean-up operations. As well as being used to prevent pollution of the receiving environment, bunds are also used for fire protection, product recovery and process isolation.

Business day has the meaning in the *Acts Interpretation Act 1954* and means a day that is not—

- o a Saturday or Sunday; or

- o a public holiday, special holiday or bank holiday in the place in which any relevant act is to be or may be done; or
- o a day between the 26th of December through to the 1st of January in the following year.

BTEX means benzene, toluene, ethylbenzene, ortho-xylene, para-xylene, meta-xylene and total xylene..

Category A Environmentally Sensitive Area means any area listed in Section 25 of the *Environmental Protection Regulation 2008*.

Category B Environmentally Sensitive Area means any area listed in Section 26 of the *Environmental Protection Regulation 2008*.

Category C Environmentally Sensitive Area means any of the following areas:

- o Nature Refuges as defined under the *Nature Conservation Act 1992*;
- o Koala Habitat Areas as defined under the *Nature Conservation (Koala) Conservation Plan 2006*;
- o State Forests or Timber Reserves as defined under the *Forestry Act 1959*;
- o Declared catchment areas under the *Water Act 2000*;
- o Resources reserves under the *Nature Conservation Act 1992*
- o An area identified as "Essential Habitat" under the *Vegetation Management Act 1999* for a species of wildlife listed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*;
- o Any wetland shown on the Map of Referable Wetlands available from the Department of Environment and Resource Management's website; or
- o Of Concern Regional Ecosystems identified in the database maintained by the Department of Environment and Resource Management called 'RE description database' containing RE numbers and descriptions.

Certification or certified by a suitably qualified and experienced person in relation to a design plan, 'as constructed' drawings or an annual report regarding dams, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- (a) exactly what is being certified and the precise nature of that certification;
- (b) the relevant legislative, regulatory and technical criteria on which the certification has been based;
- (c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- (d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

Certify or certification or certified in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams in this environmental authority means a Statutory Declaration by a suitably qualified person accompanying the written document stating that:

- o all relevant material has been considered in the written document; and
- o that the content of the written document is accurate and true; and
- o that the written document meets the requirements of the relevant conditions of the environmental authority.

Clearing means:

- (a) in relation to grass, scrub or bush - the removal of vegetation by disturbing root systems and exposing underlying soil (including burning), but does not include—
 - i the flattening or compaction of vegetation by vehicles if the vegetation remains living; or
 - ii the slashing or mowing of vegetation to facilitate access tracks; or
 - iii the clearing of noxious or introduced plant species; and
- (b) in relation to trees - cutting down, ringbarking, pushing over, poisoning or destroying in any way.

Coal Seam Gas (CSG) water means groundwater that is necessarily or unavoidably brought to the surface in the process of coal seam gas exploration or production. CSG water typically contains significant concentrations of salts, has a high sodium adsorption ratio (SAR) and may contain other contaminants that have the potential to cause environmental harm if released to land or waters through inappropriate management. CSG water is a waste, as defined under section 13 of the *Environmental Protection Act 1994*.

Coal seam gas water dams include any type of dam (storage or evaporation) used to contain groundwater that is necessarily or unavoidably brought to the surface in the process of coal seam gas exploration or production.

Construction in relation to a dam includes building a new dam and modifying or lifting an existing dam but does not include investigations and testing necessary for the purposes of preparing a design plan.

Cultural heritage significance means aesthetic, architectural, historical, scientific, social or other significance, to the present generation or past or future generations, as assessed against the following criteria:

- (a) the place is important in demonstrating the evolution or pattern of Queensland's history;
- (b) the place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage;
- (c) the place has potential to yield information that will contribute to an understanding of Queensland's history;
- (d) the place is important in demonstrating the principal characteristics of a particular class of cultural places;
- (e) the place is important because of its aesthetic significance;
- (f) the place is important in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) the place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) the place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.

Dam means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.

Dam crest volume means the volume of material that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls without regard to flows entering or leaving (e.g. via a spillway).

Design plan is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include 'as constructed' drawings.

Design storage allowance or DSA means an available volume, estimated in accordance with the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time, that must be provided in a dam to an annual exceedance probability specified in that Manual.

Declared pest plants are listed in Schedule 2 of the *Land Protection (Pest and Stock Route Management) Regulation 2003*.

DERM means Queensland Department of Environment and Resource Management.

Design plan is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include 'as constructed' drawings.

Development well means a petroleum well which produces or stores petroleum. For clarity, a development well does not include an appraisal well.

Discharge area means:

- o that part of the land surface where groundwater discharge produces a net movement of water out of the groundwater; and
- o identified by an assessment process consistent with the document "Salinity Management Handbook" Queensland Department of Natural Resources, 1997, as amended from time to time; or
- o identified by an approved salinity hazard map held by the Department of Environment and Resource Management.

Dispersible soils are structurally unstable soils that readily break down into their constituent particles in water (e.g. the clay material disintegrates into particles less than 2 microns across within 24 hours when soil crumbs are submerged in distilled water). These soils are also known as sodic soils and have a high percentage of sodium ions (in soluble or exchangeable form).

Document has the meaning in the *Acts Interpretation Act 1954* and means:

- o any paper or other material on which there is writing; and
- o any paper or other material on which there are marks; and
- o figures, symbols or perforations having a meaning for a person qualified to interpret them; and
- o any disc, tape or other article or any material from which sounds, images, writings or messages are capable of being produced or reproduced (with or without the aid of another article or device).

Ecosystem functioning means the interactions between and within living and non-living components of an ecosystem and generally correlates with the size, shape and location of an area of vegetation.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to the 'completion' of the petroleum activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority.

Equivalent person means an equivalent person as defined in item 63 of Schedule 2 in the *Environmental Protection Regulation 2008*.

Existing low hazard dam means any low hazard dam that was constructed, or where a low hazard dam's construction had substantially commenced, on XX August 2011; as captured by the audit of existing petroleum activities and audit report requirement of conditions (A6), (A7) and (A8) of this environmental authority.

Exploration well means a petroleum well that is drilled to:

- o explore for the presence of petroleum or natural underground reservoirs suitable for storing petroleum; or
- o obtain stratigraphic information for the purpose of exploring for petroleum.

For clarity, an exploration well does not include an appraisal or development well.

Fill means any kind of material in solid form (whether or not naturally occurring) capable of being deposited at a place but does not include material that forms a part of, or is associated with, a structure constructed in a watercourse, wetland or spring including a bridge, road, causeway, pipeline, rock revetment, drain outlet works, erosion prevention structure or fence.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of preventing or minimising environmental harm from, or rehabilitating areas significantly disturbed by, the petroleum activities.

Flowable substance means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

Foreseeable future is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptably low probability of failure before that time.

Hazard in relation to a dam as defined means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

Hazard category means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time.

Heritage place means any place that may be of cultural heritage significance, or any place with potential to contain archaeological artefacts that are an important source of information about Queensland's history.

High bank means the defining terrace or bank or, if no bank is present, the point on the active floodplain, which confines the average annual peak flows in a watercourse.

Highly erodible soils means very unstable soils that are generally described as Sodosols with hard-setting, fine sandy loam to silty clay loam surfaces (solodics, solodised solonetz and solonetz) or soils with a dispersible layer located less than 25cm deep or soils less than 25cm deep.

High value regrowth vegetation means

- o any of the following:
 - an endangered regional ecosystem;

- an of concern regional ecosystem;
- a least concern regional ecosystem; and
- o have not been cleared since 31 December 1989; and
- o is shown on a regrowth vegetation map.

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (Version 1.0, 2008)* published on DERM's website under www.derm.qld.gov.au.

Impulsive noise means sound characterised by brief excursions of sound pressure (acoustic impulses) that significantly exceed the background sound pressure. The duration of a single impulsive sound is usually less than one second.

Infrastructure means water storage dams, roads and tracks, equipment, buildings and other structures built for the purpose and duration of the conduct of the petroleum activities, but does not include other facilities required for the long term management of the impact of those activities or the protection of potential resources. Such other facilities include dams other than water storage dams (e.g. evaporation ponds), pipelines and assets that have been decommissioned, rehabilitated and lawfully recognised as being subject to subsequent transfer with ownership of the land.

LA_{Aeq,adj,15 mins} means the A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within any 15 minute period has the same square sound pressure as a sound level that varies with time.

LA_{90,adj,15 mins} means the A-weighted sound pressure level, adjusted for tonal character, that is equal to or exceeded for 90% of any 15 minutes sample period equal, using Fast response

Lake means:

- o a lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
- o the bed and banks and any other element confining or containing the water.

Leachate means a liquid that contains soluble, suspended or miscible contaminants likely to have been derived from material which is stored, processed or disposed of on site and which the liquid has passed through or emerged from, or is likely to have passed through or emerged from.

Levee means a dyke or bund that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or flowable substances at any other times.

Level 1 environmental authority means an environmental authority (chapter 5A activities) for a level 1 chapter 5A activity pursuant to section 23 of the *Environmental Protection Regulation 2008*.

Limited petroleum activities mean only the following petroleum activities:

- o well sites not exceeding 1 hectare disturbance and multi-well sites not exceeding 1.5 hectare disturbance. Well sites may include the following infrastructure:
 - well pads;
 - water pumps and generators associated with well operations;
 - sumps for storing drilling muds;

- flare pits;
- ponds used to contain and / or store stimulation fluid;
- o geophysical surveys (including seismic petroleum activities);
- o ecological geological surveys (including seismic petroleum activities);
- o gathering / flow pipelines from a well head to the initial compression facility;
- o supporting access tracks; and
- o communication and power lines that are necessary for the undertaking of petroleum activities and that are located within well sites, well pads and pipeline right of ways without increasing the disturbance area of petroleum activities.

For clarity, limited petroleum activities exclude and exclusions are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o low hazard dams (that do not meet the limitations prescribed above);
- o regulated dams;
- o borrow pits;
- o compressor stations;
- o campsites / workforce accommodation;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence) except for those pipelines authorized under the conditions of Schedule D of the Environmental Authority;
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Limited regulated waste means any of the following regulated wastes, asbestos, clinical waste or quarantine waste that has been rendered non-infectious, fish processing waste, food processing waste, poultry processing waste, tyres or treatment tank sludge or residue produced in the carrying out of an activity in relation to sewage treatment and water supply activities.

Long term noise event is a noise exposure, when perceived at a sensitive receptor, persists for a period of greater than five (5) days, even when there are respite periods when the noise is inaudible within those five (5) days.

Low hazard dam means any dam that is:

- o not classified as high or significant as assessed using the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time; and
- o that contains contaminants in concentrations which exceed the values or range shown in Table 3 of the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by
- o the Department of Environment and Resource Management, as amended from time to time at any time.

Low impact petroleum activities means limited petroleum activities which do not result in the clearing of native vegetation, cause disruption to soil profiles through earthworks or excavation or result in significant disturbance to land. Examples of such activities include but are not necessarily limited to soil surveys, topographic surveys, cadastral surveys and ecological surveys and traversing land by car or foot via existing access tracks or routes or in such a way that does not result in permanent damage to vegetation.

Max $L_{pA, 15 \text{ min}}$ means the absolute maximum instantaneous A-weighted sound pressure level, measured over 15 minutes.

Month has the meaning in the Acts Interpretation Act 1954 and means a calendar month and is a period starting at the beginning of any day of one (1) of the 12 named months and ending—

- o immediately before the beginning of the corresponding day of the next named month; or
- o if there is no such corresponding day—at the end of the next named month.

Medium term noise event is a noise exposure, when perceived at a sensitive receptor, persists for an aggregate period not greater than five (5) days and does not re-occur for a period of at least four (4) weeks. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a different source or source location.

Meter means a device for measuring, or giving an output signal proportional to, quantities of water passed and/or the rate of flow in a pipe."

Month has the meaning in the Acts Interpretation Act 1954 and means a calendar month and is a period starting at the beginning of any day of one (1) of the 12 named months and ending—

- o immediately before the beginning of the corresponding day of the next named month; or
- o if there is no such corresponding day—at the end of the next named month.

NATA accreditation means accreditation by the National Association of Testing Authorities Australia.

Noxious means harmful or injurious to health or physical well being.

'Of concern' regional ecosystem means an 'of concern' regional ecosystem identified in the database maintained by the Department of Environment and Resource Management called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions. The database is available for inspection on the Department of Environment and Resource Management's website at www.epa.qld.gov.au/nature_conservation/biodiversity/regional_ecosystems/.

Offensive means causing unreasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

Oil-based drilling mud means mud where the base fluid is a petroleum product such as diesel fuel.

Overland flow water means water, including floodwater, flowing over land, other than in a watercourse or lake:

- (a) after having fallen as rain or in any other way; or
- (b) after rising to the surface naturally from underground.

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc) which is to be left by agreement with the landowner.

Pest means species:

- o declared under the *Land Protection (Pest and Stock route Management) Act 2002*;
- o declared under Local Government model local laws; and
- o which may become invasive in the future.

Petroleum authority is:

- (a) a 1923 Act petroleum tenure granted under the *Petroleum Act 1923*; or
- (b) a resource authority granted under the *Petroleum and Gas (Production and Safety) Act 2004*; or

- (c) a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the *Petroleum (Submerged Lands) Act 1982*.

Populated area includes towns and cities which have a population of 200 or more people and with a minimum density of 40 people / km².

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Regulated dam means any dam in the significant or high hazard category as assessed using the "Manual for Assessing Hazard Categories and Hydraulic Performance of Dams", prepared by the Department of Environment and Resource Management, as amended from time to time.

Regulated waste means non-domestic waste mentioned in Schedule 7 of the *Environmental Protection Regulation 2008* (whether or not it has been treated or immobilised), and includes—

- (a) for an element—any chemical compound containing the element; and
- (b) anything that has contained the waste.

Rehabilitation means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land

Release of a contaminant into the environment includes:

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to allow the contaminant to escape; and
- (d) to fail to prevent the contaminant from escaping.

Regrowth vegetation map means a map certified by the chief executive as the regrowth vegetation map for the State and showing for the State:

- o areas of regrowth vegetation, identified on the map as high-value regrowth vegetation, that—
 - are any of the following:
 - (i) an endangered regional ecosystem;
 - (ii) an of concern regional ecosystem;
 - (iii) a least concern regional ecosystem; and
 - have not been cleared since 31 December 1989; and
- o particular watercourses in the Burdekin, Mackay Whitsunday and Wet Tropics catchments, identified on the map as regrowth watercourses; and
- o areas the chief executive decides under section 20AI to show on the map as high value regrowth vegetation.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Remnant vegetation means vegetation, part of which forms the predominant canopy of the vegetation—

- o covering more than 50% of the undisturbed predominant canopy; and
- o averaging more than 70% of the vegetation's undisturbed height; and
- o composed of species characteristic of the vegetation's undisturbed predominant canopy cover.

Reporting limit means the lowest concentration that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes, the reporting limit is selected as the lowest non-zero standard in the calibration curve. Results that fall below the reporting limit will be reported as "less than" the value of the reporting limit. The reporting limit is also referred to as the practical quantitation limit or the limit of quantitation.

Restricted stimulation fluids means fluids used for the purpose of stimulation, including fracturing, that contain the following chemicals, unless otherwise provided for under the *Environmental Protection Regulation 2008*:

- o petroleum hydrocarbons containing benzene, ethylbenzene, toluene or xylene; or
- o chemicals that produce, or are likely to produce, benzene, ethylbenzene, toluene or xylene as the chemical breaks down in the environment.

The amount of any chemical is not measured in relation to water included in the restricted stimulation fluid.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means an area within a 300 metre buffer from the boundary of a primary protection zone.

Sensitive place means:

- o a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel); or
- o a library, childcare centre, kindergarten, school, university or other educational institution;
- o a medical centre, surgery or hospital; or
- o a protected area; or
- o a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment; or
- o a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads.

Sensitive receptor means an area or place where noise (including low frequency, vibration and blasting) is measured investigate whether nuisance impacts are occurring and includes:

- o a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel); or
- o a library, childcare centre, kindergarten, school, university or other educational institution;
- o a medical centre, surgery or hospital; or
- o a protected area; or
- o a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment; or
- o a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads.

Short term noise event is a noise exposure, when perceived at a sensitive receptor, persists for an aggregate period not greater than eight hours and does not re-occur for a period of at least seven (7) days. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same

receptor location for a period of one hour or more, even if it originates from a different source or source location.

Significantly disturbed land or significant disturbance to land or significant disturbance means disturbance to land as defined in section 28 of the *Environmental Protection Regulation 2008*.

Site means the area within the petroleum authority or authorities to which this environmental authority relates.

Spillway means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

Spring means the land to which water rises naturally from below the ground and the land over which the water then flows.

Stable in relation to land means landform dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

State heritage place means a place entered in the Queensland heritage register under Part 4 of the *Queensland Heritage Act 1992*.

Stimulation means a technique used to increase the permeability of a natural underground reservoir, including for example, hydraulic fracturing / hydrofracturing, fracture acidizing and the use of proppant treatments.

Stimulation fluid means the fluid injected into an aquifer to increase the permeability of a natural underground reservoir.

Suitably qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Suitably qualified and experienced person in relation to dams means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, or at the relevant time holds a 'deemed registration' within the meaning of the *Mutual Recognition (Queensland) Act 1992*, and has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below.

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) a total of five years of suitable experience and demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology and geochemistry, and
- (c) a total of five years of suitable experience and demonstrated expertise each, in three of the following categories:
 - investigation and design of dams.
 - Construction, operation and maintenance of dams.
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology.
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes.
 - hydrogeology with particular reference to seepage, groundwater.

- solute transport processes and monitoring thereof.
- dam safety.

Suitably qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Synthetic based drilling mud means a mud where the base fluid is a synthetic oil, consisting of chemical compounds which are artificially made or synthesised by chemically modifying petroleum components or other raw materials rather than the whole crude oil.

Thing means a material object without life or consciousness or some entity, object or creature which is not or cannot be specifically designated or precisely described.

Threatening processes are processes, features and actions that can have a detrimental effect upon the health and viability of an area of vegetation. For example, altered hydrology, land use practices, invasion by pest and weed species, land degradation, edge effects and fragmentation.

Tight gas means:

- a form of unconventional gas found up to 4500m in depth from the surface; and
- is located in relatively impermeable hard rock, impermeable/non-porous sandstone, or impermeable limestone.

Tolerable limits means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

Topsoil means the surface (top) layer of a soil profile which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.

Trenchless methods means construction methods for the installation of pipelines and cables below the ground with minimal excavation. Trenchless methods can include, but not necessarily be limited to:

- o smoling
- o pipe ramming method
- o horizontal directional drilling
- o utility tunneling, pipe jacking, auger boring
- o microtunnelling and pipe jacking
- o on-line replacement

Unacceptable risk is when the results of a hazard assessment indicates that there is both a high consequence and a high likelihood of an event occurring such that the risk is classified as "high", "very high" or "extreme".

Valid complaint means a complaint the administering authority considers is not frivolous, nor vexatious, nor based on mistaken belief.

Void means any man-made, open excavation in the ground (includes borrow pits, drill sumps, frac pits, flare pits, cavitation pits and trenches).

Waters includes all or any part of a creek, river, stream, lake, lagoon, pond, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.

Watercourse has the meaning provided in section 5 of the *Water Act 2000* and includes the bed and banks and any other element of a river, creek or stream confining or containing water.

Wetland means a wetland as defined under the Queensland Wetlands Program and are areas of permanent or periodic / intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six (6) metres. To be classified as a wetland, the area must have one or more of the following attributes:

- o at least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle, or
- o the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers, or
- o the substratum is not soil and is saturated with water, or covered by water at some time.

For the purposes of Chapter 5A activities, wetlands do not include springs and watercourse and those wetlands that are defined in the document entitled "*Wetland Mapping and Classification Methodology*" (Department of Environment and Resource Management, 2005) as:

- o H2M1 Riverine or ex-riverine (lacustrine) water bodies associated with dams and weirs located in a channel;
- o H2M3p Ponded pastures;
- o H2M5 Palustrine / lacustrine water bodies where ecological character has changed due to gross mechanical disturbance (e.g. cropping);
- o H2M6 Palustrine / lacustrine water bodies that have been converted, completely or mostly, to a ring tank or other controlled storage;
- o H2M7 Riverine water bodies that have been converted mostly to canals or irrigation channels;
- o H3C1 Artificial stand-alone water storages not within a natural water body or channel; or
- o H3C2 Artificial Channel drain / canal -bore drains, swales, bores and irrigation channel overflows / ponding.

Wild river declaration is a statutory instrument under the *Wild Rivers Act 2005*. A declaration lists the relevant natural values to be preserved and delineates certain parts of the wild river area and the different constraints that may apply in these areas. With reference to environmental authorities for petroleum, each declaration also specifies conditions to be included in a new [environmental] authority if the activity is to be located within the wild river area.

Year means a period of 12 months.

80th percentile in relation to release limits means that not more than one (1) of the measured values is to exceed the stated release limit for any five (5) consecutive samples where:

- o the consecutive samples are taken over a five (5) month period; and
- o the consecutive samples are taken at approximately equal periods.

Smith Kim

From: [REDACTED] s.73 irrelevant information
Sent: Tuesday, 10 May 2011 4:32 PM
To: Smith Kim
Cc: [REDACTED] s.73 irrelevant information
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions
Follow Up Flag: Follow up
Flag Status: Red
Attachments: [REDACTED] s.73 irrelevant information
[REDACTED] s.73 irrelevant information Rev 2 Draft Conds ATP806 OME.doc

Hi Kim,

Following on from the below email please find attached the draft conditions with comments from QGC for ATP 806, [REDACTED] irrelevant information

As indicated below; could you please provide QGC with the amended/ reviewed draft conditions for review prior to any finalisation of the EA's?

Kind Regards,

[REDACTED]
s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: [REDACTED] s.73 irrelevant information
Sent: Tuesday, 10 May 2011 3:34 PM
To: Smith Kim
Cc: [REDACTED] s.73 irrelevant information
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions

Hi Kim,

[REDACTED]
s.73 irrelevant information

There are some further changes that have been proposed and QGC is eager to work with DERM to come to

acceptable solutions to these requests.

I am working on putting these comments into the additional draft EA's for ATP806, s.73 irrelevant information and will forward these through to you in separate emails.

Can you please review the proposed changes to the conditions, and notify QGC of DERM's proposed action in regards to the amended conditions?

Could you please provide QGC with the amended/ reviewed draft conditions for review prior to any finalisation of the EA?

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]
Sent: Wednesday, 4 May 2011 4:16 PM
To: s.73 irrelevant information
Cc: Broadfoot Angus; Drew David
Subject: Seismic Amendment - DERM Rev 2 Draft Conditions
Importance: High

s.73 irrelevant information

I have been working on the draft conditions for the Level 2 amendments, s.73 irrelevant information ATP806 & s.73 irrelevant information

s.73 irrelevant information

The conditions still being negotiated/not agreed on have remained highlighted for ease of reference. Conditions which have been agreed upon aren't highlighted in this revision.

The remaining contentious points which the delegate has not agreed to are:

- wells within the Cat Bs or protection zones, or overlapping ESAs/protection zones;
- removal of terms "primary and secondary protection zones". (Sorry, but I've talked to our model conditions people and it looks like these terms are here to stay. I have put the ESA requirements into a table

Release

though.)

- Offsets are required of level 2's now.

I will send the others through as soon as I have made the changes.

s.73 irrelevant information

Can you please give me an indication of how long QGC will need to review and comment on the changes?

Thanks

Kim

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

BG Energy Holdings Limited

Registered in England & Wales No: 3763515 Registered address:

100 Thames Valley Park Drive

Reading, Berkshire RG6 1PT UK

Telephone: +44 (0)118 935 3222

Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of

this

email or attachment is personal or unconnected with our business,
BG

Energy Holdings Limited accepts no liability or responsibility for
it.

Please also note that we make every effort to keep our network free
from viruses and this email has been scanned accordingly. BG Energy
Holdings Limited accepts no responsibility for viruses once an
email has
been transmitted.

EHP RTI DL Release

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under Section 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD
ACN: 100 280 662

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: ☒ May 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*;
- The contaminated land provisions of the *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992*;
- *Forestry Act 1959*;
- *Water Supply (Safety and Reliability) Act 2008*; and
- *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A	General Conditions
Appendix A	Definitions
Appendix B	Environmentally Sensitive Areas
Appendix C	Criteria for environmentally relevant containment facilities
Appendix D	Schedule of Rehabilitation Costs

Schedule A- General Conditions

Condition 1 – Significant Disturbance

The holder of the environmental authority must ensure that petroleum activities do not cause more than 4 ha of any land to be significantly disturbed at a petroleum works site at any one time.

Condition 1 – Significant disturbance

The holder of this environmental authority must ensure that:

- (a) Petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time;

Condition 2 – Work Program, Development Plan

The applicant for or holder of the environmental authority must submit to the administering authority a copy of the original or any amended work program or development plan for the relevant application for or granted petroleum authority.

Condition 3 – Financial Assurance

- The holder of the environmental authority must:
 - (a) calculate a financial assurance in accordance with the Schedule of Rehabilitation Costs and Schedule of Disturbance in Appendix C of this Authority;
 - (b) attach the Schedule of Disturbance to the original or any amended Work Program or Development Plan;
 - (c) provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of the original or any amended Work Program or development plan; and
 - (d) maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Condition 5 – Land Management

- The holder of the environmental authority must:
 - (a) take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and
 - (b) ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and:
 - i. stockpiled in a manner that will preserve its biological and chemical properties; and
 - ii. used for rehabilitation purposes (refer condition 14).

Condition 6 – Vegetation

- The holder of the environmental authority must:
 - (a) take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
 - (b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

Condition 7 – Protection of Riverine Areas

Deleted: ~~Prior to conducting petroleum activity(ies) that involve significant disturbance to land, an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request.~~
~~→ The assessment required by Condition 1 (b) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESAs) and the presence of species classed as endangered, vulnerable, rare or near threatened under the Nature Conservation Act 1992 and/~~
~~→ A record of the assessment required by Conditions 1 (b) and 1 (c) must be kept and submitted to the administering authority upon request.~~

- The holder of the environmental authority must:
 - (a) ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
 - (b) minimise disturbance of all other riverine areas.

Condition 8 – Erosion and Sedimentation Control

- The holder of the environmental authority must take all reasonable and practicable measures to prevent or minimise:
 - (a) erosion of areas disturbed by petroleum activities; and
 - (b) sedimentation of any waters as a result of petroleum activities.

Condition 9 – Dust Management

- The holder of the environmental authority (petroleum activities) must ensure that:
 - (a) dust or particulate matter or both resulting from a petroleum activity must not cause an environmental nuisance at any sensitive place or commercial place; and
 - (b) when requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.

Condition 10 - Noise Management

- (a) Noise emitted from the temporary petroleum activities must not exceed the noise acoustic quality objective of 55 dB(A) at any sensitive or commercial place.
- (b) Noise emitted from the permanent petroleum activities must not exceed the noise levels, specified in the table below, at any sensitive place or commercial place.

Time period	Noise level at a sensitive place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am–6pm	Background noise level plus 5 dB(A)
6pm–10pm	Background noise level plus 5 dB(A)
10pm–7am	Background noise level plus 3 dB(A)
Time period	Noise level at a commercial place measured as the Adjusted Maximum Sound Pressure Level $L_{A, max, adj, T}$
7am–6pm	Background noise level plus 10 dB(A)
6pm–10pm	Background noise level plus 10 dB(A)
10pm–7am	Background noise level plus 8 dB(A)

General note: In no case is the background noise level, $L_{A0, 15 min}$ to be less than 25 dB(A). In the event that measured background noise level is less than 25 dB(A), then 25 dB(A) is to be used.

- (c) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.
- (d) The method of measurement and reporting of noise levels must be in accordance with most recent edition of the EPA's Noise Measurement Manual.

Condition 11 – Waste Management

The holder of the environmental authority must:

- (a) ensure that petroleum activities do not result in the release or likely release of a contaminants to land or waters that results in unlawful environmental harm; and
- (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

Condition 12 - Sewage Management and Disposal

The holder of this environmental authority must ensure that:

- (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
- (b) sewage effluent is not released to waters (including groundwater);
- (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
- (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
- (e) where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
- (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
- (g) there is no surface pond of effluent on land disposal area(s);
- (h) any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
- (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Condition 13 – Storage of Hazardous Substances, Fuel and Oil

The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:

- (a) contained within an on-site containment system;
- (b) controlled in a manner that prevents environmental harm; and
- (c) maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 – 2004 *Storage and Handling of Flammable and Combustible Liquids*.

Condition 14 – Spills and clean up action

Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:

- (a) take immediate action to stop any further release;
- (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
- (c) restore or rehabilitate the environment to its condition before the release occurred; and
- (d) take necessary action to prevent a recurrence of the release.

Condition 15 – Associated Water

- (a) The holder of the environmental authority must ensure that associated water is not released to land or waters, other than to an appropriate containment facility except as provided for:
 - (i) under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*; and
 - (ii) Condition 15 (c).
- (b) Despite 15 (a) (i), the holder of the environmental authority must ensure that associated water to be used for domestic or stock purposes meets the accepted *ANZECC 2000 Water Quality Guidelines for Stock and Domestic Purposes*.
- (c) Despite 15 (a), the holder of the environmental authority may apply to the administrative authority to allow associated water that meets a nominated set of water quality standards to:
 - (i) be released to land or waters; or

- (ii) be used for a specific purpose, provided the potential user has given written advice about the proposed use and environmental safeguards that will be implemented to prevent material or serious environmental harm.

Condition 16 – Containment Facilities

- (a) The holder of the environmental authority must ensure all environmentally relevant containment facilities are:
 - (i) designed, constructed, operated, maintained and decommissioned in accordance with the criteria outlined in Appendix B; and
 - (ii) not located within 100 m of any natural drainage feature (i.e. watercourses, waterway, wetland or lark).
- (b) The holder of the environmental authority must ensure all drill sumps are installed and maintained to prevent any discharge through the bed or banks of the sumps from causing environmental harm or environmental nuisance in any waters.

Condition 17 – Containment Facilities and Other Excavations

For all environmentally relevant activities and other excavations which are constructed as part of the petroleum activities, the holder of the environmental authority must where relevant either:

- (a) provide safe access for livestock where contained water quality is adequate for live stock; or
- (b) construct and maintain bunds and/or fences sufficient to exclude livestock.

Condition 18 – Rehabilitation

- As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:
- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
- (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
- (c) on all significantly disturbed land, take all reasonable and practicable measures to:
 - i. re-establish surface drainage lines;
 - ii. reinstate the top layer of the soil profile; and
 - iii. promote establishment of vegetation of the same species and density of cover to that of the surrounding undisturbed areas.

Condition 19 – Infrastructure

All Infrastructure, constructed by or for the holder of the environmental authority, including water storage structures, must be removed by the holder from the site and the sites rehabilitated according to condition 18, prior to surrender of the petroleum authority, except where it is to remain with the written agreement of the administering authority and post petroleum authority landowner / holder.

Condition 20 – Environmentally Sensitive Areas

The holder of this environmental authority must ensure that the petroleum activity(ies) is only conducted in accordance with Table 1 – Environmentally Sensitive Areas (ESAs) below for each of the ESA categories and associated primary and secondary protection zones

Table 1 – Environmentally Sensitive Areas (ESAs)

ESA Category	Within the ESA	Within primary protection zone of the ESA	Within secondary protection zone of the ESA
All Category A ESAs	No petroleum activities permitted	No petroleum activities permitted	Limited petroleum activities permitted

Comment [ks1]: GGC's preference for "buffer" and distances has been noted. DERM delegates have stipulated that the protection zone terms will continue to be used. The requirements have been tabulated for ease of reference

Comment [r2]: Acknowledged

Environmental Authority No. PEN200013707

			subject to conditions 4A and 4B
Category B ESAs including 'Endangered' regional ecosystems	No petroleum activities other than seismic activities permitted.	No petroleum activities other than seismic activities permitted.	Limited petroleum activities permitted subject to conditions 4A and 4B
Category C ESAs excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves	No petroleum activities other than seismic activities permitted.	No petroleum activities other than seismic activities permitted.	Limited petroleum activities permitted subject to conditions 4A and 4B
Category C ESAs: State Forests, Timber Reserves and 'Of Concern' regional ecosystems	Limited petroleum activities permitted subject to conditions XX	Petroleum activities permitted.	Petroleum activities permitted.

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves. Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at: http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php.

Condition 20A

Limited petroleum activities carried out in the secondary protection zone in accordance with condition 20 must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees to the greatest practicable extent.

Condition 20B

Limited petroleum activities carried out within an environmentally sensitive area, primary protection zone or secondary protection zone as authorised under condition 20, must not be conducted where there is an overlap with another environmentally sensitive area or primary protection zone where limited petroleum activities are not authorised.

Condition 20C

Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition 20B, the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:

- pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;
- undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
- pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a

Deleted: excluding

Comment [r3]: Seeing as the conditions for Cat B and Endangered regional ecosystems were the same could we merge it onto one row?

Deleted: Category B ESAs 'Endangered' regional ecosystems

Deleted: No petroleum activities other than seismic activities permitted.

Deleted: No petroleum activities other than seismic activities permitted.

Deleted: Limited petroleum activities permitted subject to conditions 4A and 4B

Deleted: Limited p

Deleted: Limited petroleum

Deleted: subject to conditions XX

Deleted: subject to conditions 4A and 4B

Comment [r4]: Historically there has been no buffer zone's applied to these ESAs. Suggest petroleum activities is permitted, instead of limited petroleum activities.

Comment [ks5]: Changed to address QGC's concerns.

Comment [r6]: Acknowledged

Deleted: Despite condition 20, limited petroleum activities may be undertaken within the primary protection zone of, or in the following specified Category C Environmentally Sensitive Areas:

- 1. Of Concern Regional Ecosystems; 1.
 - 2. State Forests; 1.
 - 3. Timber Reserves; 1.
- provided that it does not overlap with any other Category A, B or C Environmentally Sensitive Area or its associated primary protection zone. 1.

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves. 1.

Environmental Authority No. PEN200013707

Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);

(d) areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.

Condition 20D

Prior to conducting limited petroleum activity(ies) that involve significant disturbance to land within an ESA, primary protection zones, or secondary protection zones:

- an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority within a reasonable timeframe upon request;
- the assessment required by Condition 20D(a) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the Nature Conservation Act 1992; and
- a record of the assessment required by Conditions 20D(b) and 20D(c) must be kept and submitted to the administering authority upon request.

Comment [ks7]: This has been removed from condition 1 as requested by QGC and inserted here so that it applies to the amendment only

Comment [r8]: Acknowledge

Deleted: from condition 1

Deleted: ing

Deleted: at any time

Condition 20E

Where seismic activities are proposed to be undertaken within Endangered Regional Ecosystems, primary and secondary protection zones of Endangered Regional Ecosystems, or secondary protection zones of a Category A ESA, the holder of this environmental authority must:

- not cause significant disturbance and/or clearing of vegetation;
- use pre-existing access and fence line tracks and other disturbed areas;
- not construct new access tracks;
- conduct seismic activities by foot where there are no existing access tracks;
- not clear or stick rake in any Endangered RE; and
- utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - deploy and retrieve geophones and cable through the crossing by foot; or
 - skip acquisition over the watercourse and restart on the other side.

Comment [ks9]: Previous 20D worked into Table 1

Condition 20F

Notwithstanding conditions 20 and 20C, where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in conditions 20, any vegetation clearing must not exceed any of the following areas:

- for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition 1 of this environmental authority; and
- more than 30 m² for the construction of a sump; or
- more than six (6) metres in width for tracks; or
- more than 12 metres in width for flow pipeline construction purposes.

Deleted: 20B

Deleted: 20B

Comment [ks10]: DERM now applies 5% to level 2 activities

Comment [r11]: Acknowledged

Comment [r12]: As this applies to Category C areas is there possibility to increase this to 10m in width? Dependent on equipment to be moved it is sometimes not safe or possible to transport along a 6m access track.

Comment [ks13]: QGC's proposed condition 4D (well sites in Cat B and Cat B primary protection zones) is not accepted by DERM. Env impacts cannot be assessed due to unknown locations of proposed wells, and potential impacts on Cat B ESA. May also trigger a level 1.

Comment [r14]: Acknowledged

Condition 20G

Environmental Authority No. PEN200013707

For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition 20B, all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Condition 20H

Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, along with a record of the assessment required by condition 20D must be kept and submitted to the administering authority with each annual return.

Comment [r15]: Does DERM really want this to be submitted with annual returns? Suggest this is changed to "on request"?

Condition 20I – Disturbance to Land – Offsets

The environmental authority holder must enter in to an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmentally sensitive area.

Comment [ks16]: DERM believes offsets are relevant – new activities being permitted

Condition 20J

The environmental offset agreement must be entered in to within six (6) months after submitting the record of disturbance required by condition 20H, unless otherwise agreed to by the administering authority.

Comment [ks17]: Defined in the Qld Gov Environmental Offsets policy (June 2008 rev)

Comment [r18]: It is suggested that this should apply only to ESA's

Deleted: environmental value

Condition 20K

The environmental authority holder must implement any environmental offset agreement entered in to in accordance with conditions 20I and 20J as soon as practicable after finalisation.

Note: Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy" June 2008 and when the "Queensland Biodiversity Offset Policy" becomes available.

Condition 21- Exploration within Buffer of ERE

For exploration activities the environmental authority holder must comply with each of the standard environmental conditions contained in the Code of Environmental Compliance for Exploration and Mineral Development Projects, except Condition 13, which is replaced by 21 (a) to 21 (n) conditions.

- (a) The environmental authority holder is authorised to construct 1 borehole on ATP806 within the ERE buffer. The subsequent conditions, B2-1 to B4-2, authorises the environmental disturbance related to this borehole;
- (b) The operational area of the drill site within the 500m buffer must not exceed 1000m²;
- (c) The drill hole within the buffer of the ERE is limited to less than 200mm in diameter;
- (d) The construction of sumps within the ERE buffer must not exceed 10m²;
- (e) Topsoil stripping within the ERE buffer is limited to an area no greater than 25m x 25m;
- (f) The environmental holder must minimise disturbance within the ERE buffer and avoid clearing of trees;
- (g) Existing access and fence line tracks must be used wherever possible. Any new tracks are to be constructed by linking natural cleared or disturbed areas;
- (h) Track construction must avoid clearing of trees;
- (i) Where new tracks are required they will not be constructed greater than 5m in width;
- (j) Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised;

Date Granted xx xxxxxxxxxxxxxxxx 2010

Page 9 of 25

Environmental Authority No. PEN200013707

- (k) No clearing or disturbance for access to borehole will take place within the ERE;
- (l) Exploration within the ERE buffer must not involve costeaning or bulk sampling activities; and
- (m) Exploration camps must not be established within the ERE or ERE buffer

Condition 22 A– River Improvement Areas

All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Condition 22B – Wild river areas

In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Condition 23 – Heritage places and archaeological artefacts

The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 24 – Clearing vegetation

The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees to the greatest possible extent.

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

Comment [ks19]: Changed to address QGC's concerns

Comment [r20]: Acknowledged

Condition 24A

The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Deleted: pipelines and wells

Condition 24C

Date Granted xx xxxxxxxxxxxxxxxx 2010

Page 10 of 25

Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not significantly impede vehicle, stock or wildlife movements.

End of Conditions

Condition 25 – Maintenance of land rehabilitation

Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate:

- (a) the stability of landforms;
- (b) that erosion control measures remain effective;
- (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters;
- (d) that plants show healthy growth and recruitment is occurring; and
- (e) that rehabilitated areas are free of any declared pest plants.

Condition 26 – Rehabilitation Success

Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.

Condition 27 – Monitoring and Complaints

- The holder of the environmental authority must:
- (a) develop and implement a monitoring program that will demonstrate compliance with this Authority;
 - (b) document the monitoring and inspections carried out under the program and any actions taken;
 - (c) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident; and
 - (d) retain the record of complaints required by this condition for 5 years.

Condition 28– Notification

The holder of this environmental authority must:

- (a) telephone DERM's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental authority or any event where environmental harm has been caused or threatened; and
- (b) notify the administering authority in writing within 14 days of the initial notification.

Condition 29 - Existing petroleum activities

Conditions 1, 20-20K, and 24-24B relating to disturbance only apply to petroleum activities which commenced after xx April 2011 [insert date of grant of this EA]

Comment [ks21]: DERM agrees to QGC's proposed changes
Comment [r22]: Acknowledged

Appendix A - Definitions

APPEA Code means the current APPEA, Code of Environmental Practice.

AS 2885 Australian Standard Pipelines – Gas and Liquid Petroleum

Associated water is underground water taken from or interfered with from a petroleum well during the course of or resulting from carrying out petroleum activities. Associated water may be potable or suitable for stock purposes, or saline, high in fluoride, contain hydrocarbons, and/or is otherwise contaminated by a hazardous contaminant and become a hazardous waste.

Commercial place means a place used as an office or for business or commercial purposes.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to: the "completion" of the particular activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority. Under the APPEA Code "completion" refers to the point at which the particular survey, program or operation has been rehabilitated and abandoned.

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by:

- (a) noise, dust, odour, light; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

Evaporation pond means a dam or interceptor pond constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the pond.

Environmentally sensitive area (as determined from the EPA GIS data base) means a location, however large or small, that has environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

"ERE" means Endangered Regional Ecosystem.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of rehabilitating areas significantly disturbed by the petroleum activities.

Hazardous contaminant means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Land degradation includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

Licensed waste disposal facility is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the Environmental Protection Regulation 1998.

Limited petroleum activities mean only the following petroleum activities:

- o geophysical surveys (including seismic petroleum activities);
- o well sites;
- o well pads;
- o water pumps and generators associated with well operations;
- o sumps;
- o flare pits;
- o gathering / flow pipelines from a well head to the initial compression facility; and
- o supporting access tracks.

For clarity, limited petroleum activities exclude and are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o dams;
- o borrow pits;
- o ponds used to contain and/or store stimulation fluids;
- o compressor stations;
- o campsites / workforce accommodation;
- o power supplies;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence)
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc), which is to be left by agreement with the landowner.

Pest means species:

declared under the Land Protection (Pest and Stock route Management) Act 2002;
declared under Local Government model local laws; and
which may become invasive in the future.

Petroleum activity is defined in the EP Act as an activity:

- a) authorised on a petroleum tenure granted under the Petroleum Act 1923; or
- b) authorised on a petroleum authority granted under the P&G Act; or
- c) exploring for or mining minerals under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the Petroleum (Submerged Lands) Act 1982; or
- d) rehabilitating or remediating environmental harm because of an activity mentioned in paragraphs (a) to (c); or
- e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d); or
- f) required under a condition of an environmental authority (petroleum activities); or
- g) required under a condition of an environmental authority (petroleum activities) that has ended or ceased to have effect, if the condition:
 - i. continues to apply after the authority has ended or ceased to have effect; and
 - ii. has not been complied with.

Petroleum Authority includes Authority to Prospect, Petroleum Lease, Data Acquisition Authority Water Monitoring Authority, Petroleum Facility Licence, Survey Licence and Pipeline Licence issued or granted under the Petroleum Act 1923 or Petroleum and Gas (Production and Safety) Act 2004.

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond,

compressor site and campsite. The following petroleum activities are excluded from the definition of *petroleum works site*: roads and tracks, seismic survey lines, and non-licensed gathering systems.

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Release of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Riverine area refers to the land confined to the flood flow channel of a watercourse.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means a area within a 300 metre buffer from the boundary of a primary protection zone.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off significantly disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off significantly disturbed areas. This may include silt fences, hay bales or grassed strips.

Sensitive place means

- (a) a dwelling, mobile home or caravan park, residential marina or other residential place;
- (b) a motel, hotel or hostel;
- (c) a kindergarten, school, university or other educational institution;
- (d) a medical centre or hospital;
- (e) a protected area;
- (f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organized entertainment.

Significantly disturbed land and significant disturbance means land if:

- (a) it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it:
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance

Examples of a disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a watercourse, waterway, wetland or lake where petroleum activities occur and human intervention is necessary to restore or stabilise the disturbed area;
- (e) areas submerged by hazardous waste storage and dam walls in all cases;

- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- (g) areas where land has become contaminated land and a suitability statement has not been issued.

However, for the purpose of this Authority the following areas are not significantly disturbed:

- (a) areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority);
- (b) areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction.
- (c) areas under permanent infrastructure.
- (d) areas that were significantly disturbed prior to the grant of the environmental authority, unless those areas are re-disturbed by the holder of the environmental authority during the term of the authority.
- (e) minor disturbances such as drill sumps and minor respreading of soil on GPS located seismic lines.

Stable means geo-technical stability of the rehabilitated landform i.e. settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping are unlikely to cause instability.

Temporary petroleum activities means drilling

Permanent petroleum activities means compressors, wells

Top layer of soil means soil, alluvium, weathered rock or other suitable plant growth medium. Top layer material should be non-crusting and low in salinity.

Turkey's nest dam - A dam constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the dam.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

APPENDIX B Environmentally Sensitive Areas

Category A and B environmentally sensitive areas

Category A and B environmentally sensitive areas are listed in Section 25 and 26 respectively of the *Environmental Protection Regulation 2008*.

Category C environmentally sensitive areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Koala Habitat Area	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	Department of Environment and Resource Management
An area identified as essential habitat by the EPA for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the Nature Conservation Act 1992	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Declared Catchment Areas	<i>Water Act 2000</i>	Department of Environment and Resource Management and/or Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Environment and Resource Management and the Relevant River Trust
Former Designated Landscape Area - Stanbroke Pastoral Holding	<i>Aboriginal Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
Areas under Part 5 Division 2 of the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
State Forest or Timber Reserves	<i>Forestry Act 1959</i>	Department of Environment and Resource Management
DPI Research Sites	<i>Nil</i>	Department of Employment, Economic Development and Innovation
Areas of land occupied by the Bureau of Sugar Experiment Stations.	<i>Sugar Industry Act 1999</i>	Department of Employment, Economic Development and Innovation
Coastal Management Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Resource Management
Declared Areas	<i>Vegetation Management Act 1999</i>	Department of Environment

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
		and Resource Management
An area shown as a wetland on a 'map of referable wetlands'	<i>Environmental Protection Act 1994</i>	Department of Environment and Resource Management
Reserves under the Land Act 1994	<i>Land Act 1994</i>	Department of Environment and Resource Management
An 'of concern' regional ecosystem identified in the database maintained by the EPA called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.	<i>Nil</i>	Department of Environment and Resource Management

Important Note: Regional ecosystem classification is determined according to the Queensland Herbarium Biodiversity Status Classification. Information on ERE's is maintained by the DERM on the Regional Ecosystem Description Database.

APPENDIX C Criteria for environmentally relevant containment facilities

The holder of the environmental authority (petroleum activities) may require environmentally relevant containment facilities to be constructed within the petroleum authority for raw water storage, storage and evaporation of associated water or for the containment of contaminated solids formed from such waters. Environmentally relevant containment facilities are defined as "structures that may or could contain flowable substances that, in the event of collapse of the structure, failure to contain or discharge of either liquor, solids or gas, could or would adversely impact on the environment."

Associated water may be saline, contain hydrocarbons or other substances at certain concentrations that when released to land or waters may cause material or serious environmental harm. This does not prevent or limit the holder of the environmental authority from treating the associated water to a specified standard for subsequent discharge to land or waters, or on-supplied to a third party for beneficial reuse, providing it is authorised by the relevant environmental authority.

Appendix B provides for the environmental regulation of such containment facilities. The regulation of such facilities is based on both a hazard and risk assessment, which includes an assessment of the contents of the containment facility.

- The assessment criteria presented in Tables 1 and 2 allow these structures to be classified as:
- High hazard containment facility;
 - Medium hazard containment facility; or
 - Low hazard containment facility.

High hazard containment facilities that could impact on life or property on collapse or failure are not permitted under this environmental authority and will require either site-specific conditions or will be conditioned under a level 1 environmental authority.

Step 1 - Assessing the contents of the relevant containment facility

The first step in the assessment process is to determine whether the facility contains substances that may be classed as hazardous if released to the environment. If the contents of the relevant containment facility, including either liquor and/or total solids, exceed the limits in Table 1, then the containment facility contains hazardous substances.

Table 1 – Criteria for determining the contents of the containment facility

Contaminant ¹	Liquor ²	Total solids ^{3,4}
Arsenic	0.5 mg/l	250 mg/kg
Boron	5.0 mg/l	15,000 mg/kg
Cadmium	10 µg /	100 mg/kg
Cobalt	1.0 mg/l	500 mg/kg
Copper	1.0 mg/l	5,000 mg/kg
Lead	0.1 mg/l	300 mg/kg
Mercury	2µg/l	75 mg/kg
Nickel	1.0 mg/l	3,000 mg/kg
Zinc	20 mg/l	35,000 mg/kg
Chloride	2,500 mg/l	-
Fluoride	2.0 mg/l	-
Selenium	0.02 mg/l	-
Sulphate	1,000 mg/l	-
Cyanide	10 mg/l	2,500 mg/kg
pH	Between 5.5 and 9.0	Net acid generation of pH <4
Nitrite	30 mg/l	-
Nitrate	400 mg/l	-
Total Dissolved Solids	4000 mg/l	-
Aromatic Hydrocarbons	600 µg/l	-
Polycyclic Aromatic Hydrocarbons	-	-
Naphthalene	16µg/l	-

Benzo (a) pyrene	0.2 C	-
Phenol	320 µg/l	-
Polychlorinated Biphenyls	-	-
Aroclor 1242	0.3 µg /l	-
Aro 1254	0.1 µg /l	-
Total Petroleum Hydrocarbons	10 mg/l (or no visible film)	-
Blue green Algae (Microcystis)	11,000 cells/ml	-

1. Metals should be analysed in accordance with recognised test methods by a NATA certified laboratory.
2. Applies to the liquid contents in the containment facility readily available to the environment (e.g. water available to birds and animals).
3. Total solids include suspended and colloidal solids.
4. Applies to the solids in the containment facility.

Step 2 - Determining other risk factors

The second step in the assessment process is to consider other factors that may increase the hazard category of the containment facility including its size, location and environmental setting. If a proposed containment facility exceeds any of the size and location criteria listed in Table 2, then the structure will be a high hazard containment facility.

Table 2 – Determination of other risk factors

	Threshold criteria for a high hazard containment facilities
Criterion 1 Location with respect to habitation or water infrastructure	In the event of collapse, failure or overflow from the containment facility, would result in one or more of the following actions, it would or could: <ul style="list-style-type: none">• impact on occupied premises to a depth of more than 300 mm; or• flow to a sensitive or commercial place; or• flow to a riverine area containing permanent water; or• contaminate a water supply for human consumption; or• contaminate a water supply used for livestock.
Criterion 2 Location in catchments	The containment facility is located within a: <ul style="list-style-type: none">• declared catchment or sub-artesian area; or• watercourse and the containment facilities surface area of water exceeds 1ha.
Criterion 3 Size	The containment facility has a surface area of water greater than 4 ha; or the containment facility has a volume of water greater than 20 mega litres.

Step 3 - Determining the hazard category

Table 3 summarises the process for determining the hazard category of containment facilities on a petroleum authority.

If any proposed containment facility cannot comply with the acceptance criteria listed in Table 1 but can comply with the size and location criteria listed in Table 2, then the structure will be a medium hazard containment facility. Similarly if the structure contains substances that may be hazardous and exceeds the criteria in Table 2 then the structure will be a high hazard containment facility.

Table 3 – Determination of hazard category

Concentration of liquor and total solids	Location and size	Hazard Category
Contents of the containment facility do not exceed limits in Table 1	Containment facility location and size do not trigger criterion 1 listed in table 2	The structure is a low hazard containment facility
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are below the criteria listed in table 2	The structure is a medium hazard containment facility.
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are above the criteria listed in table 2	The structure is a high hazard containment facility.

Design, construction, operation, maintenance and decommissioning criteria

Containment facilities are engineering structures and must be designed by professional engineer(s) who would normally apply the criteria defined below. A professional engineer should also be consulted in the development of the decommissioning plan.

Criteria for Low Hazard Containment Facilities

Low hazard containment facilities should be designed, constructed, operated and decommissioned in accordance with the "Queensland Small Embankment Dam Guideline".

Criteria for Medium Hazard Containment Facilities

In order to comply with the conditions of this environmental authority, design, construction, operation, maintenance and decommissioning of medium hazard containment facilities, must be in accordance with the following.

Design:

- Containment facilities with a capacity up to 3 mega litres are best constructed as *Turkey's Nest* structures;
- Containment facilities should be located to have the smallest practical catchment area;
- Containment facilities must have a spillway capable of passing a design flood, defined as the peak discharge from a critical duration storm with an annual exceedence probability of 1% (i.e. 1 in 100 yr event) or lower;
- The spillway should be located where practicable in the abutment of the containment facility or in the minimum height section of the containment facility;
- Any spillway discharge should be contained within stable defined channels until it enters any natural watercourse or waterway;
- For embankments built on stable foundations, not subject to draw down and out of uniform soil material, the batters shall be no steeper than those shown in the table below, unless otherwise shown to be stable:

Embankment Soil Classification (Universal soil classification)	Upstream Batter	Downstream Batter
GC, SC	2.5:1	2.0:1
CL, ML	3.5:1	2.5:1
CH, MH	3.5:1	2.5:1

GW, GP, GM, SW, SP, SM	Not suitable	Not suitable
------------------------	--------------	--------------

Note: The codes for the Universal Soil Classification (e.g. GC) are detailed in the Australian Standard AS 1726 1993 Geotechnical Site Investigation, Appendix A.

- Where foundation material differs from the embankment fill material, the batters shall be chosen conservatively to be consistent with the weaker material classification.

Construction:

- Embankments must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures, flow velocities, material strength, stability and durability.
- Fine grained soils used in embankment construction should be mechanically compacted when they are near or at the optimum moisture content (i.e. slightly plastic) to improve soil strength, minimise seepage and reduce the risk of piping failure
- Where geo-membranes are used, ensure that they are placed, anchored and joined in accordance with the manufacturer's specification.
- Where geo-membranes are used ensure that they are suitable to prevent leakage of the hazardous contaminants, which are contained within the containment facility.
- Where geo-membranes are used for liners, filters or drains, ensure that the geo-membrane is in contact only with fine-grained soils to prevent punching or tearing of the membrane.
- Embankments built out of pervious material must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures and flow velocities.
- Where foundation material differs from embankment fill material, the embankment should be constructed out of the material, which gives the flatter batter.
- Prior to construction of an embankment, the foundation should be cleared of all:
 - vegetation (grass, shrubs and trees);
 - soils containing organic matter (roots);
 - cracked soils (stiff plastic soils);
 - pervious soils (sand, gravel)
 - pervious material in rock faults, joints or the rock foundation itself.
- Prior to construction of an embankment, all transverse trenches, holes and other irregularities should be plugged or backfilled to create a generally undulating foundation for placement of the embankment.
- Fine-grained soils used in embankment construction should have a consistent texture and be free from foreign matter such as branches, logs, gravels or boulders etc.
- Fine-grained soils including dispersible soils should be placed in the centre of or towards the upstream faces of embankment containment facilities.
- Coarser grained soils and rock materials are to be placed towards and on the outer faces of embankment containment facility to minimise erosion and breaching potential.
- Dispersible and easily erodible soils should not be used on the outer faces of embankment containment facility.
- Provide adequate measures to control seepage through the containment facility wall and the transmission of contaminants through underlying soil layers or rock stratum.
- Embankment containment facility should be constructed with stable earth materials that will not decay or generate leachate or hazardous contaminants.

Operation:

- The containment facility should be operated to maintain a minimum freeboard of 0.5m below the spillway level.
- To ensure that there is no leakage of hazardous wastes from any containment facility associated with the petroleum activity a field based groundwater monitoring program must be established to

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under Section 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD
ACN: 100 280 662

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: ☒ May 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*;
- The contaminated land provisions of the *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992*;
- *Forestry Act 1959*;
- *Water Supply (Safety and Reliability) Act 2008*; and
- *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A	General Conditions
Appendix A	Definitions
Appendix B	Environmentally Sensitive Areas
Appendix C	Criteria for environmentally relevant containment facilities
Appendix D	Schedule of Rehabilitation Costs

The holder of the environmental authority must:

- (a) ensure that petroleum activities do not result in the release or likely release of a contaminants to land or waters that results in unlawful environmental harm; and
- (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

Condition 12 - Sewage Management and Disposal

The holder of this environmental authority must ensure that:

- (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
- (b) sewage effluent is not released to waters (including groundwater);
- (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
- (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
- (e) where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
- (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
- (g) there is no surface pond of effluent on land disposal area(s);
- (h) any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
- (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Condition 13 – Storage of Hazardous Substances, Fuel and Oil

The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:

- (a) contained within an on-site containment system;
- (b) controlled in a manner that prevents environmental harm; and
- (c) maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940 – 2004 *Storage and Handling of Flammable and Combustible Liquids*.

Condition 14 – Spills and clean up action

Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:

- (a) take immediate action to stop any further release;
- (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
- (c) restore or rehabilitate the environment to its condition before the release occurred; and
- (d) take necessary action to prevent a recurrence of the release.

Condition 15 – Associated Water

- (a) The holder of the environmental authority must ensure that associated water is not released to land or waters, other than to an appropriate containment facility except as provided for:
 - (i) under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*; and
 - (ii) Condition 15 (c).
- (b) Despite 15 (a) (i), the holder of the environmental authority must ensure that associated water to be used for domestic or stock purposes meets the accepted *ANZECC 2000 Water Quality Guidelines for Stock and Domestic Purposes*.
- (c) Despite 15 (a), the holder of the environmental authority may apply to the administrative authority to allow associated water that meets a nominated set of water quality standards to:
 - (i) be released to land or waters; or

- (ii) be used for a specific purpose, provided the potential user has given written advice about the proposed use and environmental safeguards that will be implemented to prevent material or serious environmental harm.

Condition 16 – Containment Facilities

- (a) The holder of the environmental authority must ensure all environmentally relevant containment facilities are:
 - (i) designed, constructed, operated, maintained and decommissioned in accordance with the criteria outlined in Appendix B; and
 - (ii) not located within 100 m of any natural drainage feature (i.e. watercourses, waterway, wetland or lark).
- (b) The holder of the environmental authority must ensure all drill sumps are installed and maintained to prevent any discharge through the bed or banks of the sumps from causing environmental harm or environmental nuisance in any waters.

Condition 17 – Containment Facilities and Other Excavations

For all environmentally relevant activities and other excavations which are constructed as part of the petroleum activities, the holder of the environmental authority must where relevant either:

- (a) provide safe access for livestock where contained water quality is adequate for live stock; or
- (b) construct and maintain bunds and/or fences sufficient to exclude livestock.

Condition 18 – Rehabilitation

As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:

- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
- (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
- (c) on all significantly disturbed land, take all reasonable and practicable measures to:
 - i. re-establish surface drainage lines;
 - ii. reinstate the top layer of the soil profile; and
 - iii. promote establishment of vegetation of the same species and density of cover to that of the surrounding undisturbed areas.

Condition 19 – Infrastructure

All Infrastructure, constructed by or for the holder of the environmental authority, including water storage structures, must be removed by the holder from the site and the sites rehabilitated according to condition 18, prior to surrender of the petroleum authority, except where it is to remain with the written agreement of the administering authority and post petroleum authority landowner / holder.

Condition 20 – Environmentally Sensitive Areas

The holder of this environmental authority must ensure that the petroleum activity(ies) is only conducted in accordance with Table 1 – Environmentally Sensitive Areas (ESAs) below for each of the ESA categories and associated primary and secondary protection zones

Table 1 – Environmentally Sensitive Areas (ESAs)

ESA Category	Within the ESA	Within primary protection zone of the ESA	Within secondary protection zone of the ESA
All Category A ESAs	No petroleum activities permitted	No petroleum activities permitted	Limited petroleum activities permitted

Comment [ks1]: QGC's preference for "buffer" and distances has been noted. DERM delegates have stipulated that the protection zone terms will continue to be used. The requirements have been tabulated for ease of reference

Comment [r2]: Acknowledged

For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition 20B, all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Condition 20H

Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, along with a record of the assessment required by condition 20D must be kept and submitted to the administering authority with each annual return.

Comment [r15]: Does DERM really want this to be submitted with annual returns? Suggest this is changed to "on request"?

Condition 20I – Disturbance to Land – Offsets

The environmental authority holder must enter in to an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmentally sensitive area.

Comment [ks16]: DERM believes offsets are relevant – new activities being permitted

Comment [ks17]: Defined in the Qld Gov Environmental Offsets policy (June 2008 rev)

Comment [r18]: It is suggested that this should apply only to ESA's

Deleted: environmental value

Condition 20J

The environmental offset agreement must be entered in to within six (6) months after submitting the record of disturbance required by condition 20H, unless otherwise agreed to by the administering authority.

Condition 20K

The environmental authority holder must implement any environmental offset agreement entered in to in accordance with conditions 20I and 20J as soon as practicable after finalisation.

Note: Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy" June 2008 and when the "Queensland Biodiversity Offset Policy" becomes available.

Condition 21- Exploration within Buffer of ERE

For exploration activities the environmental authority holder must comply with each of the standard environmental conditions contained in the Code of Environmental Compliance for Exploration and Mineral Development Projects, except Condition 13, which is replaced by 21 (a) to 21 (n) conditions.

- (a) The environmental authority holder is authorised to construct 1 borehole on ATP806 within the ERE buffer. The subsequent conditions, B2-1 to B4-2, authorises the environmental disturbance related to this borehole;
- (b) The operational area of the drill site within the 500m buffer must not exceed 1000m²;
- (c) The drill hole within the buffer of the ERE is limited to less than 200mm in diameter;
- (d) The construction of sumps within the ERE buffer must not exceed 10m²;
- (e) Topsoil stripping within the ERE buffer is limited to an area no greater than 25m x 25m;
- (f) The environmental holder must minimise disturbance within the ERE buffer and avoid clearing of trees;
- (g) Existing access and fence line tracks must be used wherever possible. Any new tracks are to be constructed by linking natural cleared or disturbed areas;
- (h) Track construction must avoid clearing of trees;
- (i) Where new tracks are required they will not be constructed greater than 5m in width;
- (j) Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised;

- (k) No clearing or disturbance for access to borehole will take place within the ERE;
- (l) Exploration within the ERE buffer must not involve costeaning or bulk sampling activities; and
- (m) Exploration camps must not be established within the ERE or ERE buffer

Condition 22 A– River Improvement Areas

All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Condition 22B – Wild river areas

In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Condition 23 – Heritage places and archaeological artefacts

The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 24 – Clearing vegetation

The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees to the greatest possible extent.

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

Comment [ks19]: Changed to address QGC's concerns

Comment [r20]: Acknowledged

Condition 24A

The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Deleted: pipelines and wells

Condition 24C

Appendix A - Definitions

APPEA Code means the current APPEA, Code of Environmental Practice.

AS 2885 Australian Standard Pipelines – Gas and Liquid Petroleum

Associated water is underground water taken from or interfered with from a petroleum well during the course of or resulting from carrying out petroleum activities. Associated water may be potable or suitable for stock purposes, or saline, high in fluoride, contain hydrocarbons, and/or is otherwise contaminated by a hazardous contaminant and become a hazardous waste.

Commercial place means a place used as an office or for business or commercial purposes.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to: the "completion" of the particular activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority. Under the APPEA Code "completion" refers to the point at which the particular survey, program or operation has been rehabilitated and abandoned.

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by:

- (a) noise, dust, odour, light; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

Evaporation pond means a dam or interceptor pond constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the pond.

Environmentally sensitive area (as determined from the EPA GIS data base) means a location, however large or small, that has environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

"ERE" means Endangered Regional Ecosystem.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of rehabilitating areas significantly disturbed by the petroleum activities.

Hazardous contaminant means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Land degradation includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

Licensed waste disposal facility is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the Environmental Protection Regulation 1998.

Limited petroleum activities mean only the following petroleum activities:

- o geophysical surveys (including seismic petroleum activities);
- o well sites;
- o well pads;
- o water pumps and generators associated with well operations;
- o sumps;
- o flare pits;
- o gathering / flow pipelines from a well head to the initial compression facility; and
- o supporting access tracks.

For clarity, limited petroleum activities exclude and are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o dams;
- o borrow pits;
- o ponds used to contain and/or store stimulation fluids;
- o compressor stations;
- o campsites / workforce accommodation;
- o power supplies;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence)
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc), which is to be left by agreement with the landowner.

Pest means species:

declared under the Land Protection (Pest and Stock route Management) Act 2002;
declared under Local Government model local laws; and
which may become invasive in the future.

Petroleum activity is defined in the EP Act as an activity:

- a) authorised on a petroleum tenure granted under the Petroleum Act 1923; or
- b) authorised on a petroleum authority granted under the P&G Act; or
- c) exploring for or mining minerals under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the Petroleum (Submerged Lands) Act 1982; or
- d) rehabilitating or remediating environmental harm because of an activity mentioned in paragraphs (a) to (c); or
- e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d); or
- f) required under a condition of an environmental authority (petroleum activities); or
- g) required under a condition of an environmental authority (petroleum activities) that has ended or ceased to have effect, if the condition:
 - i. continues to apply after the authority has ended or ceased to have effect; and
 - ii. has not been complied with.

Petroleum Authority includes Authority to Prospect, Petroleum Lease, Data Acquisition Authority Water Monitoring Authority, Petroleum Facility Licence, Survey Licence and Pipeline Licence issued or granted under the Petroleum Act 1923 or Petroleum and Gas (Production and Safety) Act 2004.

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond,

APPENDIX B Environmentally Sensitive Areas

Category A and B environmentally sensitive areas

Category A and B environmentally sensitive areas are listed in Section 25 and 26 respectively of the *Environmental Protection Regulation 2008*.

Category C environmentally sensitive areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Koala Habitat Area	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	Department of Environment and Resource Management
An area identified as essential habitat by the EPA for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the Nature Conservation Act 1992	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Declared Catchment Areas	<i>Water Act 2000</i>	Department of Environment and Resource Management and/or Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Environment and Resource Management and the Relevant River Trust
Former Designated Landscape Area - Stanbroke Pastoral Holding	<i>Aboriginal Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
Areas under Part 5 Division 2 of the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
State Forest or Timber Reserves	<i>Forestry Act 1959</i>	Department of Environment and Resource Management
DPI Research Sites	<i>Nil</i>	Department of Employment, Economic Development and Innovation
Areas of land occupied by the Bureau of Sugar Experiment Stations.	<i>Sugar Industry Act 1999</i>	Department of Employment, Economic Development and Innovation
Coastal Management Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Resource Management
Declared Areas	<i>Vegetation Management Act 1999</i>	Department of Environment

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
		and Resource Management
An area shown as a wetland on a 'map of referable wetlands'	<i>Environmental Protection Act 1994</i>	Department of Environment and Resource Management
Reserves under the Land Act 1994	<i>Land Act 1994</i>	Department of Environment and Resource Management
An 'of concern' regional ecosystem identified in the database maintained by the EPA called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.	<i>Nil</i>	Department of Environment and Resource Management

Important Note: Regional ecosystem classification is determined according to the Queensland Herbarium Biodiversity Status Classification. Information on ERE's is maintained by the DERM on the Regional Ecosystem Description Database.

Concentration of liquor and total solids	Location and size	Hazard Category
Contents of the containment facility do not exceed limits in Table 1	Containment facility location and size do not trigger criterion 1 listed in table 2	The structure is a low hazard containment facility
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are below the criteria listed in table 2	The structure is a medium hazard containment facility.
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are above the criteria listed in table 2	The structure is a high hazard containment facility.

Design, construction, operation, maintenance and decommissioning criteria

Containment facilities are engineering structures and must be designed by professional engineer(s) who would normally apply the criteria defined below. A professional engineer should also be consulted in the development of the decommissioning plan.

Criteria for Low Hazard Containment Facilities

Low hazard containment facilities should be designed, constructed, operated and decommissioned in accordance with the "Queensland Small Embankment Dam Guideline".

Criteria for Medium Hazard Containment Facilities

In order to comply with the conditions of this environmental authority, design, construction, operation, maintenance and decommissioning of medium hazard containment facilities, must be in accordance with the following.

Design:

- Containment facilities with a capacity up to 3 mega litres are best constructed as *Turkey's Nest* structures;
- Containment facilities should be located to have the smallest practical catchment area;
- Containment facilities must have a spillway capable of passing a design flood, defined as the peak discharge from a critical duration storm with an annual exceedence probability of 1% (i.e. 1 in 100 yr event) or lower;
- The spillway should be located where practicable in the abutment of the containment facility or in the minimum height section of the containment facility;
- Any spillway discharge should be contained within stable defined channels until it enters any natural watercourse or waterway;
- For embankments built on stable foundations, not subject to draw down and out of uniform soil material, the batters shall be no steeper than those shown in the table below, unless otherwise shown to be stable:

Embankment Soil Classification (Universal soil classification)	Upstream Batter	Downstream Batter
GC, SC	2.5:1	2.0:1
CL, ML	3.5:1	2.5:1
CH, MH	3.5:1	2.5:1

GW, GP, GM, SW, SP, SM	Not suitable	Not suitable
------------------------	--------------	--------------

Note: The codes for the Universal Soil Classification (e.g. GC) are detailed in the Australian Standard AS 1726 1993 Geotechnical Site Investigation, Appendix A.

- Where foundation material differs from the embankment fill material, the batters shall be chosen conservatively to be consistent with the weaker material classification.

Construction:

- Embankments must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures, flow velocities, material strength, stability and durability.
- Fine grained soils used in embankment construction should be mechanically compacted when they are near or at the optimum moisture content (i.e. slightly plastic) to improve soil strength, minimise seepage and reduce the risk of piping failure
- Where geo-membranes are used, ensure that they are placed, anchored and joined in accordance with the manufacturer's specification.
- Where geo-membranes are used ensure that they are suitable to prevent leakage of the hazardous contaminants, which are contained within the containment facility.
- Where geo-membranes are used for liners, filters or drains, ensure that the geo-membrane is in contact only with fine-grained soils to prevent punching or tearing of the membrane.
- Embankments built out of pervious material must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures and flow velocities.
- Where foundation material differs from embankment fill material, the embankment should be constructed out of the material, which gives the flatter batter.
- Prior to construction of an embankment, the foundation should be cleared of all:
 - vegetation (grass, shrubs and trees);
 - soils containing organic matter (roots);
 - cracked soils (stiff plastic soils);
 - pervious soils (sand, gravel)
 - pervious material in rock faults, joints or the rock foundation itself.
- Prior to construction of an embankment, all transverse trenches, holes and other irregularities should be plugged or backfilled to create a generally undulating foundation for placement of the embankment.
- Fine-grained soils used in embankment construction should have a consistent texture and be free from foreign matter such as branches, logs, gravels or boulders etc.
- Fine-grained soils including dispersible soils should be placed in the centre of or towards the upstream faces of embankment containment facilities.
- Coarser grained soils and rock materials are to be placed towards and on the outer faces of embankment containment facility to minimise erosion and breaching potential.
- Dispersible and easily erodible soils should not be used on the outer faces of embankment containment facility.
- Provide adequate measures to control seepage through the containment facility wall and the transmission of contaminants through underlying soil layers or rock stratum.
- Embankment containment facility should be constructed with stable earth materials that will not decay or generate leachate or hazardous contaminants.

Operation:

- The containment facility should be operated to maintain a minimum freeboard of 0.5m below the spillway level.
- To ensure that there is no leakage of hazardous wastes from any containment facility associated with the petroleum activity a field based groundwater monitoring program must be established to

ensure there is no contamination of any unsaturated perched systems or existing groundwater aquifers in the vicinity of the works. Three or more monitoring bores specifically designed for this purpose should be located in a cluster between the contaminant source and any environmentally sensitive place. The monitoring program should regularly record:

- i. water levels;
 - ii. water quality;
 - iii. flow rates; and
 - iv. direction of flow.
- (c) As far as practicable minimise seepage and return any contaminated seepage to the containment facility.

Maintenance:

- (a) Maintain the erosion resistance of the downstream face of the containment facility to avoid surface scour, which may lead to failure of the wall;
- (b) Maintain the erosion resistance of the spillway to avoid scouring during the design flood;
- (c) Prevent the establishment of trees or shrubs on water containing embankments (roots initiate seepage paths);
- (d) Control of burrowing insects and animals (initiation of piping paths);
- (e) Repair active erosion and piping processes; and
- (f) During initial filling or commissioning, the containment facility should be monitored for leaks, seepages, embankment deformation or other signs of embankment distress.

Decommissioning:

- (a) Removing (where possible) all remaining liquids in the containment facility (e.g. it is generally acceptable to evaporate the liquid if the containment facility is not to be left to the land owner / holder).
- (b) Remove (where possible) all contaminated solids from the containment facility and encapsulate in a purpose built storage facility, or encapsulate any residual contaminated solids in situ by capping with an appropriate capillary break and with one metre of clay or similar impermeable material;
- (c) Design, install and maintain adequate diversion drains or similar structures to protect or minimise the erosion of any exposed surfaces by stormwater runoff;
- (d) Design, install and maintain adequate surface drainage to prevent water ponding and infiltration into any contaminated materials;
- (e) Address contaminated site issues by referring to Notes 11.2 and 11.3 of this environmental authority;
- (f) Establish a monitoring program to determine the success of the decommissioning plan;
- (g) If required, remove the wall of the containment facility; and
- (h) Rehabilitate the disturbed areas in accordance with the rehabilitation conditions of this environmental authority.

APPENDIX D Schedule of Rehabilitation Costs

OIL ACTIVITIES	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$10,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$500 per line, plus \$200 per km
Borrow pit	\$1,000 each
Evaporation pond	Site-specific estimation
Storage tank	\$5,000 per tank
Contaminated land survey	\$20,000 per facility
Sampling	\$5,000 per facility
Bioremediation land farm	\$5,000 per facility
Infrastructure	Site specific estimation
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$5,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$200 per km
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Coal Seam Gas wells <350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$1,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Flow lines - buried	\$500 per line
Flow lines - surface	\$200 per line
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

Note: Rehabilitation cost estimates must be based on third party costs for rehabilitation of land that has been "significantly disturbed" and may be reviewed annually by the administering authority.

Release

Smith Kim

From: Smith Kim
Sent: Thursday, 12 May 2011 5:18 PM
To: s.73 irrelevant information
Cc: Broadfoot Angus; Nand Parma
Subject: s.73 irrelevant information
Importance: High
Follow Up Flag: Follow up
Flag Status: Red
Attachments: s.73 irrelevant information ADDENDUM_Conditions relevant to stimulation.doc

*1 spoke to
 on 12 May 2011
 agreed to comment
 on ATP 806 draft
 conditions for ATP 806.
 Kim Smith
 12/5/11.*

Section 78B(2) RPL Please find Rev 3 of draft EA conditions for relevant information. As the remaining 4 EA amendment applications are now at a stage where all changes will be identical, is QGC happy to comment on this draft EA and I will apply those negotiations to the other 4 EAs. Alternatively, I can edit the other documents and provide a draft for each of them for QGC to comment on.

I have also attached an addendum which includes conditions relevant to stimulation as per conversations with Parma Nand and in accordance with section 312E (2K) and (2L).

Thanks and have a good night,
 Kim

Kimberley Smith
 Senior Environmental Officer
 Petroleum and Gas Unit
 Environment and Natural Resource Regulation
 Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management
 GPO Box 2454, Brisbane, QLD 4001.

From: s.73 irrelevant information
Sent: Tuesday, 10 May 2011 4:32 PM
To: Smith Kim
Cc: s.73 irrelevant information
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions

Hi Kim,

Following on from the below email please find attached the draft conditions with comments from QGC for ATP 806, s.73 irrelevant information

As indicated below; could you please provide QGC with the amended/ reviewed draft conditions for review prior to any finalisation of the EA's?

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: s.73 irrelevant information
Sent: Tuesday, 10 May 2011 3:34 PM
To: Smith Kim
Cc: s.73 irrelevant information
Subject: RE: Seismic Amendment - DERM Rev 2 Draft Conditions

Hi Kim,

Please find attached the draft conditions for ATP s.73 irrelevant information with QGC's proposed amendments/ changes included in the document. Where applicable QGC has acknowledged that some changes requested will not be included by DERM, and this is noted in the document.

There are some further changes that have been proposed and QGC is eager to work with DERM to come to acceptable solutions to these requests.

I am working on putting these comments into the additional draft EA's for ATP s.73 irrelevant information and will forward these through to you in separate emails.

Can you please review the proposed changes to the conditions, and notify QGC of DERM's proposed action in regards to the amended conditions?

Could you please provide QGC with the amended/ reviewed draft conditions for review prior to any finalisation of the EA?

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]
Sent: Wednesday, 4 May 2011 4:16 PM
To: [REDACTED]
CC: [REDACTED] Broadfoot Angus; Drew David
Subject: Seismic Amendment - DERM Rev 2 Draft Conditions
Importance: High

s.73 irrelevant information

I have been working on the draft conditions for the Level 2 amendments [REDACTED] ATP806 &

s.73 irrelevant information

s.73 irrelevant information

The conditions still being negotiated/not agreed on have remained highlighted for ease of reference. Conditions which have been agreed upon aren't highlighted in this revision.

The remaining contentious points which the delegate has not agreed to are:

- wells within the Cat Bs or protection zones, or overlapping ESAs/protection zones;
- removal of terms "primary and secondary protection zones". (Sorry, but I've talked to our model conditions people and it looks like these terms are here to stay. I have put the ESA requirements into a table though.)
- Offsets are required of level 2's now.

I will send the others through as soon as I have made the changes.

s.73 irrelevant information

Can you please give me an indication of how long QGC will need to review and comment on the changes?

Thanks

Kim

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management

Release

GPO Box 2454, Brisbane, QLD 4001.

+-----+
Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water
+-----+

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this

email or attachment is personal or unconnected with our business, BG

Energy Holdings Limited accepts no liability or responsibility for it.

Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

DRAFT CONDITIONS ADDENDUM:
 ATPs irrelevant information are irrelevant in Stimulation Conditions

Condition— Well Stimulation

Stimulation activities must not be conducted on ATPXXX

Or

Well Drilling, Completion and Stimulation

- (B17) Restricted stimulation fluids must not be used in stimulation.
- (B18) Polycyclic aromatic hydrocarbons must not be used in detectable concentrations in stimulation.
- (B19) Oil based drilling muds must not be used in the carrying out of the petroleum activity(ies).
- (B20) Synthetic based drilling muds must not be used in the carrying out of the petroleum activity(ies).
- (B21) Accurate and current material safety data sheets for all fluids used in stimulation activities must be published on the environmental authority holder's website.
- (B22) Prior to undertaking well stimulation activities, the holder of this environmental authority must develop a risk assessment to ensure that stimulation activities are managed to prevent environmental harm.
- (B23) The stimulation risk assessment must include, but not necessarily be limited to:
 - (a) a process description of the stimulation activity to be applied, including equipment and a comparison to best international practice;
 - (b) provide details of where, when and how often stimulation is to be undertaken on the tenures covered by this environmental authority;
 - (c) a geological model of the field to be stimulated including geological names, descriptions and depths of the target gas producing formation(s);
 - (d) naturally occurring geological faults;
 - (e) seismic history of the region (e.g. earth tremors, earthquakes);
 - (f) proximity of overlying and underlying aquifers;
 - (g) description of the depths that aquifers with environmental values occur, both above and below the target gas producing formation.
 - (h) the environmental values of groundwater in the area;
 - (i) description of overlying and underlying formations in respect of porosity, permeability, hydraulic conductivity, faulting and fracture propensity;
 - (j) consideration of barriers or known direct connections between the target gas producing formation and the overlying and underlying aquifers;
 - (k) a description of the well mechanical integrity testing program;

- (l) process control and assessment techniques to be applied for determining extent of stimulation activities (e.g. microseismic measurements, modelling etc);
 - (m) practices and procedures to ensure that the stimulation activities are designed to be contained within the target gas producing formation;
 - (n) locations of landholders' active groundwater bores;
 - (o) groundwater transmissivity, flow rate, hydraulic conductivity and direction(s) of flow;
 - (p) a description of the chemicals used in stimulation activities (including estimated total mass, estimated composition, chemical abstract service numbers and properties), their mixtures and the resultant compounds that are formed after stimulation;
 - (q) a mass balance estimating the concentrations and absolute masses of chemicals that will be reacted, returned to the surface or left in the target gas producing formation subsequent to stimulation;
 - (r) an environmental hazard assessment of the chemicals used including their mixtures and the resultant chemicals that are formed after stimulation including:
 - (i). toxicological and ecotoxicological information of chemicals used;
 - (ii). Information on the persistence and bioaccumulation potential of the chemicals used;
 - (iii). identification of the stimulation fluid chemicals of potential concern derived from the risk assessment;
 - (s) an environmental hazard assessment of use, formation of, and detection of polycyclic aromatic hydrocarbons in stimulation activities;
 - (t) an environmental hazard assessment of leaving stimulation chemicals in the target gas producing formation for extended periods subsequent to stimulation;
 - (u) human health exposure pathways to operators and the regional population;
 - (v) risk characterisation of environmental impacts based on the environmental hazard assessment; and
 - (w) potential environmental or health impacts which may result from stimulation activities including but not limited to water quality, air quality (including suppression of dust and other airborne contaminants), noise and vibration.
- (B24) The stimulation risk assessment must be carried out for every well to be stimulated prior to stimulation activities being carried out at that well.
 - (B25) Stimulation activities must not result in a change in water quality other than that within the **stimulation impact zone** of the target gas producing formation.
 - (B26) Stimulation activities must not cause the connection of the target gas producing formation and another aquifer.
 - (B27) The holder of this authority must ensure the internal and external mechanical integrity of the well system prior to well stimulation such that there is:
 - (a) no significant leakage in the casing, tubing, or packer; and
 - (b) there is no significant fluid movement into another aquifer through vertical channels adjacent to the well bore hole.
 - (B28) Practices and procedures must be in place to detect, as soon as practicable, any fractures that cause the connection of a target gas producing formation and another aquifer.

Note: Detection measures will need to be determined through the risk assessment and could include microseismic monitoring, tracer analysis and water quality signature analysis. Such measures will be required to be outlined in the Environmental Management Plan accompanying the application.

- (B29) Rectification measures must be taken immediately if the holder of this environmental authority either becomes aware that stimulation activities have resulted in a change in

water quality other than that within the stimulation impact zone of the target gas producing formation or that stimulation activities have caused the connection of the target gas producing formation and another aquifer.

Noise

- (E2) A Noise Management Plan which has been certified by a suitably qualified person must be developed prior to the commencement of the petroleum activity(ies) authorised under this environmental authority.
- (E3) The Noise Management Plan must have due regard to the Department of Environment and Resource Management's procedural guide "Coal Seam Gas Industry – Control of Noise from Gasfield Petroleum Activities" 2011, as amended from time to time.
- (E4) The Noise Management Plan must include, but not necessarily be limited to:
- a commitment by the Chief Executive Officer for the holder of this environmental authority, or their delegate, to ensure adequate allocation of staff and resources to the establishment and operation of the Noise Management Plan;
 - definition of roles, responsibilities and authorities within the staffing of the Noise Management Plan;
 - delivery of training to staff and contractors and maintenance of competencies;
 - risk / constraint analysis methods to be undertaken prior to any new operation (e.g. drill site) or installation of new equipment that has the potential to create noise nuisance;
 - procedures and methods to undertake assessments to determine compliance with the noise limits in Schedule E, Table 1 – Noise limits at Sensitive Receptors in the event of a valid complaint being received and when there are no alternative arrangements in place, taking in to account any tonal or impulsive noise impacts;
 - procedures for handling noise complaints;
 - community liaison and consultation procedures including but not limited to consultation for when night time petroleum activities (i.e. between 10:00 pm and 6:00 am) are likely to exceed 25 dBA;
 - procedures for managing records associated with all aspects of the Noise Management Plan including standardised forms for recording monitoring results and complaints;
 - details of petroleum activities and measured and / or predicted noise levels of noise sources associated with those activities;
 - reasonable and practicable control or abatement measures (including relocating the activity, altering the hours of operation, or having an alternate arrangement in place with any potentially affected person) that can be undertaken to ensure compliance with the noise limits in Schedule E, Table 1 – Noise limits at Sensitive Receptors;
 - the level of noise at sensitive receptors that would be achieved from implementing the measures detailed under condition (E4)(j); and
 - mediation processes to be used in the event that noise complaints are not able to be resolved.
- (E5) The holder of this environmental authority must implement the Noise Management Plan.
- (E6) Prior to undertaking petroleum activities that will result in short-term, medium-term or long term noise events that are likely to impact on a sensitive receptor, the holder of this environmental authority must model or calculate any potential noise emissions from the relevant petroleum activity(ies) to ensure that noise emissions will not exceed the noise levels specified in Schedule E, Table 1 – Noise limits at Sensitive Receptors.

- (E7) The emission of noise from the petroleum activity(ies) authorised under this environmental authority must not result in levels greater than those specified in Schedule E, Table 1 – Noise limits at Sensitive Receptors in the event of a valid complaint about noise being made to the administering authority.

Schedule E, Table 1 – Noise Limits at Sensitive Receptors

Time Period	Metric	Short Term Noise Event	Medium Term Noise Event	Long Term Noise Event
7:00 am – 6:00 pm	$L_{Aeq,adj,15\ min}$	45 dBA	43 dBA	40 dBA
6:00 pm – 10:00 pm	$L_{Aeq,adj,15\ min}$	40 dBA	38 dBA	35 dBA
10:00 pm – 6:00 am	$L_{Aeq,adj,15\ min}$	28 dBA	28 dBA	28 dBA
	Max $L_{pA, 15\ mins}$	55 dBA	55 dBA	55 dBA
6:00 am – 7:00 am	$L_{Aeq,adj,15\ min}$	40 dBA	38 dBA	35 dBA

Notes:

- L_{Aeq} and Max L_{pA} are to be measured over any 15 minute period
 - The noise limits in Table 1 have been set based on the following deemed background noise levels * L_{ABG} :

7:00 am – 6:00 pm:	35 dBA
6:00 pm – 10:00 pm:	30 dBA
10:00 pm – 6:00 am:	25 dBA
6:00 am – 7:00 am:	30 dBA
 - Reference should also be made to the Coal Seam Gas Procedural Guide – Control of Noise from Gasfield Activities for the determination of the noise limits.
- (E8) If the noise subject to a complaint is tonal or impulsive, the adjustments detailed in Schedule E, Table 2 – Adjustments to be Added to Noise Levels at Sensitive Receptors are to be added to the measured noise level(s) to derive $L_{Aeq, adj, 15\ min}$.

Schedule E, Table 2 – Adjustments to be Added to Noise Levels at Sensitive Receptors

Noise Characteristic	Adjustment to Noise
Tonal characteristic is just audible	+ 2 dBA
Tonal characteristic is clearly audible	+ 5 dBA
Impulsive characteristic is just audible	+ 2 dBA
Impulsive characteristic is clearly audibly	+ 5 dBA

- (E9) Where alternative arrangements are in place with an affected person(s) at a sensitive receptor as referred to by condition (E4)(j), the noise limits in Schedule E, Table 1 – Noise limits at Sensitive Receptors do not apply at that sensitive receptor for the duration for which the alternative arrangements are in place.

Low Frequency Noise

- (E10) Notwithstanding condition (E7), emission of any noise below 315 Hz must not cause an environmental nuisance.

- (E11) Low frequency noise from the petroleum activity(ies) is not considered to be an environmental nuisance under condition (E10) if monitoring shows that noise emissions do not exceed the following limits:
- (a) 50 dB(Z) measured inside the sensitive receptor; and
 - (b) the difference between the internal A-weighted and Z-weighted noise levels is no greater than 15 dB.

SCHEDULE I – MONITORING PROGRAMS

General

- (I1) The holder of this environmental authority must develop and implement a monitoring program for all monitoring required by the conditions of this environmental authority.
- (I2) All monitoring under this environmental authority must be conducted by a **suitably qualified person**.
- (I3) All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this environmental authority must be calibrated, and operated and maintained effectively in accordance with the manufacturer's specifications.
- (I4) All laboratory analyses and tests required to be conducted under this environmental authority must be carried out by a laboratory that has **NATA accreditation** for such analyses and tests, except as otherwise authorised by the administering authority.
- (I5) The method of water sampling required by this environmental authority must comply with that set out in the most recent version of the Department of Environment and Resource Management's "Monitoring and Sampling Manual 2009 – Environmental Protection (Water) Policy 2009 Version 2 September 2010" as amended from time to time.

Note: Condition (I5) requires the "Monitoring and Sampling Manual 2009 – Environmental Protection (Water) Policy 2009 Version 2 September 2010" to be followed. Where it is not followed because of exceptional circumstances this should be explained and reported with the results.

- (I6) Any management or monitoring plans, systems, programs or procedures required to be developed and implemented by a condition of this environmental authority must be reviewed for performance and amended as required but not less than once every three (3) years in accordance with the requirements for the particular plans, systems, programs and procedures in the conditions of this environmental authority.
- (I7) If monitoring conducted in accordance with this environmental authority indicates a condition or contaminant level has caused, or has potential to cause, environmental harm, the holder of this environmental authority must, as soon as is practicable, take the necessary actions to rectify the condition or contaminant level so as to avoid or minimise environmental harm.
- (I8) An annual monitoring report must be prepared each year and submitted to the administering authority upon request. This report must include but not necessarily be limited to:
 - (a) a summary of the previous 12 months monitoring results obtained under all monitoring programs required under this environmental authority and a comparison of the previous 12 months monitoring results to both the limits set in this environmental authority and to relevant prior results;

- (b) the date on which the samples was taken;
- (c) the time at which the samples was taken;
- (d) the monitoring point at which the sample was taken;
- (e) the results of all monitoring and details of any exceedences with the conditions of this environmental authority and the dates and times these exceedences were reported to the administering authority;
- (f) an evaluation / explanation of the data derived from any monitoring programs;
- (g) data analyses and interpretation to assess the nature and extent of any contamination and the level of environmental harm caused as a result of the contamination and the environmentally relevant activity(ies); and
- (h) an outline of actions taken or proposed to minimise the risk of environmental harm from any condition or elevated contaminant level identified by the monitoring or recording programs.

- (I9) The evaluation and explanation of data for the purposes of the annual monitoring report must be performed by a suitably qualified person.

Stimulation Monitoring

- (I10) Prior to undertaking any **stimulation** activity, the holder of this environmental authority must undertake a baseline **bore** assessment of the quality of:
 - (a) all **active** landholders' groundwater bores (subject to access being permitted by the landholder) that are located within a one (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (b) any other bore that could potentially be adversely impacted by the stimulation activity(ies) in accordance with the findings of the risk assessment required by conditions (B22) and (B23).
- (I11) Prior to undertaking any stimulation activity(ies), the holder of this environmental authority must undertake a baseline well assessment of the quality of water in each well to be stimulated.
- (I12) The baseline bore and well assessments must include relevant **analytes** and physico-chemical parameters to be monitored in order to establish baseline water quality and must include, but not necessarily be limited to:
 - (a) pH;
 - (b) electrical conductivity [$\mu\text{S}/\text{m}$];
 - (c) turbidity [NTU];
 - (d) total dissolved solids [mg/L];
 - (e) temperature [$^{\circ}\text{C}$];
 - (f) dissolved oxygen [mg/L];
 - (g) dissolved gases (methane, chlorine, carbon dioxide, hydrogen sulfide) [mg/L];
 - (h) alkalinity (bicarbonate, carbonate, hydroxide and total as CaCO_3) [mg/L];
 - (i) residual alkali [mg/L];
 - (j) sodium adsorption ratio (SAR);
 - (k) anions (bicarbonate, carbonate, hydroxide, chloride, sulphate) [mg/L];
 - (l) cations (aluminium, calcium, magnesium, potassium, sodium) [mg/L];
 - (m) dissolved and total metals (including but not necessarily being limited to: aluminium, arsenic, barium, borate, cadmium, chromium III, copper, iron, fluoride, lead, manganese, mercury, nickel, selenium, silver, strontium, tin and zinc) [$\mu\text{g}/\text{L}$];
 - (n) total petroleum hydrocarbons [$\mu\text{g}/\text{L}$];
 - (o) **BTEX** (as benzene, toluene, ethylbenzene, ortho-xylene, para-xylene, meta-xylene and total xylene) [$\mu\text{g}/\text{L}$];
 - (p) polycyclic aromatic hydrocarbons (including but not necessarily being limited to: naphthalene, phenanthrene, benzo[a]pyrene) [$\mu\text{g}/\text{L}$];
 - (q) sodium hypochlorite [mg/L];

- (r) sodium hydroxide [mg/L];
 - (s) formaldehyde [mg/L];
 - (t) ethanol [mg/L]; and
 - (u) gross alpha radiation [mBq/L].
- (I13) A Stimulation Impact Monitoring Program which has been certified by a **suitably qualified person** must be developed prior to the carrying out of stimulation activities.
- (I14) The Stimulation Impact Monitoring Program must be able to detect adverse impacts to water quality from stimulation activities and must include, but not necessarily be limited to:
- (a) consideration of the findings of the risk assessment required by conditions (B22) and (B23) that relate to stimulation activities; and
 - (b) provision of monitoring for relevant analytes and physico-chemical parameters that will enable detection of adverse impacts from the stimulation activity(ies) including chemical compounds that are actually or potentially formed by chemical reactions with each other or coal seam materials during the stimulation activity(ies); and
 - (c) provision of monitoring for analytes and physico-chemical parameters relevant to baseline bore and well assessments to enable data referencing and comparison which is to include, but not necessarily be limited to the analytes and physico-chemical parameters in condition (I12)
- (I15) The Stimulation Impact Monitoring Program must provide for the analysis of the quality and quantity of stimulation fluids to be used for the stimulation event at least once prior to undertaking the stimulation activity. Quality monitoring must include, but not be necessarily limited to, the analytes and physico-chemical parameters in condition (I12).
- (I16) The Stimulation Impact Monitoring Program must provide for monitoring of the quantity and quality of **coal seam gas water** produced from every stimulated well after stimulation but prior to its containment at a minimum frequency of:
- (a) daily until a volume of coal seam gas water equivalent to 150% of the stimulation fluid volume used in the stimulation activity has been pumped out of the stimulated well;
 - (b) weekly for the first four weeks; and
 - (c) monthly thereafter for six (6) months or until analytes and physico-chemical parameters listed in condition (I12)(b), (I12)(n) – (I12)(u) are not detected in concentrations above baseline well monitoring data on two (2) consecutive monitoring occasions.
- (I17) The Stimulation Impact Monitoring Program must provide for impact monitoring of the quality of water in:
- (a) all **active** landholders' groundwater bores (subject to access being permitted by the landholder) that are located within a two (2) kilometre horizontal radius from the location of the stimulation initiation point; and
 - (b) all active landholders' groundwater bores within 200 metres vertically of the stimulation initiation point; and
 - (c) all bores that are supplied water from the same aquifer as that for coal seam gas production;
 - (d) any other bore that could potentially be adversely impacted by the stimulation activity(ies) in accordance with the findings risk assessment required by conditions (B22) and (B23).
- (I18) The monitoring of bores required by condition (I17) must be carried out at least

- (a) monthly for the first six (6) months subsequent to the stimulation activity(ies) being undertaken; then
- (b) annually for the first five (5) years subsequent to the stimulation activity(ies) being undertaken or until analytes and physico-chemical parameters listed in condition (I12)(b), (I12)(n) – (I12)(u) are not detected in concentrations above baseline bore monitoring data on two (2) consecutive monitoring occasions.

Note: Monthly monitoring required by condition (I18)(a) may need to be extended beyond six (6) months depending on the outcomes of the risk assessment and the transmissivity of groundwater in the area.

- (I19) The holder of this environmental authority must implement the Stimulation Impact Monitoring Program.
- (I20) The results of the Stimulation Impact Monitoring Program must be made available to any potentially affected landholder upon request by that landholder.

Noise Monitoring

- (I31) The holder of this environmental authority must undertake noise monitoring as soon as practicable when requested by the administering authority.
- (I32) The holder of this environmental authority must report the results of noise monitoring to the administering authority within three (3) **business days** of completion of the monitoring event.
- (I33) Noise monitoring and recording must include, but not necessarily be limited to:
 - (a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T=15 mins);
 - (b) $L_{Aeq,adj}$, 15 mins;
 - (c) **background noise level** as $L_{A,90}$, 15 mins;
 - (d) **Max L_{pA}** , 15 mins;
 - (e) the level and frequency of occurrence of **impulsive** or tonal noise and any adjustment and penalties to measured noise levels levels;
 - (f) atmospheric conditions including temperature, relative humidity and wind speed and directions;
 - (g) effects due to any extraneous factors such as traffic noise;
 - (h) location, date and time of monitoring;
 - (i) if the complaint concerns low frequency noise, **Max L_{pZ}** , 15 mins; and
 - (h) if the complaint concerns low frequency noise, one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range for both the noise source and the background noise in the absence of the noise source.
- (I34) The method of measurement and reporting of noise levels and background sound pressure levels must comply with the Department of Environment and Resource Management's "Noise Measurement Manual" 2000 or **Australian Standard**

Stimulation Notification

- (K1) The holder of this environmental authority must telephone the Department of Environment and Resource Management's Pollution Hotline (telephone: 1300 130 372) and any affected landholder, occupier or their nominated representative as soon as reasonably practicable, but within 24 hours after becoming aware of:
 - (a) any detection of **restricted stimulation fluids** from stimulation fluid monitoring; or
 - (b) any result from baseline **bore**, well or stimulation water impact monitoring that is reportable under the Department of Environment and Resource

Management's "Stimulation Water Impact Monitoring Notification Protocol" 2011, [under development] as amended from time to time.

- (K2) Notwithstanding condition (K1), the holder of this environmental authority must telephone the Department of Environment and Resource Management's Pollution Hotline (telephone: 1300 130 372) as soon as reasonably practicable, but within 24 hours after becoming aware of:
- (a) a potential or actual loss of structural or hydraulic integrity of a dam containing stimulation fluid;
 - (b) any incident where there is a potential or actual loss of well integrity (e.g. when the annulus pressure during stimulation increases by more than 3.5 MPa from the pressure immediately preceding stimulation).
- (K4) The notification of emergencies or incidents as required by conditions (K1) and (K2) must include but not be limited to the following information:
- (a) the environmental authority number and name of the holder;
 - (b) the tenure type and number where the emergency or incident occurred;
 - (c) the name and telephone number of the designated contact person;
 - (d) the location of the emergency or incident (GDA94);
 - (e) the date and time that the emergency or incident occurred;
 - (f) the date and time the holder of this environmental authority became aware of the emergency or incident;
 - (g) details of the nature of the event and the circumstances in which it occurred;
 - (h) the estimated quantity and type of any contaminants involved in the incident;
 - (i) the actual or potential suspected cause of the emergency or incident;
 - (j) a description of the land use at the site of the emergency or incident (e.g. grazing, pasture, forest etc) and / or the name of any relevant waters and other environmentally sensitive features;
 - (k) a description of the possible impacts from the emergency or incident;
 - (l) a description of whether stock and / or wildlife were actually or potentially exposed to any contaminants released and measures taken to prevent access for the duration of the emergency or incident;
 - (m) any sampling conducted or proposed, relevant to the emergency or incident;
 - (n) landholder details and details of landholder consultation;
 - (o) immediate actions taken to control the impacts of the emergency or incident and how environmental harm was mitigated at the time of the emergency or incident; and
 - (p) whether further examination / root cause analysis is required and if so, the expected date by when this examination will be completed and reported to the administering authority.
- (K5) Within 10 business days following the initial notification unless a longer time is agreed to by the administering authority, a written report must be provided to the administering authority, including the following (where relevant to the emergency or incident):
- (a) the information required by condition (K4)(a) – (K4)(p);
 - (b) the root cause of the emergency or incident;
 - (c) the confirmed quantities and types of any contaminants involved in the incident;
 - (d) results and interpretation of any analysis of samples taken at the time of the emergency or incident (including the analysis results of any impact monitoring);
 - (e) a final assessment of the impacts from the emergency or incident including any actual or potential environmental harm that has occurred or may occur in the longer term as a result of the release;
 - (f) the success or otherwise of actions taken at the time of the incident to prevent or minimise environmental harm;
 - (g) results and current status of landholder consultation, including commitment to resolve any outstanding issues / concerns; and

- (h) actions and / or procedural changes to prevent a recurrence of the emergency or incident.

- (K6) As soon as reasonably practicable, but not more than 48 hours, after becoming aware of one of the circumstances described in conditions (B25) or (B26) that relate to **stimulation** activities, the holder of this environmental authority must give the administering authority written notice of the event, its nature and the circumstances in which it happened to each owner and occupier of land that is, has been, or is reasonably likely to be, affected by the event.
- (K7) As soon as reasonably practicable after becoming aware of one of the circumstances described in conditions (B25) or (B26) that relate to **stimulation** activities, the holder of this environmental authority must give the administering authority written notice of:
- (a) the rectification measures implemented under condition (B29);
 - (b) the results of any monitoring carried out on those rectification measures; and
 - (c) the success of the rectification measures implemented.
- (K8) Within 10 business days following the initial notification of an emergency or incident or receipt of monitoring results indicating any significant changes in groundwater quality caused by the petroleum activity(ies) other than that relating to the circumstances described in condition (B25), then the analysis results indicating these changes, including any proposed actions to mitigate the changes in groundwater quality information must be submitted to the administering authority.
- (K9) If groundwater contamination caused by the petroleum activity(ies) is encountered, the following must be reported to satisfy requirements under condition (K8):
- (a) the level of environmental harm caused as a result of such contamination to soils and groundwater;
 - (b) the conduct of a geodetic survey of all monitoring bores to determine the relative water surface elevations of each bore and reported in metres relative to the AHD; and
 - (c) the determination of groundwater flow direction, groundwater flow rate and hydraulic conductivity.

DEFINITIONS

"active" for the purposes of landholders' groundwater bores means bores that are able to continue to provide a reasonable yield of water in terms of quantity for the bores authorised purpose or use.

"AHD" means Australian Height Datum and is the datum used for the determination of elevations in Australia. The determination uses a national network of benchmarks and tide gauges and sets mean sea level at zero elevation.

"analytes" means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.

"bore" means a water observation bore or a water supply bore that is either sub-artesian or artesian.

"BTEX" means benzene, toluene, ethylbenzene, ortho-xylene, para-xylene, meta-xylene and total xylene..

"business day" has the meaning in the *Acts Interpretation Act 1954* and means a day that is not—

- o a Saturday or Sunday; or
- o a public holiday, special holiday or bank holiday in the place in which any relevant act is to be or may be done; or
- o a day between the 26th of December through to the 1st of January in the following year.

"coal seam gas water" means groundwater that is necessarily or unavoidably brought to the surface in the process of coal seam gas exploration or production. Coal seam gas water typically contains significant concentrations of salts, has a high sodium adsorption ratio and may contain other contaminants that have the potential to cause environmental harm if released to land or waters through inappropriate management. Coal seam gas water is a waste, as defined under section 13 of the *Environmental Protection Act 1994*.

"L_{Aeq, adj, 15 mins}" means the A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within any 15 minute period has the same square sound pressure as a sound level that varies with time.

"L_{A 90, adj, 15 mins}" means the A-weighted sound pressure level, adjusted for tonal character, that is equal to or exceeded for 90% of any 15 minutes sample period equal, using Fast response

"Max L_{pZ, 15 min}" means the maximum value of the Z-weighted sound pressure level measured over 15 minutes.

"Max L_{pA, 15 min}" means the absolute maximum instantaneous A-weighted sound pressure level, measured over 15 minutes.

"NATA accreditation" means accreditation by the National Association of Testing Authorities Australia.

"restricted stimulation fluids" means fluids used for the purpose of stimulation, including fracturing, that contain the following chemicals, unless otherwise provided for under the *Environmental Protection Regulation 2008*:

- o petroleum hydrocarbons containing benzene, ethylbenzene, toluene or xylene; or
- o chemicals that produce, or are likely to produce, benzene, ethylbenzene, toluene or xylene as the chemical breaks down in the environment.

"stimulation" means a technique used to increase the permeability of a natural underground reservoir, including for example, hydraulic fracturing / hydrofracturing, fracture acidizing and the use of proppant treatments.

"stimulation impact zone" means a 100 metre maximum radial distance from the stimulation target location within a gas producing formation.

"suitably qualified person" means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

"transmissivity" means the rate of flow of water through a vertical strip of aquifer which is one unit wide and which extends the full saturated depth of the aquifer.

Smith Kim

From: Smith Kim
Sent: Friday, 20 May 2011 3:13 PM
To: s.73 irrelevant information
Subject: FW: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.
Attachments: Rev 4 Draft Conditions - ATP806 OME.doc; s.73 irrelevant information

s.73 irrelevant information
 Sorry I left you off the email chain in the first instance.

Thanks
 Kim

From: Smith Kim
Sent: Friday, 20 May 2011 3:03 PM
To: s.73 irrelevant information
Cc: Nand Parma; Drew David
Subject: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

s.73 irrelevant information
 Hi

Please find the draft conditions for OME Resources Australia Pty Ltd's seismic amendment for the abovementioned ATPs. I have inserted negotiated conditions from ATP688 into these EAs as previously discussed.



Rev 4 Draft
 Conditions - ATP80..

s.73 irrelevant information

DERM can finalise these amendments promptly once QGC has provided their acceptance of the draft conditions.

The stimulation component will be addressed through correspondence separate to the seismic amendment process in due course.

Thanks
 Kim

Kimberley Smith
 Senior Environmental Officer
 Petroleum and Gas Unit
 Environment and Natural Resource Regulation
 Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au
 Department of Environment and Resource Management
 GPO Box 2454, Brisbane, QLD 4001.

Environmental Protection Act 1994

Non – Code Compliant Level 2 Environmental Authority (chapter 5A activities)

DERM Permit¹ Number: PEN200013707

Under Section 310Y (amendment application) of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

OME Resources Australia Pty Limited
Level 30
275 George Street
BRISBANE QLD
ACN: 100 280 662

in respect to carrying out a Level 2 chapter 5A activity(ies) as per Section 23 of the *Environmental Protection Regulation 2008* on the relevant resource authorities listed below:

Project Name	Resource Authority Type(s) and Number(s)
Emerald District	Authority to Prospect 806

This environmental authority takes effect from: ☒ May 2011

The anniversary date of this environmental authority is 22 October

This environmental authority is subject to the attached schedule of conditions.

Date

Delegate of Administering Authority
Department of Environment and Resource Management

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity which might be required by other State and/or Commonwealth legislation. Other legislation administered by DERM for which a permit may be required includes but is not limited to the:

- *Aboriginal Cultural Heritage Act 2003*;
- The contaminated land provisions of the *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992*;
- *Forestry Act 1959*;
- *Water Supply (Safety and Reliability) Act 2008*; and
- *Water Act 2000*.

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

2. This environmental authority consists of the following Schedules

Schedule A General Conditions

Appendix A Definitions

Appendix B Environmentally Sensitive Areas

Appendix C Criteria for environmentally relevant containment facilities

Appendix D Schedule of Rehabilitation Costs

Schedule A- General Conditions

Condition 1 – Significant disturbance

The holder of this environmental authority must ensure that petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time.

Condition 2 – Work Program, Development Plan

The applicant for or holder of the environmental authority must submit to the administering authority a copy of the original or any amended work program or development plan for the relevant application for or granted petroleum authority.

Condition 3 – Financial Assurance

The holder of the environmental authority must:

- (a) calculate a financial assurance in accordance with the Schedule of Rehabilitation Costs and Schedule of Disturbance in Appendix C of this Authority;
- (b) attach the Schedule of Disturbance to the original or any amended Work Program or Development Plan;
- (c) provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of the original or any amended Work Program or development plan; and
- (d) maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Condition 5 – Land Management

The holder of the environmental authority must:

- (a) take all reasonable and practicable measures to minimise disturbance to land in order to prevent land degradation; and
- (b) ensure that for land that is to be significantly disturbed by petroleum activities, the top layer of the soil profile is removed and
 - i. stockpiled in a manner that will preserve its biological and chemical properties; and
 - ii. used for rehabilitation purposes (refer condition 14).

Condition 6 – Vegetation

The holder of the environmental authority must:

- (a) take all reasonable and practicable measures to prevent or minimise disturbance to vegetation by petroleum activities; and
- (b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

Condition 7 – Protection of Riverine Areas

The holder of the environmental authority must:

- (a) ensure that there is no significant disturbance in riverine areas containing permanent water, except for the necessary construction and/or maintenance of roads, tracks and pipelines; and
- (b) minimise disturbance of all other riverine areas.

Condition 8 – Erosion and Sedimentation Control

The holder of the environmental authority must take all reasonable and practicable measures to prevent or minimise:

- (a) erosion of areas disturbed by petroleum activities; and
- (b) sedimentation of any waters as a result of petroleum activities.

Condition 9 – Dust Management

The holder of the environmental authority (petroleum activities) must ensure that:

- (a) dust or particulate matter or both resulting from a petroleum activity must not cause an environmental nuisance at any sensitive place or commercial place; and
- (b) when requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.

Condition 10 - Noise Management

- (a) Noise emitted from the temporary petroleum activities must not exceed the noise acoustic quality objective of 55 dB(A) at any sensitive or commercial place.
- (b) Noise emitted from the permanent petroleum activities must not exceed the noise levels, specified in the table below, at any sensitive place or commercial place.

Time period	Noise level at a sensitive place measured as the Adjusted Maximum Sound Pressure Level $L_{A_{max,adj,T}}$
7am–6 pm	Background noise level plus 5 dB(A)
6pm–10pm	Background noise level plus 5 dB(A)
10pm–7am	Background noise level plus 3 dB(A)
Time period	Noise level at a commercial place measured as the Adjusted Maximum Sound Pressure Level $L_{A_{max,adj,T}}$
7am–6 pm	Background noise level plus 10 dB(A)
6pm–10pm	Background noise level plus 10 dB(A)
10pm–7am	Background noise level plus 8 dB(A)

General note: In no case is the background noise level, $L_{A_{90,15min}}$ to be less than 25 dB(A). In the event that measured background noise level is less than 25 dB(A), then 25 dB(A) is to be used.

- (c) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring, analysis and interpretation of results.
- (d) The method of measurement and reporting of noise levels must be in accordance with most recent edition of the EPA's Noise Measurement Manual.

Condition 11 – Waste Management

The holder of the environmental authority must:

- (a) ensure that petroleum activities do not result in the release or likely release of a contaminants to land or waters that results in unlawful environmental harm; and
- (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.

Condition 12 - Sewage Management and Disposal

- The holder of this environmental authority must ensure that:
- (a) plant and equipment used in the carrying out of the activity is installed, maintained and operated in a proper and efficient manner;
 - (b) sewage effluent is not released to waters (including groundwater);
 - (c) the disposal of sewage effluent does not cause the contamination of any water used for drinking or domestic purposes or manufacturing purposes or for consumption by animals;
 - (d) any area(s) used for the disposal of sewage wastes (liquids or solids) is securely fenced to prevent animals entering such area(s);
 - (e) where sewage sludge is buried on land the sludge is covered with at least 250mm of top soil and where practicable located above known flood levels;
 - (f) where sewage effluent is irrigated on land it is carried out in accordance with the *National Water Quality Guidelines for Sewage Systems – Use of Reclaimed Water*;
 - (g) there is no surface pond of effluent on land disposal area(s);
 - (h) any noxious offence odours or any other noxious or offensive contaminant resulting from the activity do not cause a nuisance at any odour sensitive place; and
 - (i) public access to any sewage effluent land disposal area must be denied during the release of contaminants to the land and until the irrigation/disposal area has dried.

Condition 13 – Contaminant Release

Contaminants must not be directly or indirectly released to land or waters except as permitted under this environmental authority.

Comment [ks1]: This is a standard condition which the delegate wishes to have included as new/additional activities are being permitted.

Condition 14 – Storage of Hazardous Substances, Fuel and Oil

- The holder of the environmental authority must ensure that the storage of all flammable and combustible liquids are:
- (a) contained within an on-site containment system;
 - (b) controlled in a manner that prevents environmental harm; and
 - (c) maintained in accordance with Section 2.3 for minor storages and Section 5.8 for storages above 10,000 L of AS 1940–2004 *Storage and Handling of Flammable and Combustible Liquids*.

Condition 15 – Spills and clean up action

- Notwithstanding the other conditions of this Authority, if a hazardous contaminant is released to waters or land, the holder of the environmental authority must:
- (a) take immediate action to stop any further release;
 - (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
 - (c) restore or rehabilitate the environment to its condition before the release occurred; and
 - (d) take necessary action to prevent a recurrence of the release.

Condition 16 – Associated Water

- (a) The holder of the environmental authority must ensure that associated water is not released to land or waters, other than to an appropriate containment facility except as provided for:
 - (i) under section 186 of the *Petroleum and Gas (Production and Safety) Act 2004*; and
 - (ii) Condition 15 (c).
- (b) Despite 15 (a) (i), the holder of the environmental authority must ensure that associated water to be used for domestic or stock purposes meets the accepted *ANZECC 2000 Water Quality Guidelines for Stock and Domestic Purposes*.
- (c) Despite 15 (a), the holder of the environmental authority may apply to the administrative authority to allow associated water that meets a nominated set of water quality standards to:
 - (i) be released to land or waters; or

- (ii) be used for a specific purpose, provided the potential user has given written advice about the proposed use and environmental safeguards that will be implemented to prevent material or serious environmental harm.

Condition 17A – Containment Facilities

- (a) The holder of the environmental authority must ensure all environmentally relevant containment facilities are:
 - (i) designed, constructed, operated, maintained and decommissioned in accordance with the criteria outlined in Appendix B; and
 - (ii) not located within 100 m of any natural drainage feature (i.e. watercourses, waterway, wetland or lank).
- (b) The holder of the environmental authority must ensure all drill sumps are installed and maintained to prevent any discharge through the bed or banks of the sumps from causing environmental harm or environmental nuisance in any waters.

Condition 17B – Containment Facilities and Other Excavations

For all environmentally relevant activities and other excavations which are constructed as part of the petroleum activities, the holder of the environmental authority must where relevant either:

- (a) provide safe access for livestock where contained water quality is adequate for live stock; or
- (b) construct and maintain bunds and/or fences sufficient to exclude livestock.

Condition 18 – Rehabilitation

- As soon as practicable and within 6 months (or longer period agreed in writing with the administering authority) of the completion of petroleum activities causing significant disturbance to land, the holder of the environmental authority must:
- (a) remediate contaminated land (e.g. evaporation ponds containing hazardous waste) in accordance with EP Act requirements;
 - (b) reshape all significantly disturbed land to a stable landform similar to that of surrounding undisturbed areas; and
 - (c) on all significantly disturbed land, take all reasonable and practicable measures to:
 - i. re-establish surface drainage lines;
 - ii. reinstate the top layer of the soil profile; and
 - iii. promote establishment of vegetation of the same species and density of cover to that of the surrounding undisturbed areas.

Condition 19 – Infrastructure

All infrastructure, constructed by or for the holder of the environmental authority, including water storage structures, must be removed by the holder from the site and the sites rehabilitated according to condition 18, prior to surrender of the petroleum authority, except where it is to remain with the written agreement of the administering authority and post petroleum authority landowner / holder.

Condition 20 – Environmentally Sensitive Areas

The holder of this environmental authority must ensure that the petroleum activity(ies) is only conducted in accordance with Table 1 – Environmentally Sensitive Areas (ESAs) below for each of the ESA categories and associated primary and secondary protection zones

Table 1 – Environmentally Sensitive Areas (ESAs)

ESA Category	Within the ESA	Within primary protection zone of the ESA	Within secondary protection zone of the ESA
All Category A ESAs	No petroleum activities permitted	No petroleum activities permitted	Limited petroleum activities permitted

			subject to conditions 20A, 20B, 20D and 20E
All Category B ESAs	No petroleum activities other than seismic activities permitted subject to condition 20E.	No petroleum activities other than seismic activities permitted subject to condition 20E and 21.	Limited petroleum activities permitted subject to conditions 20A, 20B, 20D and 20E.
Category C ESAs excluding 'Of Concern' regional ecosystems, State Forests and Timber Reserves	No petroleum activities other than seismic activities permitted subject to condition 20E.	No petroleum activities other than seismic activities permitted subject to condition 20E.	Limited petroleum activities permitted subject to conditions 20A and 20B
Category C ESAs: State Forests, Timber Reserves and 'Of Concern' regional ecosystems	Limited petroleum activities permitted subject to conditions 20A to 20D, and 20F to 20H.	Limited petroleum activities permitted subject to conditions 20A to 20D, and 20F to 20H.	Limited petroleum activities permitted subject to conditions 20A and 20B.

Note: Approvals may be required under the Forestry Act 1959 where the petroleum activity(ies) is proposed to be carried out in Environmentally Sensitive Areas that are State Forests or Timber Reserves.
 Note: Indicative Environmentally Sensitive Area mapping is available on the Department of Environment and Resource Management website at:
http://www.derm.qld.gov.au/ecoaccess/maps_of_environmentally_sensitive_areas.php

Condition 20A

Limited petroleum activities carried out in the secondary protection zone in accordance with condition 20 must be preferentially located in pre-existing areas of clearing or significant disturbance to the greatest practicable extent and avoid the clearing of mature trees to the greatest practicable extent.

Condition 20B

Limited petroleum activities carried out within an environmentally sensitive area, primary protection zone or secondary protection zone as authorised under condition 20 must not be conducted where there is an overlap with another environmentally sensitive area or primary protection zone where limited petroleum activities are not authorised.

Condition 20C

Where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in the Category C Environmentally Sensitive Area specified in condition 20, the holder of this environmental authority must be able to demonstrate that no reasonable or practicable alternative exists and that disturbance to land only be located and carried out in areas according to the following order of preference:

- pre-existing cleared areas or significantly disturbed land within the primary protection zone of a Category C Environmentally Sensitive Area;
- undisturbed areas within the primary protection zone of a Category C Environmentally Sensitive Area;
- pre-existing areas of significant disturbance within a Category C Environmentally Sensitive Area (e.g. areas where significant clearing or thinning has been undertaken within a

- Regional Ecosystem, and / or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth);
 (d) areas where clearing of a Category C Environmentally Sensitive Area is unavoidable.

Condition 20D

Prior to conducting limited petroleum activity(ies) that involve significant disturbance to land within an ESA, primary protection zones, or secondary protection zones:

- an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request;
- the assessment required by Condition 20D(a) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*; and
- a record of the assessment required by Conditions 20D(b) and 20D(c) must be kept and submitted to the administering authority upon request.

Condition 20E

Where seismic activities are proposed to be undertaken within Endangered Regional Ecosystems, primary and secondary protection zones of Endangered Regional Ecosystems, secondary protection zones of a Category A ESA, Category C ESAs (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves), or primary protection zone of a Category C ESA (excluding 'Of Concern' regional ecosystems, State Forests and timber reserves) the holder of this environmental authority must:

- not cause significant disturbance and/or clearing of vegetation;
- use pre-existing access and fence line tracks and other disturbed areas;
- not construct new access tracks;
- conduct seismic activities by foot where there are no existing access tracks;
- not clear or stick rake in any Endangered RE; and
- utilise existing vehicular crossings for seismic activities in watercourses and where vehicular crossings do not exist, either:
 - deploy and retrieve geophones and cable through the crossing by foot; or
 - skip acquisition over the watercourse and restart on the other side.

Condition 20F

Notwithstanding conditions 20 and 20C, where limited petroleum activities are proposed to be undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in conditions 20, any vegetation clearing must not exceed any of the following areas:

- for the life of the project and before any activity commences, if the disturbance relates to an Of Concern Regional Ecosystem, 5% of the remnant unit of Of Concern Regional Ecosystem as ground truthed and mapped as per condition 1 of this environmental authority; and
- more than 30 m² for the construction of a sump; or
- more than ten (10) metres in width for tracks; or
- more than 12 metres in width for flow pipeline construction purposes.

Condition 20G

For each well site within the primary protection zone of, or in a Category C Environmentally Sensitive Area specified in condition 20, all reasonable and practical measures must be taken to minimize the area cleared which must include but not be limited to, for each well site, ranked constraints mapping and a risk assessment which considers safety and environmental impacts.

Condition 20H

Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category C Environmentally Sensitive Area, along with a record of the assessment required by condition 20D must be kept and submitted to the administering authority with each annual return.

Condition 20I – Disturbance to Land – Offsets

The environmental authority holder must enter in to an environmental offset agreement with the administering authority where disturbance to land caused by the carrying out of the petroleum activities will have a remaining adverse environmental impact on an environmental value of an environmentally sensitive area or primary protection zone.

Condition 20J

The environmental offset agreement must be entered in to within six (6) months after submitting the record of disturbance required by condition 20H, unless otherwise agreed to by the administering authority.

Condition 20K

The environmental authority holder must implement any environmental offset agreement entered in to in accordance with conditions 20I and 20J as soon as practicable after finalisation.

Note : Offset requirements will be determined in accordance with principles and guidelines of the "Queensland Government Environmental Offsets Policy" June 2008 and when the "Queensland Biodiversity Offset Policy" becomes available.

Condition 21- Exploration within Buffer of ERE

For exploration activities the environmental authority holder must comply with each of the standard environmental conditions contained in the Code of Environmental Compliance for Exploration and Mineral Development Projects, except Condition 13, which is replaced by 21 (a) to 21 (n) conditions.

- (a) The environmental authority holder is authorised to construct 1 borehole on ATP806 within the ERE buffer. The subsequent conditions, 21(b) to 21(m), authorises the environmental disturbance related to this borehole;
- (b) The operational area of the drill site within the 500m buffer must not exceed 1000m²;
- (c) The drill hole within the buffer of the ERE is limited to less than 200mm in diameter;
- (d) The construction of sumps within the buffer of the ERE must not exceed 10m²;
- (e) Topsoil stripping within the buffer of the ERE is limited to an area no greater than 25m x 25m;

Comment [ks2]: Removing primary protection zones (PPZ) altogether does not provide adequate offset arrangements for PPZs with high environmental values. If a PPZ with low or no environmental values is affected, this would not have a remaining adverse environmental impact on an environmental value, hence would not trigger offset arrangements.

Comment [ks3]: Administrative amendment to correct conditions referenced.
Deleted: B2-1 to B4-2

- (f) The environmental holder must minimise disturbance within the buffer of the ERE and avoid clearing of trees;
- (g) Existing access and fence line tracks must be used wherever possible. Any new tracks are to be constructed by linking natural cleared or disturbed areas;
- (h) Track construction must avoid clearing of trees;
- (i) Where new tracks are required they will not be constructed greater than 5m in width;
- (j) Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised;
- (k) No clearing or disturbance for access to borehole will take place within the ERE;
- (l) Exploration within the buffer of the ERE must not involve costeaning or bulk sampling activities; and
- (m) Exploration camps must not be established within the ERE or buffer of the ERE.

Condition 22A– River Improvement Areas

All measures must be taken to prevent and/or minimise adverse impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

Condition 22B – Wild river areas

In a declared Wild River Area, the petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River Declaration.

Condition 23 – Heritage places and archaeological artefacts

The holder of this environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 24 – Clearing vegetation

The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value and avoid clearing mature trees to the greatest possible extent.

Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations.

Condition 24A

The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in

threatening processes (e.g. potential impacts associated with edge effects or introduced species);

- (b) on dispersible soils or highly erodible soils;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Condition 24C

Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not significantly impede vehicle, stock or wildlife movements.

Condition 25 – Maintenance of land rehabilitation

Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate:

- (a) the stability of landforms;
- (b) that erosion control measures remain effective;
- (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters;
- (d) that plants show healthy growth and recruitment is occurring; and
- (e) that rehabilitated areas are free of any declared pest plants.

Condition 26 – Rehabilitation Success

Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.

Condition 28 – Monitoring and Complaints

The holder of the environmental authority must:

- (a) develop and implement a monitoring program that will demonstrate compliance with this Authority;
- (b) document the monitoring and inspections carried out under the program and any actions taken;
- (c) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident; and
- (d) retain the record of complaints required by this condition for 5 years.

Condition 29– Notification

The holder of this environmental authority must:

- (a) telephone DERM's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental authority or any event where environmental harm has been caused or threatened; and

- (b) notify the administering authority in writing within 14 days of the initial notification.

Condition 30 - Existing petroleum activities

Conditions 20-20K, and 24-24B relating to disturbance only apply to petroleum activities which commenced after 12 May 2011 (insert date of program on this PAI)

End of Conditions

Appendix A - Definitions

APPEA Code means the current APPEA, Code of Environmental Practice.

AS 2885 Australian Standard Pipelines – Gas and Liquid Petroleum

Associated water is underground water taken from or interfered with from a petroleum well during the course of or resulting from carrying out petroleum activities. Associated water may be potable or suitable for stock purposes, or saline, high in fluoride, contain hydrocarbons, and/or is otherwise contaminated by a hazardous contaminant and become a hazardous waste.

Commercial place means a place used as an office or for business or commercial purposes.

End means the stopping of the particular activity that has caused a significant disturbance in a particular area. It refers to, among other things, the end of a seismic survey or the end of a drilling operation. It does not refer to the end of all related activities such as rehabilitation. In other words, it does not refer to: the "completion" of the particular activity, the time at which the petroleum authority ends or the time that the land in question ceases to be part of an authority. Under the APPEA Code "completion" refers to the point at which the particular survey, program or operation has been rehabilitated and abandoned.

Environmental nuisance is unreasonable interference or likely interference with an environmental value caused by:

- (a) noise, dust, odour, light; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

Evaporation pond means a dam or interceptor pond constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the pond.

Environmentally sensitive area (as determined from the EPA GIS data base) means a location, however large or small, that has environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

"ERE" means Endangered Regional Ecosystem.

Financial assurance means a security deposit, either cash or a bank guarantee, held by the administering authority to cover the potential costs of rehabilitating areas significantly disturbed by the petroleum activities.

Hazardous contaminant means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—
(a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
(b) its physical, chemical or infectious characteristics.

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Land degradation includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

Licensed waste disposal facility is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the Environmental Protection Regulation 1998.

Limited petroleum activities mean only the following petroleum activities:

- o geophysical surveys (including seismic petroleum activities);
- o well sites;
- o well pads;
- o water pumps and generators associated with well operations;
- o sumps;
- o flare pits;
- o gathering / flow pipelines from a well head to the initial compression facility; and
- o supporting access tracks.

For clarity, limited petroleum activities exclude and are not necessarily limited to:

- o the construction of infrastructure for processing or storing petroleum or by-products;
- o dams;
- o borrow pits;
- o ponds used to contain and/or store stimulation fluids;
- o compressor stations;
- o campsites / workforce accommodation;
- o power supplies;
- o pipelines which are used to transport gas after the initial compression facility (e.g. trunk pipelines, transmission pipelines or pipelines that require a pipeline licence)
- o waste disposal; or
- o other supporting infrastructure for the project (e.g. sewage treatment plants).

Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads, pipelines etc), which is to be left by agreement with the landowner.

Pest means species:

declared under the Land Protection (Pest and Stock route Management) Act 2002; declared under Local Government model local laws; and which may become invasive in the future.

Petroleum activity is defined in the EP Act as an activity:

- a) authorised on a petroleum tenure granted under the Petroleum Act 1923; or
- b) authorised on a petroleum authority granted under the P&G Act; or
- c) exploring for or mining minerals under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the Petroleum (Submerged Lands) Act 1982; or
- d) rehabilitating or remediating environmental harm because of an activity mentioned in paragraphs (a) to (c); or
- e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d); or
- f) required under a condition of an environmental authority (petroleum activities); or
- g) required under a condition of an environmental authority (petroleum activities) that has ended or ceased to have effect, if the condition:
 - i. continues to apply after the authority has ended or ceased to have effect; and
 - ii. has not been complied with.

Petroleum Authority includes Authority to Prospect, Petroleum Lease, Data Acquisition Authority Water Monitoring Authority, Petroleum Facility Licence, Survey Licence and Pipeline Licence issued or granted under the Petroleum Act 1923 or Petroleum and Gas (Production and Safety) Act 2004.

Petroleum works site is a separate location on the area subject to a petroleum authority where certain petroleum activities are undertaken; including a well site, production facilities, evaporation pond, compressor site and campsite. The following petroleum activities are excluded from the definition of petroleum works site: roads and tracks, seismic survey lines, and non-licensed gathering systems.

Primary protection zone means an area within a 200 metre buffer from the boundary of any Category A, B or C Environmentally Sensitive Area.

Release of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

Remnant unit means a continuous polygon of remnant vegetation (as defined by the QLD Herbarium) representative of a single RE type or a single heterogeneous unit.

Riverine area refers to the land confined to the flood flow channel of a watercourse.

Secondary protection zone in relation to a Category A Environmentally Sensitive Area means an area within an 800 metre buffer from the boundary of a primary protection zone.

Secondary protection zone in relation to a Category B or C Environmentally Sensitive Area means an area within a 300 metre buffer from the boundary of a primary protection zone.

Sediment pond means a bunded or excavated structure used to contain and settle waterborne sediment running off significantly disturbed areas.

Sediment trap means a device used to filter waterborne sediment running off significantly disturbed areas. This may include silt fences, hay bales or grassed strips.

Sensitive place means

- (a) a dwelling, mobile home or caravan park, residential marina or other residential place;
- (b) a motel, hotel or hostel;
- (c) a kindergarten, school, university or other educational institution;
- (d) a medical centre or hospital;
- (e) a protected area;
- (f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organized entertainment.

Significantly disturbed land and significant disturbance means land if:

- (a) it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it:
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance

Examples of a disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a watercourse, waterway, wetland or lake where petroleum activities occur and human intervention is necessary to restore or stabilise the disturbed area;
- (e) areas submerged by hazardous waste storage and dam walls in all cases;
- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- (g) areas where land has become contaminated land and a suitability statement has not been issued.

However, for the purpose of this Authority the following areas are not significantly disturbed:

- (a) areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority).
- (b) areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction.
- (c) areas under permanent infrastructure.
- (d) areas that were significantly disturbed prior to the grant of the environmental authority, unless those areas are re-disturbed by the holder of the environmental authority during the term of the authority.
- (e) minor disturbances such as drill sumps and minor respreading of soil on GPS located seismic lines.

Stable means geo-technical stability of the rehabilitated landform i.e. settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping are unlikely to cause instability.

Temporary petroleum activities means drilling

Permanent petroleum activities means compressors, wells

Top layer of soil means soil, alluvium, weathered rock or other suitable plant growth medium. Top layer material should be non-crusting and low in salinity.

Turkey's nest dam - A dam constructed outside a watercourse, wetland or waterway by excavating a pit and constructing a wall around the pit with the excavated material. Natural surface flow is excluded from the dam.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

APPENDIX B Environmentally Sensitive Areas**Category A and B environmentally sensitive areas**

Category A and B environmentally sensitive areas are listed in Section 25 and 26 respectively of the *Environmental Protection Regulation 2008*.

Category C environmentally sensitive areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Koala Habitat Area	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	Department of Environment and Resource Management
An area identified as essential habitat by the EPA for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the Nature Conservation Act 1992	<i>Nature Conservation Act 1992</i>	Department of Environment and Resource Management
Declared Catchment Areas	<i>Water Act 2000</i>	Department of Environment and Resource Management and/or Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Environment and Resource Management and the Relevant River Trust
Former Designated Landscape Area Stanbroke Pastoral Holding	<i>Aboriginal Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
Areas under Part 5 Division 2 of the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Environment and Resource Management
State Forest or Timber Reserves	<i>Forestry Act 1959</i>	Department of Environment and Resource Management
DPI Research Sites	<i>Nil</i>	Department of Employment, Economic Development and Innovation
Areas of land occupied by the Bureau of Sugar Experiment Stations.	<i>Sugar Industry Act 1999</i>	Department of Employment, Economic Development and Innovation
Coastal Management Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Resource Management
Declared Areas	<i>Vegetation Management Act 1999</i>	Department of Environment

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
		and Resource Management
An area shown as a wetland on a 'map of referable wetlands'	<i>Environmental Protection Act 1994</i>	Department of Environment and Resource Management
Reserves under the Land Act 1994	<i>Land Act 1994</i>	Department of Environment and Resource Management
An 'of concern' regional ecosystem identified in the database maintained by the EPA called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.	<i>Nil</i>	Department of Environment and Resource Management

Important Note: Regional ecosystem classification is determined according to the Queensland Herbarium Biodiversity Status Classification. Information on ERE's is maintained by the DERM on the Regional Ecosystem Description Database.

APPENDIX C Criteria for environmentally relevant containment facilities

The holder of the environmental authority (petroleum activities) may require environmentally relevant containment facilities to be constructed within the petroleum authority for raw water storage, storage and evaporation of associated water or for the containment of contaminated solids formed from such waters. Environmentally relevant containment facilities are defined as "structures that may or could contain flowable substances that, in the event of collapse of the structure, failure to contain or discharge of either liquor, solids or gas, could or would adversely impact on the environment."

Associated water may be saline, contain hydrocarbons or other substances at certain concentrations that when released to land or waters may cause material or serious environmental harm. This does not prevent or limit the holder of the environmental authority from treating the associated water to a specified standard for subsequent discharge to land or waters, or on-supplied to a third party for beneficial reuse, providing it is authorised by the relevant environmental authority.

Appendix B provides for the environmental regulation of such containment facilities. The regulation of such facilities is based on both a hazard and risk assessment, which includes an assessment of the contents of the containment facility.

The assessment criteria presented in Tables 1 and 2 allow these structures to be classified as:

- High hazard containment facility;
- Medium hazard containment facility; or
- Low hazard containment facility.

High hazard containment facilities that could impact on life or property on collapse or failure are not permitted under this environmental authority and will require either site-specific conditions or will be conditioned under a level 1 environmental authority.

Step 1 - Assessing the contents of the relevant containment facility

The first step in the assessment process is to determine whether the facility contains substances that may be classed as hazardous if released to the environment. If the contents of the relevant containment facility, including either liquor and/or total solids, exceed the limits in Table 1, then the containment facility contains hazardous substances.

Table 1 – Criteria for determining the contents of the containment facility

Contaminant ¹	Liquor ²	Total solids ^{3,4}
Arsenic	0.5 mg/l	250 mg/kg
Boron	5.0 mg/l	15,000 mg/kg
Cadmium	10 µg /	100 mg/kg
Cobalt	1.0 mg/l	500 mg/kg
Copper	1.0 mg/l	5,000 mg/kg
Lead	0.1 mg/l	300 mg/kg
Mercury	2µg/l	75 mg/kg
Nickel	1.0 mg/l	3,000 mg/kg
Zinc	20 mg/l	35,000 mg/kg
Chloride	2,500 mg/l	-
Fluoride	2.0 mg/l	-
Selenium	0.02 mg/l	-
Sulphate	1,000 mg/l	-
Cyanide	10 mg/l	2,500 mg/kg
pH	Between 5.5 and 9.0	Net acid generation of pH <4
Nitrite	30 mg/l	-
Nitrate	400 mg/l	-
Total Dissolved Solids	4000 mg/l	-
Aromatic Hydrocarbons	600 µg/l	-
Polycyclic Aromatic Hydrocarbons	-	-
Naphthalene	16µg/l	-

Benzo (a) pyrene	0.2 C	
Phenol	320 µg/l	-
Polychlorinated Biphenyls		-
Aroclor 1242	0.3 µg /l	
Aro 1254	0.1 µg /l	
Total Petroleum Hydrocarbons	10 mg/l (or no visible film)	
Blue green Algae (Microcystis)	11,000 cells/ml	-

1. Metals should be analysed in accordance with recognised test methods by a NATA certified laboratory.
2. Applies to the liquid contents in the containment facility readily available to the environment (e.g. water available to birds and animals).
3. Total solids include suspended and colloidal solids.
4. Applies to the solids in the containment facility.

Step 2 - Determining other risk factors

The second step in the assessment process is to consider other factors that may increase the hazard category of the containment facility including its size, location and environmental setting. If a proposed containment facility exceeds any of the size and location criteria listed in Table 2, then the structure will be a high hazard containment facility.

Table 2 – Determination of other risk factors

	Threshold criteria for a high hazard containment facilities
Criterion 1 Location with respect to habitation or water infrastructure	In the event of collapse, failure or overflow from the containment facility, would result in one or more of the following actions, it would or could: <ul style="list-style-type: none">• impact on occupied premises to a depth of more than 300 mm; or• flow to a sensitive or commercial place; or• flow to a riverine area containing permanent water; or• contaminate a water supply for human consumption; or• contaminate a water supply used for livestock.
Criterion 2 Location in catchments	The containment facility is located within a: <ul style="list-style-type: none">• declared catchment or sub-artesian area; or• watercourse and the containment facilities surface area of water exceeds 1ha.
Criterion 3 Size	The containment facility has a surface area of water greater than 4 ha; or the containment facility has a volume of water greater than 20 mega litres.

Step 3 - Determining the hazard category

Table 3 summarises the process for determining the hazard category of containment facilities on a petroleum authority.

If any proposed containment facility cannot comply with the acceptance criteria listed in Table 1 but can comply with the size and location criteria listed in Table 2, then the structure will be a medium hazard containment facility. Similarly if the structure contains substances that may be hazardous and exceeds the criteria in Table 2 then the structure will be a high hazard containment facility.

Table 3 – Determination of hazard category

Concentration of liquor and total solids	Location and size	Hazard Category
Contents of the containment facility do not exceed limits in Table 1	Containment facility location and size do not trigger criterion 1 listed in table 2	The structure is a low hazard containment facility
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are below the criteria listed in table 2	The structure is a medium hazard containment facility.
Contents of the containment facility exceed limits in Table 1	Containment facility location and size are above the criteria listed in table 2	The structure is a high hazard containment facility.

Design, construction, operation, maintenance and decommissioning criteria

Containment facilities are engineering structures and must be designed by professional engineer(s) who would normally apply the criteria defined below. A professional engineer should also be consulted in the development of the decommissioning plan.

Criteria for Low Hazard Containment Facilities

Low hazard containment facilities should be designed, constructed, operated and decommissioned in accordance with the "Queensland Small Embankment Dam Guideline".

Criteria for Medium Hazard Containment Facilities

In order to comply with the conditions of this environmental authority, design, construction, operation, maintenance and decommissioning of medium hazard containment facilities, must be in accordance with the following.

Design:

- (a) Containment facilities with a capacity up to 3 mega litres are best constructed as *Turkey's Nest* structures;
- (b) Containment facilities should be located to have the smallest practical catchment area;
- (c) Containment facilities must have a spillway capable of passing a design flood, defined as the peak discharge from a critical duration storm with an annual exceedence probability of 1% (i.e. 1 in 100 yr event) or lower;
- (d) The spillway should be located where practicable in the abutment of the containment facility or in the minimum height section of the containment facility;
- (e) Any spillway discharge should be contained within stable defined channels until it enters any natural watercourse or waterway;
- (f) For embankments built on stable foundations, not subject to draw down and out of uniform soil material, the batters shall be no steeper than those shown in the table below, unless otherwise shown to be stable:

Embankment Soil Classification (Universal soil classification)	Upstream Batter	Downstream Batter
GC, SC	2.5:1	2.0:1
CL, ML	3.5:1	2.5:1
CH, MH	3.5:1	2.5:1
GW, GP, GM, SW, SP, SM	Not suitable	Not suitable

Note: The codes for the Universal Soil Classification (e.g. GC) are detailed in the Australian Standard AS 1726 1993 Geotechnical Site Investigation, Appendix A.

- (g) Where foundation material differs from the embankment fill material, the batters shall be chosen conservatively to be consistent with the weaker material classification.

Construction:

- (a) Embankments must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures, flow velocities, material strength, stability and durability.
- (b) Fine grained soils used in embankment construction should be mechanically compacted when they are near or at the optimum moisture content (i.e. slightly plastic) to improve soil strength, minimise seepage and reduce the risk of piping failure
- (c) Where geo-membranes are used, ensure that they are placed, anchored and joined in accordance with the manufacturer's specification.
- (d) Where geo-membranes are used ensure that they are suitable to prevent leakage of the hazardous contaminants, which are contained within the containment facility.
- (e) Where geo-membranes are used for liners, filters or drains, ensure that the geo-membrane is in contact only with fine-grained soils to prevent punching or tearing of the membrane.
- (f) Embankments built out of pervious material must be constructed in accordance with an engineering design and specification, which has considered the internal seepage pressures and flow velocities.
- (g) Where foundation material differs from embankment fill material, the embankment should be constructed out of the material, which gives the flatter batter.
- (h) Prior to construction of an embankment, the foundation should be cleared of all:
 - vegetation (grass, shrubs and trees);
 - soils containing organic matter (roots);
 - cracked soils (stiff plastic soils);
 - pervious soils (sand, gravel)
 - pervious material in rock faults, joints or the rock foundation itself.
- (i) Prior to construction of an embankment, all transverse trenches, holes and other irregularities should be plugged or backfilled to create a generally undulating foundation for placement of the embankment.
- (j) Fine-grained soils used in embankment construction should have a consistent texture and be free from foreign matter such as branches, logs, gravels or boulders etc.
- (k) Fine-grained soils including dispersible soils should be placed in the centre of or towards the upstream faces of embankment containment facilities.
- (l) Coarser grained soils and rock materials are to be placed towards and on the outer faces of embankment containment facility to minimise erosion and breaching potential.
- (m) Dispersible and easily erodible soils should not be used on the outer faces of embankment containment facility.
- (n) Provide adequate measures to control seepage through the containment facility wall and the transmission of contaminants through underlying soil layers or rock stratum.
- (o) Embankment containment facility should be constructed with stable earth materials that will not decay or generate leachate or hazardous contaminants.

Operation:

- (a) The containment facility should be operated to maintain a minimum freeboard of 0.5m below the spillway level.
- (b) To ensure that there is no leakage of hazardous wastes from any containment facility associated with the petroleum activity a field based groundwater monitoring program must be established to ensure there is no contamination of any unsaturated perched systems or existing groundwater

aquifers in the vicinity of the works. Three or more monitoring bores specifically designed for this purpose should be located in a cluster between the contaminant source and any environmentally sensitive place. The monitoring program should regularly record:

- i. water levels;
 - ii. water quality;
 - iii. flow rates; and
 - iv. direction of flow.
- (c) As far as practicable minimise seepage and return any contaminated seepage to the containment facility.

Maintenance:

- (a) Maintain the erosion resistance of the downstream face of the containment facility to avoid surface scour, which may lead to failure of the wall;
- (b) Maintain the erosion resistance of the spillway to avoid scouring during the design flood;
- (c) Prevent the establishment of trees or shrubs on water containing embankments (roots initiate seepage paths);
- (d) Control of burrowing insects and animals (initiation of piping paths);
- (e) Repair active erosion and piping processes; and
- (f) During initial filling or commissioning, the containment facility should be monitored for leaks, seepages, embankment deformation or other signs of embankment distress.

Decommissioning:

- (a) Removing (where possible) all remaining liquids in the containment facility (e.g. it is generally acceptable to evaporate the liquid if the containment facility is not to be left to the land owner / holder).
- (b) Remove (where possible) all contaminated solids from the containment facility and encapsulate in a purpose built storage facility, or encapsulate any residual contaminated solids in situ by capping with an appropriate capillary break and with one metre of clay or similar impermeable material;
- (c) Design, install and maintain adequate diversion drains or similar structures to protect or minimise the erosion of any exposed surfaces by stormwater runoff;
- (d) Design, install and maintain adequate surface drainage to prevent water ponding and infiltration into any contaminated materials;
- (e) Address contaminated site issues by referring to Notes 11.2 and 11.3 of this environmental authority;
- (f) Establish a monitoring program to determine the success of the decommissioning plan;
- (g) If required, remove the wall of the containment facility; and
- (h) Rehabilitate the disturbed areas in accordance with the rehabilitation conditions of this environmental authority.

APPENDIX D Schedule of Rehabilitation Costs

OIL ACTIVITIES	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$10,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$500 per line, plus \$200 per km
Borrow pit	\$1,000 each
Evaporation pond	Site-specific estimation
Storage tank	\$5,000 per tank
Contaminated land survey	\$20,000 per facility
Sampling	\$5,000 per facility
Bioremediation land farm	\$5,000 per facility
Infrastructure	Site specific estimation
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$5,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Buried flow line construction	\$20,000 per gathering system project
Buried flow line in operation	\$500 per line
Flow lines – surface	\$200 per km
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation

Environmental Authority No. PEN200013707

GAS ACTIVITIES (Including Coal Seam Gas wells >350m)	
Activity Type	Unit Cost
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

GAS ACTIVITIES (Coal Seam Gas wells <350m)	
Activity Type	Unit Cost
First well	\$10,000
Subsequent wells	\$1,000
Activity in environmentally sensitive area *	Site specific estimation
Roads	\$400 per km
Flow lines - buried	\$500 per line
Flow lines - surface	\$200 per line
Borrow pit	\$1,000 each
Containment pond (water)	Site specific estimation
Contaminated land survey	\$20,000 per facility
Processing facility (small)	\$10,000 each
Processing facility (large)	Site specific estimation
Compressor only	\$5,000 each
Seismic lines	\$5,000 per seismic line survey
Management fee	20% (maximum \$20,000)
* Including but not limited to exploration, appraisal, development activities and infrastructure developments	

Note: Rehabilitation cost estimates must be based on third party costs for rehabilitation of land that has been "significantly disturbed" and may be reviewed annually by the administering authority.

Smith Kim

From: Drew David
Sent: Friday, 10 June 2011 8:15 AM
To: Smith Kim
Cc: Rahman Ahmad
Subject: RE: s.73 irrelevant information ATP806 - Amendment applications

Kim

Pls now ignore this – now sorted, extension by 1 week based on request to Anne.
Section 78B, Section 78B(2)(c) - individual's privacy

David Drew

Principal Environmental Officer
Gas and Petroleum Unit
Environmental and Natural Resource Regulation
Department of Environment and Resource Management
p (07) 3330 5970
f (07) 3330 5634
<mailto:david.a.drew@derm.qld.gov.au>
400 George Street BRISBANE QLD 4000
GPO BOX 2454 BRISBANE QLD 4001

From: Drew David
Sent: Friday, 10 June 2011 7:53 AM
To: Rahman Ahmad; Lenz Anne; Burgess-Dean Rachel
Cc: Smith Kim
Subject: RE: s.73 irrelevant information ATP806 - Amendment applications

Ahmad, Rachel, Anne

FYI only – no action req'd at this stage; but rather a heads-up that there's the possibility that we decide to refuse this app today, based on a lengthy options discussion Kim, Wade M and I had with Les B on Wed. Les suggested keeping Anne in the loop.

Regards, David

David Drew

Principal Environmental Officer
Gas and Petroleum Unit
Environmental and Natural Resource Regulation
Department of Environment and Resource Management
p (07) 3330 5970
f (07) 3330 5634
<mailto:david.a.drew@derm.qld.gov.au>
400 George Street BRISBANE QLD 4000
GPO BOX 2454 BRISBANE QLD 4001

From: Smith Kim
Sent: Wednesday, 8 June 2011 5:02 PM
To: s.73 irrelevant information
Cc: s.73 irrelevant information Drew David
Subject: s.73 irrelevant information ATP806 - Amendment applications

Release

Hi [redacted] relevant information

As you are aware the decision dates for the 5 ATP amendments listed above are this Friday 10 June 2011.

During the course of the application, QGC has disclosed that the exploration wells will require stimulation. DERM has provided 3 options to QGC during the course of negotiations:

1. Accept a "no contaminant release to waters" condition (proposed in the most recent version of draft conditions provided to QGC on Friday 3 June 2011); or
2. Accept "Stimulation activities must not be conducted"; or
3. Accept draft model stimulation and noise conditions.

Please advise DERM by 5pm Thursday 9 June 2011 which of the above options QGC accepts.

Regards**Kimberley Smith**

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609**Facsimile No:** (07) 3330 5634**Email:** kimberley.smith@derm.qld.gov.au**www.derm.qld.gov.au**

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

From: Smith Kim**Sent:** Friday, 3 June 2011 4:41 PM**To:** [redacted] s.73 irrelevant information**Cc:****Subject:** RE: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi [redacted] s.73 irrelevant information

I've attached the next round of negotiations for your review.

As discussed, the stimulation condition/s negotiations will need to be reopened if QGC doesn't wish to accept the no contaminant release to waters. The wording of this condition avoids the need for the "no stimulation" condition, leaves it open for an amendment application for stimulation in the future, and will enable QGC to start undertaking the seismic program ASAP.

We'll discuss next week no doubt. I'm not in the office on Monday, but will be in first thing Tuesday.

Thanks
Kim

From: [redacted] s.73 irrelevant information**Sent:** Thursday, 2 June 2011 8:56 AM**To:** Smith Kim**Cc:** [redacted] s.73 irrelevant information**Subject:** RE: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi Kim,

Thank you for the response.

There are still some changes that are requested below.

I have included a word document with the conditions with comments included. Further to that I provide the following additional justification/ comments:

- On a number of other EA's held by QGC the adaption of conditions similar to that provided in my previous request has been accepted. Can DERM please consider accepting the re-worded condition 24B as proposed in the attached document? Can you also please confirm that these conditions only apply to ATP 806, the conditions for ATP 73 already included a condition similar to the proposed, and were not requested to be changed?
- For these EA's the complete exclusion of 'clearing vegetation and placement of fill' in the listed circumstances is seen as potentially excessively restrictive to business activities that could be undertaken. The wording of condition 24B (a) where any disturbance in these areas is entirely precluded has the potential to impact limited petroleum activity placement, including but not limited to access roads (however, well and camp sites, as well as other infrastructure could also be affected).
- As an example, the placement of an access track through a stand of vegetation, even if an existing landholder track goes through this area, would appear to possibly breach this condition (24B (a)). i.e. the removal of any further vegetation for widening could reduce the ecological connectivity further even though there was likely already a low level of ecological connectivity. When placing infrastructure on properties that are sized in the 1000's of acres it is often not always possible to have an access track that will not have to cut through vegetation on the property.
- Often to suit both landholder needs and limit additional disturbance on properties, QGC prefers to use existing access tracks.
- I believe that "potential impacts associated with edge effects" is a statement that could prove difficult to demonstrate compliance with when it would be considered a breach of the condition that there was an increase in 'potential' impacts. How would DERM describe an increase in "potential impacts"
- I have also proposed changes to the erosion and sediment control plan structure proposed. These tenements are focused on exploration (i.e. they are all ATP's), and as such activities in this phase of the exploration are spread out across the tenement; hence some aspects of the plan need not apply to all areas.
- Additionally I propose that condition 24C is changed to have the plan required to be submitted to DERM within 60 days from the date of grant of this EA or following the commencement of activities (whichever is later). This is primarily to allow QGC time to prepare this plan for any existing activities that may trigger the requirement of this plan.

Further to your second email provided yesterday afternoon:

The proposed condition: "Contaminants must not be directly or indirectly released to land or waters except as permitted under this environmental authority," is not accepted for any of

the EA's being amended. QGC request that this is changed to include serious or material environmental harm in this condition. The proposed condition to be included is:
"Contaminants that are likely to cause serious or material environmental harm, must not be released directly or indirectly to land or waters except as permitted under this environmental authority."

The justification for requesting this re-wording is that where the proposed wording by DERM is applied to field situations, then in the event that one drop of oil falls from a vehicle it could be considered to be non-compliance. This is why serious or material environmental harm should be included to permit a practical approach to the release of contaminants.

Please don't hesitate to contact me if you have any queries with this.

Kind Regards,

s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]

Sent: Tuesday, 31 May 2011 1:06 PM

To: s.73 irrelevant information

Subject: FW: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Section 78B(2) RTI Act

Can you please provide your comments/acceptance of DERM's proposed conditions below which have been drafted to address QGC's concerns. The initial statement has not been changed as ecosystem functioning must be protected.

The E&SCP has been included to ensure that appropriate controls are put in place where dispersible soils will be disturbed.

I'm finalising the EAs today, with the outlook of having them signed off tomorrow if QGC accepts the conditions below.

Thanks

Kim

Release

Condition 24B

The holder of this environmental authority must not clear vegetation or place fill:

- (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species);
- (b) on dispersible soils or highly erodible soils to the greatest practicable extent;
- (c) on slopes greater than 10% for activities other than limited petroleum activities; or
- (d) in discharge areas.

Condition 24 C

An Erosion and Sediment Control Plan which has been **certified** by a **suitably qualified person** must be developed and submitted to DERM prior to the commencement of a petroleum activity(ies) involving the clearing of vegetation or placement of fill on dispersible soils or highly erodible soils in accordance with condition 24B(b).

Condition 24 D

The Erosion and Sediment Control Plan must include but not necessarily be limited to:

- (a) managing and / or diverting uncontaminated stormwater run-off around areas disturbed by the petroleum activity(ies) or where contaminants or wastes are stored or handled that may contribute to contamination of waters;
- (b) ensuring that contaminated stormwater runoff and incident rainfall is collected, treated, reused, or released in accordance with the conditions of this environmental authority;
- (c) roofing or minimising the size of areas where contaminants or wastes are stored or handled;
- (d) revegetating disturbed areas as soon as practicable after the completion of works;
- (e) using materials and or processes (e.g. dry absorbents) to clean up spills that will minimise contamination of waters;
- (f) placing erosion and sediment control structures to minimise erosion of disturbed areas and prevent the contamination of waters;
- (g) an inspection and maintenance program for the erosion and sediment control measures;
- (h) provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from November to April;
- (i) additional erosion and sediment control measures for construction of wells and pipelines on slopes >10%;
- (j) a surface water monitoring program designed to detect impacts from sediment runoff into waters;
- (k) identification of remedial actions required to ensure compliance with the conditions of this environmental authority; and
- (l) details of community consultation strategies and processes to be used in further developing and implementing the Erosion and Sediment Control Plan.

Condition 24 E

The holder of this environmental authority must implement the Erosion and Sediment Control Plan.

Condition 24 F

Release

A copy of the Erosion and Sediment Control Plan must be made available to any potentially affected landholders upon request by that landholder.

From: [REDACTED] s.73 irrelevant information
Sent: Wednesday, 25 May 2011 1:33 PM
To: Smith Kim
Cc: [REDACTED] s.73 irrelevant information
Subject: RE: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi Kim,

Thank you for fast tracking these amendments and agreeing to pursue the other conditions not related to the seismic project separately.

I have reviewed the EA's and have a final comment/ change request included in the attached. I note I did not receive a copy of the EA for [REDACTED] s.73 irrelevant information however anticipate that the changes will reflect what is negotiated in the attached EA's.

The change requested is to Condition 24B from ATP 806 EA (different condition numbers in other EA's).

I suggest that the opening line to this condition is changed from: "The holder of this environmental authority must not clear vegetation or place fill:" to "The holder of this environmental authority must consider whether it is feasible to avoid clearing, and where viable alternatives exist, must not clear vegetation or place fill:"

The main justification behind this request is that in some areas there is no alternative but clear or place fill on areas that have dispersible soils. This is because dispersible soils can be prevalent in the areas of these tenements and it often becomes near impossible to avoid them at some locations.

Can you please let me know if DERM will agree to this change to the EA's?

[REDACTED] s.73 irrelevant information

If you need anything further please let me know.

Kind Regards,

[REDACTED] s.73 irrelevant information

QGC - A BG Group business

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]
Sent: Friday, 20 May 2011 3:03 PM
To: s.73 irrelevant information
Cc: Nand Parma; Drew David
Subject: Draft Conditions -OME Resources Australia Pty Ltd and ATP806.

Hi s.73 irrelevant information

Please find the draft conditions for OME Resources Australia Pty Ltd's seismic amendment for the abovementioned ATPs. I have inserted negotiated conditions from s.73 irrelevant information into these EAs as previously discussed.

<<Rev 4 Draft Conditions - ATP806 OME.doc>> s.73 irrelevant information

DERM can finalise these amendments promptly once QGC has provided their acceptance of the draft conditions.

The stimulation component will be addressed through correspondence separate to the seismic amendment process in due course.

Thanks
Kim

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management
GPO Box 2454, Brisbane, QLD 4001.

+-----+
Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water
+-----+

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered

address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this email or attachment is personal or unconnected with our business, BG Energy Holdings Limited accepts no liability or responsibility for it. Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Ms [redacted] irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 5 business days from 22 August 2011 to a revised decision date of **29 August 2011**.

The extension of time is required for the following reason(s):

- To allow DERM and OME time to negotiate environmental authority conditions.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Angus Broadfoot of the Department of Environment and Resource Management on telephone (07) 3330 6068.

POSTED
26/08/11



Notice
Notice of extension of decision period

sch4p4(6) Personal information

Signature

22/8/11

Date

David Drew
Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:
Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 6068
Fax. (07) 3330 5634

EHP RTI DL Release

Smith Kim

From: Smith Kim
Sent: Friday, 26 August 2011 4:29 PM
To: [REDACTED] s.73 irrelevant information
Cc: Broadfoot Angus
Subject: RE: 5 ATPS to be extended until Monday 12 September 2011
Attachments: [REDACTED] s.73 irrelevant information
ATP806 EOT to 12092011.pdf; [REDACTED] s.73 irrelevant information is-bi-review-and-appeal-court-em1866.pdf

Hi [REDACTED] Section 78B(2) RTI Act

I've attached the extension notices for the 5 ATPs and the review and appeals guideline.
I'll see you on Tuesday at the meeting.

Have a good weekend.
Kim

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au
Department of Environment and Resource Management
GPO Box 2454, Brisbane, QLD 4001.

From: Drew David (400 George St)
Sent: Friday, 26 August 2011 3:30 PM
To: [REDACTED] s.73 irrelevant information
Cc: Smith Kim; Broadfoot Angus
Subject: 5 ATPS to be extended until Monday 12 September 2011

Section 78B, Section [REDACTED] 78B(2)(c) - individuals privacy

I've organised for the 5 ATPS to be extended by 10 business days, as opposed to Monday 5 September. All of the EAs are ready apart from the unresolved scoping tables issue – so rather than extent for only 5bd with the likelihood of another extension and the associated paperwork, I've decided to extend until Monday 12 September 2011.

Regards, David

David Drew
A/Manager
Gas and Petroleum Unit
Environmental and Natural Resource Regulation
Department of Environment and Resource Management
p (07) 3330 5970
f (07) 3330 5634
mailto:david.a.drew@derm.qld.gov.au
400 George Street BRISBANE QLD 4000
GPO BOX 2454 BRISBANE QLD 4001

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: **W/S** irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 10 business days from 29 August 2011 to a revised decision date of **12 September 2011**.

The extension of time is required for the following reason(s):

- To allow DERM and OME time to negotiate environmental authority conditions.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Angus Broadfoot of the Department of Environment and Resource Management on telephone (07) 3330 6068.

Notice of extension of decision period

sch4p4(6) Personal information

Signature

26/8/11

Date

David Drew

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 6068
Fax. (07) 3330 5634

EHP RTI DL Release

Smith Kim

From: Drew David (400 George St)
Sent: Friday, 26 August 2011 3:30 PM
To: s.73 irrelevant information
Cc: Smith Kim; Broadfoot Angus
Subject: 5 ATPS to be extended until Monday 12 September 2011

Section 78B(2) RTI Act

I've organised for the 5 ATPS to be extended by 10 business days, as opposed to Monday 5 September. All of the EAs are ready apart from the unresolved scoping tables issue – so rather than extent for only 5bd with the likelihood of another extension and the associated paperwork, I've decided to extend until Monday 12 September 2011.

Regards, David

David Drew
A/Manager
Gas and Petroleum Unit
Environmental and Natural Resource Regulation
Department of Environment and Resource Management
p (07) 3330 5970
f (07) 3330 5634
<mailto:david.a.drew@derm.qld.gov.au>
400 George Street BRISBANE QLD 4000
GPO BOX 2454 BRISBANE QLD 4001

EHP RTI DL Release

Smith Kim

From: Broadfoot Angus
Sent: Monday, 22 August 2011 4:37 PM
To: s.73 irrelevant information
Cc: Smith Kim; s.73 irrelevant information
Subject: RE: Scoping tables

Attachments: s.73 irrelevant information
s.73 irrelevant information 110822_ATP806_OME_EOT til 29-08-11.pdf;
s.73 irrelevant information is-bi-review-and-appeal-court.pdf

s.73 irrelevant information

Please find attached the extension notices for the five Bowen Basin level 2 amendment applications and the information sheet regarding appeal procedures. The decision date for these applications is now 29 August 2011.

Please review the draft conditions provided on Friday, and again earlier today, for ATP806 (as the template for all five EAs) and provide any further comments, including information with regard to the scoping tables.

If you have any questions, please contact me on the details below.

Regards,
Angus

Angus Broadfoot

A/ Senior Environmental Officer
Petroleum and Gas Unit | DERM
T: 07 3330 6068 | F: 07 3330 5634
www.derm.qld.gov.au

From: s.73 irrelevant information
Sent: Monday, 22 August 2011 1:20 PM
To: Broadfoot Angus
Cc: s.73 irrelevant information
Subject: RE: Scoping tables

Hi Angus,

Thank you for your response,
I agree it will be difficult to provide further detail and resolve these matters prior to 3pm.
Can you please proceed with the extension of these EAs as discussed.

Kind Regards

s.73 irrelevant information

CONFIDENTIALITY AND PRIVILEGE NOTICE:

This message and any accompanying attachments are intended for the addressee named and may contain confidential or privileged information. If you are not the intended recipient do not read, use, distribute or copy this message or attachments. Please notify the sender immediately and delete the message.

From: Broadfoot Angus [mailto:Angus.Broadfoot@derm.qld.gov.au]
Sent: Monday, 22 August 2011 12:53 PM
To: s.73 irrelevant information
Subject: Scoping tables

s.73 irrelevant information

DERM's position is that scoping tables are beneficial in describing and indicating the level of activity that is authorised to occur over the applicable area. This is vital in giving the publicly available documents relevance and scope.

It is requested that QGC populate these tables as realistically as possible. If this is not considered appropriate or feasible please provide further comment for our assessment.

If the scoping table cannot be agreed upon by 3pm today it will be necessary to extend these EAs for at least another 5 business days.

Thanks,
Angus

Angus Broadfoot

A/ Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone: 07 3330 6068 | Facsimile: 07 3330 5634
angus.broadfoot@derm.qld.gov.au
400 George Street, BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001
www.derm.qld.gov.au

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise

us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this email or attachment is personal or unconnected with our business, BG Energy Holdings Limited accepts no liability or responsibility for it. Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has

Release

been transmitted.

EHP RTI DL Release

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Ms [redacted] irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 5 business days from 22 August 2011 to a revised decision date of **29 August 2011**.

The extension of time is required for the following reason(s):

- To allow DERM and OME time to negotiate environmental authority conditions.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Angus Broadfoot of the Department of Environment and Resource Management on telephone (07) 3330 6068.

Notice of extension of decision period

sch4p4(6) Personal information

Signature

22/8/11

Date

David Drew

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 6068
Fax. (07) 3330 5634

EHP RTI DL Release

Notice

Environmental Protection Act

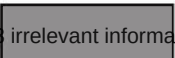
Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention:  irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 5 business days from 12 August 2011 to a revised decision date of **22 August 2011**.

The extension of time is required for the following reason(s):

- To allow DERM and OME time to negotiate environmental authority conditions.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.



Notice of extension of decision period

<div><p>sch4p4(6) Personal information</p></div>	
---	--

Signature

<div><p>12/8/2011</p></div>
--

Date

Steven Tarte

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634

EHP RTI DL Release



Smith Kim

From: s.73 irrelevant information
Sent: Friday, 5 August 2011 5:06 PM
To: Smith Kim
Subject: RE: Extension Notices - ATP s.73 irrelevant information 806

Thanks Kim, talk to you Monday.

s.73 irrelevant information

From: Smith Kim [mailto:Kim.Smith@derm.qld.gov.au]
Sent: Friday, 5 August 2011 4:58 PM
To: s.73 irrelevant information
Subject: Extension Notices - ATP s.73 irrelevant information 806

s.73 irrelevant information

Please find attached extension notices for the 5 Level 2 Bowen Basins (s.73 irrelevant information) and s.73 irrelevant information (which was discussed earlier with Rod).

The review and appeal guideline is also attached.

s.73 irrelevant information

<<atp806.pdf>>

s.73 irrelevant information

s.73 irrelevant information

<<is-bi-review-and-appeal-court-em1866.pdf>>

I will talk to you next week.

Regards

Kimberley Smith
Senior Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone No: (07) 3330 5609
Facsimile No: (07) 3330 5634
Email: kimberley.smith@derm.qld.gov.au
www.derm.qld.gov.au

Department of Environment and Resource Management

GPO Box 2454, Brisbane, QLD 4001.

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

+-----+

BG Energy Holdings Limited
Registered in England & Wales No: 3763515 Registered address:
100 Thames Valley Park Drive
Reading, Berkshire RG6 1PT UK
Telephone: +44 (0)118 935 3222
Website: <http://www.BG-Group.com>

This e-mail is intended only for the addressee named above. As this e-mail may contain confidential or privileged information, please advise us immediately if you are not the named addressee or the person responsible for delivering the message to the named addressee and delete all copies from your system. The contents should not be disclosed to any other person nor copies taken. If the content of this email or attachment is personal or unconnected with our business, BG Energy Holdings Limited accepts no liability or responsibility for it. Please also note that we make every effort to keep our network free from viruses and this email has been scanned accordingly. BG Energy Holdings Limited accepts no responsibility for viruses once an email has been transmitted.

EHP RTI DL 20110805

Smith Kim

From: Smith Kim
Sent: Friday, 5 August 2011 4:58 PM
To: s.73 irrelevant information
Subject: Extension Notices - ATP s.73 irrelevant information, 806

Attachments:

s.73 irrelevant information atp806.pdf; s.73 irrelevant information
 s.73 irrelevant information is-bi-review-and-appeal-court-em1866.pdf

s.73 irrelevant information

Please find attached extension notices for the 5 Level 2 Bowen Basins ATP s.73 irrelevant information s.73 irrelevant information s.73 irrelevant information
 (which was discussed earlier with Rod).
 The review and appeal guideline is also attached.

s.73 irrelevant information



atp806.pdf (208 KB)

s.73 irrelevant information



is-bi-review-and-appeal-court-...

I will talk to you next week.

Regards

Kimberley Smith

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

3PO Box 2454, Brisbane, QLD 4001.

Smith Kim

From: Broadfoot Angus
Sent: Wednesday, 20 April 2011 1:46 PM
To: s.73 irrelevant information
Cc: Smith Kim
Subject: Extension notices on ATP amendment applications
Follow Up Flag: Follow up
Flag Status: Red
Attachments: s.73 irrelevant information

s.73 irrelevant information
s.73 irrelevant information
notice ATP806 PEN200013707(amendment).pdf
s.73 irrelevant information
is-bi-review-and-appeal-court.pdf

s.73 irrelevant information

Please find attached scanned copies of extension notices and appeal rights regarding the amendment applications on ATPs s.73 irrelevant information and s.73 irrelevant information

Hard copies of the notices have been mailed to the relevant postal addresses provided.

Kim Smith is out of the office today. If you have any questions with regard to these notices please contact me on the details below or Kim will be able to assist upon her return to the office.

Regards,
Angus

Angus Broadfoot

Environmental Officer
Petroleum and Gas Unit
Environment and Natural Resource Regulation
Department of Environment and Resource Management
Telephone: 07 3330 6068 | Facsimile: 07 3330 5634
angus.broadfoot@derm.qld.gov.au
400 George Street, BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001
www.derm.qld.gov.au

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Limited
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Mr [redacted] irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Limited on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 8 business days from 20 April 2011 to a revised decision date of 6 May 2011.

The extension of time is required for the following reason(s)

- To allow the administering authority sufficient time to review OME Resources Australia Pty Limited's comments on draft Environmental Authority conditions; and
- To allow the administering authority sufficient time to make a properly informed decision on the application.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Notice of extension of decision period

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.

sch4p4 (6) Personal information

Signature

20 APRIL 2011

Date

Parma Nand

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634

EHP RTI DL Release

Smith Kim

From: Smith Kim
Sent: Friday, 17 June 2011 4:38 PM
To: s.73 irrelevant information
Cc: Drew David; s.73 irrelevant information
Subject: s555 Notices for ATP806, s.73 irrelevant information

Attachments: is-bi-review-and-appeal-court[1].pdf; 20110617160728993.pdf; 20110617160737874.pdf; 20110617160747589.pdf; 20110617160757309.pdf; 20110617160806029.pdf

s.73 irrelevant information

Please find attached extension notices for the above mentioned ATP amendment applications as requested by QGC. The Review and Appeal provisions have also been attached for your reference.



is-bi-review-and-ap
 peal-court[...



20110617160728992011061716073787201106171607475820110617160757302011061716080602
 3.pdf (232 KB)... 4.pdf (231 KB)... 9.pdf (229 KB)... 9.pdf (212 KB)... 9.pdf (227 KB)...

Regards**Kimberley Smith**

Senior Environmental Officer

Petroleum and Gas Unit

Environment and Natural Resource Regulation

Department of Environment and Resource Management

Telephone No: (07) 3330 5609

Facsimile No: (07) 3330 5634

Email: kimberley.smith@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management
 GPO Box 2454, Brisbane, QLD 4001.

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Mr [redacted] irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 20 business days from 17 June 2011 to a revised decision date of **15 July 2011**.

The extension of time was requested by OME and is required for the following reason(s):

- To allow OME and the Department of Environment and Resource Management additional time to negotiate Environmental Authority conditions.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.



Notice
Notice of extension of decision period

sch4p4 6) Personal information

Signature

17 JUNE 2011

Date

Parma Nand
Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:
Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634

EHP RTI DL Releas

Notice

Environmental Protection Act

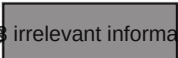
Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention:  irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 5 business days from 29 July 2011 to a revised decision date of **05 August 2011**.

The extension of time was mutually agreed to by OME and DERM and is required for the following reason(s):

- To allow OME additional time to submit a response to draft conditions; and
- To allow DERM time to consider OME's response and decide the application.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.

Notice of extension of decision period

sch4p4(6) Personal information

Signature

29/7/2011

Date

Steven Tarte

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634

EHP RTI DL Release

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Ms [redacted] s.73 irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 4 business days from 10 June 2011 to a revised decision date of **17 June 2011**.

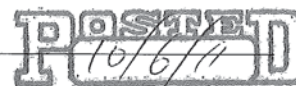
The extension of time was requested by OME and is required for the following reason(s):

- To allow OME time to comment on draft Environmental Authority conditions; and
- To allow the administering authority sufficient time to make a properly informed decision on the application following receipt of OME comments.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.



Notice

Notice of extension of decision period

sch4b4(6) Personal information

Signature

10 JUNE 2004

Date

Parma Nand

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634

EHP RTI DL Released



Notice

Environmental Protection Act

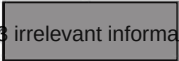
Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention:  irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 10 business days from 15 July 2011 to a revised decision date of **29 July 2011**.

The extension of time was requested by OME and is required for the following reason(s):

- To allow OME and the Department of Environment and Resource Management additional time to negotiate Environmental Authority conditions.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.



Notice of extension of decision period

sch4p4(6) Personal information

Signature

13/7/2011

Date

Steven Tarte

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634

Notice

Environmental Protection Act

Notice of extension of decision period

This statutory notice is issued by the administering authority pursuant to section 555 of the Environmental Protection Act 1994, to advise you of a decision to extend the decision period for your application.

OME Resources Australia Pty Ltd
GPO Box 3107
BRISBANE QLD 4001

Your reference : ATP806/PEN200013707

Our reference 315483/BNE44624v1

Attention: Mr [redacted] irrelevant information

Re: Application to amend a level 2 Environmental Authority PEN200013707 by OME Resources Australia Pty Ltd (OME) on Authority to Prospect (ATP) 806.

The administering authority extends the decision period for the above referenced application, received by this office on 22 December 2010, by another 20 business days from 17 June 2011 to a revised decision date of **15 July 2011**.

The extension of time was requested by OME and is required for the following reason(s):

- To allow OME and the Department of Environment and Resource Management additional time to negotiate Environmental Authority conditions.

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. You may also appeal against this decision to the Planning and Environment Court.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. You may have other legal rights and obligations.

Should you have any queries in relation to this notice, please contact Kimberley Smith of the Department of Environment and Resource Management on telephone (07) 3330 5609.

Notice
Notice of extension of decision period

sch4p4(6) Personal information

Signature

17 JUNE 2011

Date

Parma Nand

Delegate of Administering Authority
Environmental Protection Act 1994

Enquiries:

Department of Environment and Resource
Management
Petroleum and Gas Unit
Level 7, 400 George Street Brisbane QLD
GPO Box 2454 BRISBANE QLD 4001
Ph. (07) 3330 5609
Fax. (07) 3330 5634