Permit

Environmental Protection Act 1994

Environmental Authority EPPG00721013

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EPPG00721013

Environmental authority takes effect on 12 November 2019

Environmental authority holder(s)

Name(s)	Registered address
PAPL (Downstream) Pty Limited	'ADDISONS' Level 12 60 Carrington Street SYDNEY NSW 2000
KGLNG Liquefaction Pty Ltd	Level 11 28 The Esplanade PERTH WA 6000
Total GLNG Australia	Level 13 28 The Esplanade PERTH WA 6000
SANTOS GLNG PTY LTD	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Non-Scheduled Petroleum Activity Petroleum Pipeline Licence - PPL	PPL147

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

ABN 46 640 294 485

Queensland Government

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or

b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or

c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Sustainable Planning Act 2009* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the

additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

Tristan Roberts
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 12 November 2019

Enquiries:
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Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Environmental Authority Conditions

This environmental authority consists of the following schedules:

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SCHEDULE A – GENERAL CONDITIONS

Authorised Petroleum Activities

(A1) In the carrying out of the petroleum activity(ies), the holder of this environmental authority must not exceed the number and maximum size for each of the specified petroleum activities listed in *Schedule A, Table 1 – Authorised Petroleum Activities and Pipeline Location*.

(A2) The pipeline corridor must be built within the locations outlined in *Schedule A, Table 1 – Authorised Petroleum Activities and Pipeline Location*.

Schedule A, Table 1 – Authorised Petroleum Activities and Pipeline Location

Petroleum Licence No.	Petroleum Activity	Maximum size and number (where applicable)	Easting (MGA Zone 55)	Northing (MGA Zone 55)
147 Fairview Pipeline	KP 0.0 (start point) – Launcher outlet flange	12.5km	693168.02	7165980.56
	KP 12.5 Receiver inlet flange		689687.93	7155345.99

Note: KP – kilometre points along the pipeline route from the start point.

Prevent or Minimise Likelihood of Environmental Harm

(A3) 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

(A4) 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.

(A5) 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.

Financial Assurance

(A6) The holder of this environmental authority must:

(a) provide to the administering authority financial assurance in the amount and form required from time to time by the administering authority for the authorised petroleum activities; and
(b) review and maintain the amount of financial assurance based on the activities and rehabilitation to be undertaken as per the Environmental Management Plan.

(A7) The calculation of financial assurance must be in accordance with the most recent version of the Department of Environment and Resource Management's Guideline "Financial assurance for petroleum activities".

(A8) The financial assurance is to remain in force until the administering authority is satisfied that no claim is likely to be made on the assurance.

Contingency Plan for Emergency Environmental Incidents

(A9) A Contingency Plan for Emergency Environmental Incidents which has been certified by a suitability qualified person must be developed.

(A10) The Contingency Plan for Emergency Environmental Incidents must include, but not necessarily be limited to:

(a) a clear definition of what constitutes an environmental emergency incident or near miss for the petroleum activity(ies) authorised to be carried out under this environmental authority;
(b) identification of the types of environmental incidents that may occur, relevant to the petroleum activity(ies) authorised to be carried out under this environmental authority;
(c) response procedures to be implemented to prevent or minimise the risk of environmental harm arising from environmental emergency incidents;
(d) response procedures to minimise the extent and duration of environmental harm caused by environmental emergency incidents;
(e) the practices and procedures to be employed to restore the environment or mitigate any environmental harm caused;
(f) communication procedures and lines of communication within and beyond the organisation (including Local Government) to be employed in responding to environmental emergency incidents;
(g) the resources to be used in response to environmental emergency incidents;
(h) procedures to investigate the cause of any incidents (including releases) or near misses and where necessary, the remedial actions to be implemented to reduce the likelihood of recurrence of similar events;
(i) procedures for responding to incidents resulting from stimulation activities, including specific rectification measures in the event of non-routine stimulation events.
(j) plans for restoring loss of well mechanical integrity so as to prevent environmental harm;
(k) procedures to avoid / minimise discharges resulting from any overtopping or loss of structural integrity of a dam;
(l) proceedures to respond to a regulated dam reaching mandatory reporting level;
(m) proceedures to respond to a regulated dam reaching exceeding its design storage allowance;
(n) a receiving environment monitoring program, to be specifically implemented in the event of a release to waters or land to examine / assess environmental impacts. For monitoring of waters, this program must include upstream, downstream and impact site monitoring. For soils monitoring, three replicate samples must be taken at depth intervals of 0-10 cm, 20-30 cm and 50-60 cm at both an analogue and the impact site as a minimum;
(o) the provision and availability of documented procedures to staff attending any emergency environmental incident to enable them to effectively respond;
(p) training of staff that will be called upon to respond to emergency environmental incidents to enable them to effectively respond;
(q) timely and accurate reporting of the circumstance and nature of emergency environmental incidents to the administering authority and any affected landholder, occupier and / or their nominated representative in accordance with conditions of this environmental authority; and
(r) procedures for accessing monitoring points during emergency environmental incidents.

(A11) The holder of this environmental authority must implement the Contingency Plan for Emergency Environmental Incidents.

Documentation and Records Management

(A12) A record of all documents required by this environmental authority must be:

a) kept for a minimum of five (5) years; and
b) be made available to an authorised person upon request.

(A13) The holder of this environmental authority must develop all documents required under this environmental authority in a way this is consistent with the requirements of this environmental authority.

SCHEDULE B – WATER

Contaminant Release

(B1) Contaminants must not be directly or indirectly released to any waters except as permitted under this environmental authority.

Erosion and Sediment Control Plan

(B2) Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment and contaminated stormwater to waters.

(B3) An Erosion and Sediment Control Plan must be developed and implemented for all stages of the petroleum activities and which has been certified by a Certified Professional in Sediment and Erosion Control, or a professional with appropriate experience and or qualifications accepted by the administering authority and must include but not be limited to:

- (a) diverting uncontaminated stormwater run-off around areas disturbed by petroleum activities or where contaminants or wastes are stored or handled that may contribute to stormwater;
- (b) contaminated stormwater runoff and incident rainfall is collected; and 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 the disturbed area as soon as practicable after the completion of works;
- (e) using alternate materials and or processes (such as dry absorbents) to clean up spills that will minimise the generation of contaminated waters;
- (f) erosion and sediment control structures are placed to minimise erosion of disturbed areas and prevent the contamination of any waters;
- (g) an inspection and maintenance program for the erosion and sediment control features;
- (h) provision for adequate access to maintain all erosion and sediment control measures especially during the wet season months from December to March;
- (i) erosion and sediment control measures for construction of wells and pipelines on slopes >10%; and
- (j) identification of remedial actions that would be required to ensure compliance with the conditions of this environmental authority.

(B4) A copy of the Erosion and Sediment Control Plan must be submitted to the administering authority upon request.

Stormwater Management

(B5) There must be no release of stormwater runoff that has been in contact with any contaminants at the site to any waters, roadside gutter or stormwater drain.

Maintenance and Cleaning

(B6) The maintenance and cleaning of vehicles and any other equipment or plant must be carried out in areas from where the resultant contaminants cannot be released into any waters

Watercourses, Wetlands and Springs

(B7) In the carrying out of the petroleum activities the holder of this environmental authority must not clear vegetation or place fill, in or within:

(a) 200 metres from any wetland, lake or spring; or
(b) 100 metres of the high bank of any other watercourse.

(B8) The holder of this environmental authority must not excavate or place fill in a way that adversely interferes with the flow of water in a watercourse, wetland or spring, including works that divert the course of flow of the water or works that impound the water.

(B9) Despite conditions (B7) and (B8), pipeline, track and road construction works may be undertaken in a watercourse where there is no reasonable and practicable alternative (i.e trenchless methods) for a maximum period of 10 business days, provided that the works are conducted:

(a) during times of no flow;
(b) using all reasonable and practicable measures to reduce impacts in times of flow;
(c) in accordance with the *Upstream – Petroleum Pipeline Licence (PPL) 147 Environment Management Plan*.; and
(d) in accordance with the *International Erosion Control Association* (*IECA) 2008 Best Practice Erosion and Sediment Control – Appendix 1* (*Instream Works).*

(B10) The petroleum activities or works resulting in significant disturbance to the bed and banks of a watercourse, lake, wetland or spring must:

(a) be no greater than the minimum area necessary for the purpose of the significant disturbance;
(b) be designed and undertaken by a suitably qualified person taking into account the matters listed in the “Planning Activities” and “Impact Management” sections of the Department of Environment and Resource Management’s “Guideline – Activities in a watercourse, lake or spring associated with mining operations” December 2010, as amended from time to time*;* and
(c) upon cessation of the petroleum activities or works, commence rehabilitation immediately.

(B11) Sediment control measures must be implemented to minimise any increase in water turbidity due to carrying out the petroleum activities in the bed and banks of a watercourse.

(B12) Routine, regular and frequent visual monitoring must be undertaken while carrying out construction work and / or any maintenance of completed works in a watercourse, lake, wetland or spring.

(B13) If, due to the petroleum activities, water turbidity increases in the watercourse, lake, wetland or spring outside contained areas, works must cease and the sediment control measures must be rectified to limit turbidity before the petroleum activity(ies) recommences.

Floodplains

(B14) Where the petroleum activity(ies) is carried out on floodplain areas, the holder of this environmental authority must ensure that the petroleum activity(ies) does not:

(a) concentrate flood flows in a way that will or may cause or threaten an adverse environmental impact; or
(b) divert flood flows from natural drainage paths and alter flow distribution; or
(c) increase the local duration of floods; or
(d) increase the risk of detaining flood flows; or

(e) pose an unacceptable risk to the safety of persons from flooding; or
(f) pose an unacceptable risk of damage to property from flooding.

Groundwater

(B15) Contaminants must not be directly or indirectly released to any groundwaters except as permitted under this environmental authority.

SCHEDULE C – DAMS

(C1) Dams are not authorised under this environmental authority.

SCHEDULE D — LAND

General

(D1) Contaminants must not be directly or indirectly released to land except as permitted under this environmental authority.

(D2) The release of contaminants to land must be carried out in a manner such that:

(a) vegetation is not damaged;
(b) soil quality is not adversely impacted;
(c) there is no surface ponding or runoff to waters;
(d) there is no aerosols or odours;
(e) deep drainage below the root zone of any vegetation is minimised;
(f) the quality of shallow aquifers is not adversely affected.

(D3) Contaminants that are hydrostatic test water from pipelines and contaminants from low point drains may be released to land in accordance with condition (D2).

Disturbance to Land – General

(D4) Prior to conducting petroleum activities 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.

(D5) The assessment required by condition (D2) 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 and the presence of species classed as endangered, vulnerable, rare or near threatened under the *Nature Conservation Act 1992*.

Disturbance to Land – Environmentally Sensitive Areas

(D6) Details of any significant disturbance to land undertaken within the primary protection zone of, or in a Category B or C Environmentally Sensitive Area, along with a record of the assessment required by conditions (D2) and (D3) must be kept and submitted to the administering authority with each annual return.

(D7) Prior to conducting petroleum activities, the holder of the environmental authority must ensure that all staff, contractors or agents carrying out those petroleum activities are made aware of the location of any Category A, B or C environmentally sensitive areas and the requirements of this environmental authority.

(D8) A maximum area of 59.105ha of vegetation may be cleared within the PPL 147 boundary for the pipeline right of way as detailed in *Schedule D – Table 1: Maximum Vegetation Clearing Authorised for Regional Ecosystems*.

Schedule D – Table 1: Maximum Vegetation Clearing Authorised

Tenure	Regional Ecosystem Biodiversity Status [1]	Regional Ecosystem Descriptor [1]	Area (ha)
PPL147	Non-remnant vegetation		44.659
	Of Concern	11.3.2/11.3.25	0.352
	Not of Concern	11.10.1/11.10.13 a	15.481

[1] Regional ecosystem classification and descriptors as per the administering authority's Regional Ecosystem Description Database.

(D9) Cleared vegetation must be stockpiled in a manner that facilitates respreading (e.g., by mulching) and does not impede vehicle, stock or wildlife movements.

Pipeline Construction

(D10) The pipeline construction corridor must not exceed 30 metres in width.

(D11) The turn arounds and work areas must not exceed 50 metres in width.

Soil Management Plan

(D12) A Soil Management Plan which has been certified by a suitably qualified person must be developed prior to the commencement of the petroleum activities authorised by this environmental authority.

(D13) The Soil Management Plan must include, but not necessarily be limited to:

(a) establishing baseline soils information for areas to be disturbed including soil depth, pH, electrical conductivity (EC), chloride, cations (aluminium, calcium, magnesium, potassium and sodium), exchangeable sodium percentage (ESP), particle size and soil fertility (including carbon, nitrogen, phosphorous, potassium, sulphur and micronutrients);
(b) a soils monitoring program outlining parameters to be monitored, frequency of monitoring and acceptable ranges for each parameter;
(c) identification of soil units within areas to be disturbed by the petroleum activity(ies) at a scale of 1:10 000, in accordance with the “Guidelines for Surveying Soil and Land Resources, 2nd Edition” (McKenzie et al. 2008), “Australian Soil and Land Survey Handbook, 3rd Edition” (National Committee on Soil and Terrain 2009) and “The Australian Soil Classification” (Isbell 2002), as amended from time time;
(d) development of soil descriptions that are relevant to assessment for agricultural suitability, topsoil assessment, erodibility and rehabilitation, for example:
    (i) black earths;
    (ii) shallow cracking clay soils;
    (iii) deep cracking clay soils;
    (iv) deep saline and/or sodic cracking clay soils with melonholes;
    (v) thin surface, sodic duplex soils;
    (vi) medium to thick surface (i.e. > 15 cm), sodic duplex soils; and
    (vii) non-sodic duplex soils;
(e) detailed horizon and soils compaction management procedures, including top soil and top soil stockpile management procedures to minimise the impacts of soil disturbance and promote successful rehabilitation;
(f) detailed mitigation measures and procedures to manage the risk of adverse soil disturbance in the carrying out of the petroleum activity(ies);
(g) for pipelines, methods of keeping soil horizons separate on excavation, storage and backfilling; and
(h) for areas of good quality agricultural land, detailed methods to be undertaken to minimise potential impacts to soil productivity.

(D14) The holder of this environmental authority must implement the Soil Management Plan.

(D15) A copy of the Soil Management Procedures must be submitted to any potentially affected landholder upon request by that landholder.

Acid Sulfate Soils Environmental Management Plan

(D16) An Acid Sulfate Soil Environmental Management Plan that meets the content requirements of Appendix 4 of the State Planning Policy 2/02 Guideline Acid Sulfate

Soils must be prepared prior to undertaking either of the following activities in acid sulfate soils:

(a) any excavation or otherwise removing 100 m^3 or more of soil or sediment; or
(b) filling of land involving 500 m^3 or more of material with an average depth of 0.5 m or greater.

(D17) Any Acid Sulfate Soil Environmental Management Plan required by condition (D14) must be prepared and certified by a suitably qualified person.

(D18) The holder of this environmental authority must implement the Acid Sulphate Soil Environmental Management Plan.

Fauna Management Procedures

(D19) Fauna management procedures must be developed prior to the commencement of the petroleum activities authorised under this environmental authority.

(D20) The fauna management procedures must be certified by a suitably qualified person.

(D21) The fauna management procedures must include, but not necessarily be limited to:

(a) measures to ensure that the petroleum activities (including, but not necessarily limited to: pipeline construction and operation) are carried out in a manner that minimises the risk of injury, harm, or entrapment to wildlife and stock;
(b) measures to ensure pipeline trenches are left open only for the minimum time practicable;
(c) measures to ensure the length of pipeline trench open at any one time is minimised as far as practicable;
(d) measures to ensure that during construction, pipe must be strung with gaps to allow for fauna movement across the line of the pipe;
(e) prevention of fauna entrapment in pipe sections or within the pipeline trench.
(f) measures to check open trenches and pipes for fauna prior to backfill and any trapped animals removed;
(g) training and awareness of staff and contractors; and
(h) measures for planned fauna handling to be undertaken by a suitably qualified person.

(D22) The holder of this environmental authority must implement the fauna management procedures.

Pest Management Program

(D23) Pest management procedures must be developed prior to the commencement of the petroleum activities authorised under this environmental authority.

(D24) The pest management procedures must be certified by a suitably qualified person.

(D25) The pest management procedures must include, but not necessarily be limited to:

(a) identification of pest species and infestation areas;
(b) prevention and/or minimisation of the introduction and/or spread of pests;
(c) control and management of pest outbreaks as a result of the petroleum activity(ies); and
(d) details of community consultation in developing the pest management procedures.

(D26) A copy of the pest management procedures must be made available to any potentially affected landholder upon request by that landholder.

(D27) The holder of this environmental authority must implement the pest management procedures.

Chemical and Fuel Storage

(D28) All explosives, hazardous chemicals, corrosive substances, toxic substances, gases, dangerous goods, flammable and combustible liquids (including petroleum products and associated piping and infrastructure) must be stored and handled in accordance with the relevant Australian Standard where such is available.

(D29) Notwithstanding the requirements of any Australian Standard, any liquids stored on site that have the potential to cause environmental harm must be stored in, or serviced by, an effective containment system that is impervious to the materials stored and managed to prevent the release of liquids to waters or land.

(D30) Where no relevant Australian Standard is available for the chemical and / or fuel storage activity, the following requirements apply:

(a) storage tanks must be bunded so that the capacity and construction of the bund is sufficient to contain at least 110 % of a single storage tank or 100 % of the largest storage tank plus 10 % of the second largest storage tank in multiple storage areas; and
(b) drum storages must be bunded so that the capacity and construction of the bund is sufficient to contain at least 25 % of the maximum design storage volume within the bund.

(D31) All containment systems must be designed to minimise rainfall collection within the system.

SCHEDULE E – ENVIRONMENTAL NUISANCE

Odour, dust and other airborne contaminants

(E1) The release of odour, dust or any other airborne contaminant(s), or light from the petroleum activities must not cause an environmental nuisance at any sensitive place.

Noise

(E2) A Noise Management Plan which has been certified by a suitably qualified person must be developed.

(E3) 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 (E3)(j); and
(l) mediation processes to be used in the event that noise complaints are not able to be resolved.

(E4) The holder of this environmental authority must implement the Noise Management Plan.

(E5) 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*.

(E6) The emission of noise from the petroleum activities 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	$L_{Aeq,adj,15\ min}$ Max $L_{pA,\ 15\ mins}$	L_{ABG} + 10 dBA	L_{ABG} + 8 dBA	L_{ABG} + 5 dBA
6:00 pm – 10:00 pm	$L_{Aeq,adj,15\ min}$ Max $L_{pA,\ 15\ mins}$	L_{ABG} + 10 dBA	L_{ABG} + 8 dBA	L_{ABG} + 5 dBA
10:00 pm – 6:00 am	$L_{Aeq,adj,15\ min}$ Max $L_{pA,\ 15\ mins}$	L_{ABG} + 3 dBA	L_{ABG} + 3 dBA	L_{ABG} + 3 dBA
6:00 am – 7:00 am	$L_{Aeq,adj,15\ min}$ Max $L_{pA,\ 15\ mins}$	L_{ABG} + 10 dBA	L_{ABG} + 8 dBA	L_{ABG} + 5 dBA

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 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

(E7) 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 audible	+ 5 dBA

(E8) Where alternative arrangements are in place with an affected person(s) at a sensitive receptor as referred to by condition (E3)(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

(E9) Notwithstanding condition (E6), emission of any noise below 315 Hz must not cause an environmental nuisance.

(E10) Low frequency noise from the petroleum activities is not considered to be an environmental nuisance under condition (E9) 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.

Vibration and Blasting

(E11) A Blast Management Plan must be developed in accordance with Australian Standard 2187 by a suitably qualified person prior to each blasting activity.

(E12) 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.

(E13) All blasting must be carried out in a proper manner by a suitably qualified person.

(E14) All blasting must be carried out in accordance with the Blast Management Plan.

(E15) 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.

(E16) 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.

SCHEDULE F – AIR

Fuel Burning or Combustion Equipment

(F1) Fuel burning and combustion equipment point sources that are capable of burning at least 500 kg in an hour are not authorised under this environmental authority.

SCHEDULE G – WASTE

General

(G1) Unless otherwise managed or released in accordance with other conditions of this environmental authority, general waste must 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*.

(G2) 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.

(G3) Waste must not be burned or be allowed to be burned on the site.

(G4) All waste fluids and muds resulting from drilling and exploration petroleum activities must be contained in a dam or containment structure for disposal, remediation or reuse where applicable.

SCHEDULE H – PIPELINES

GENERAL CONDITIONS

(H1) The holder of this authority must ensure that the pipeline is designed, constructed, operated and maintained in accordance with AS2885 or any subsequent versions thereof, and accepted engineering standards.

(H2) The condition of the relevant pipelines must be assessed by a suitably qualified and experienced person after their construction, and then not less frequently than on an annual basis.

(H3) The condition of pipelines must be monitored for early signs of loss of structural or hydraulic integrity based on the advice of a suitably qualified and experienced person.

(H4) In the event of early signs of loss of structural or hydraulic integrity, the holder of this authority must take action to prevent or minimize any actual or potential environmental harm, and report any findings and actions taken to the administering authority.

(H5) The holder of this authority must decommission the pipeline in accordance with AS2885 and to a situation where ongoing environmental harm is prevented. As a minimum, pipelines must be decommissioned such that:

a) pipelines no longer contain hazardous contaminants;
b) pipelines are left in stable condition;
c) all the above ground infrastructure is removed, and
d) all areas disturbed by above ground infrastructure are rehabilitated in accordance with the requirements of this authority.

(H6) Prior to the commencement of decommissioning or abandonment activities, the scope of work for decommissioning or abandonment shall be developed and agreed to with the administering authority.

(H7) The holder of this authority must ensure that activities conducted in accordance with this authority do not compromise the integrity of another pipeline, whether or not that pipeline is under the control of the holder.

SCHEDULE I – REHABILITATION

Progressive Rehabilitation for Significantly Disturbed Land

(I1) Pipelines trenches must be backfilled immediately after pipe laying and rehabilitated as soon as practicable but not longer than three (3) months after completion.

(I2) During backfilling of pipeline trenches, soils must be replaced so that the soil horizons are consistent with the soil horizons of the immediately surrounding area.

(I3) Backfilled and rehabilitated pipeline trenches must:

- (a) be a stable landform;
- (b) exhibit no subsidence or erosion gullies for the life of the operational pipeline; and
- (c) be re-profiled to a level consistent with surrounding soils; and
- (d) be re-profiled to original contours and established drainage lines; and
- (e) be visually consistent with the surround land features; and.
- (f) be vegetated with groundcover as a minimum to ensure that erosion is minimised.

(I4) Progressive rehabilitation of significantly disturbed land caused by the carrying out of the petroleum activity(ies) (other than constructing pipelines) which is not required for the ongoing conduct of the petroleum activity(ies) must commence as soon as practicable, but not longer than nine (9) months following the completion of any construction or operational works associated with the petroleum activity(ies).

(I5) Progressive rehabilitation of significantly disturbed land caused by the carrying out of the petroleum activity(ies) must:

- (a) remediate any contaminated land (e.g. contaminated soils, decommissioned dams containing salt);
- (b) reshape all significantly disturbed land to a stable landform;
- (c) reprofile all significantly disturbed land to original contours;
- (d) on all significantly disturbed land:
  - (i) re-establish surface drainage lines;
  - (ii) reinstate the top layer of the soil profile;
  - (iii) establish groundcover to ensure that erosion is minimised;
  - (iv) establish vegetation of floristic species composition found in analogue sites;
- (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

(I6) 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 Environmental Management Plan;
- (b) all significantly disturbed land is reinstated to the pre-disturbed soil suitability class;
- (c) the landform is safe for humans and fauna;
- (d) the landform is stable with no subsidence or erosion gullies for at least five (5) years;
- (e) a minimum of 80% percent foliage cover of analogue sites is maintained in the rehabilitated sites for at least three (3) years;
- (f) a minimum of 80% of the flora species diversity in analogue sites is maintained in the rehabilitated sites for at least three (3) years;

(g) a minimum of 80% of the fauna species diversity in analogue sites is maintained in the rehabilitated sites for at least three (3) years;
(h) erosion is minimised with appropriate sediment traps and erosion control measures installed as determined by a suitably qualified person;
(i) 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;
(j) there is no ongoing contamination to waters;
(k) there is no ongoing contamination to groundwater from dams or monocells (demonstrated via groundwater monitoring and leak detection monitoring systems); and
(l) 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).

(I7) Notwithstanding condition (I6), all buried pipelines must be decommissioned in accordance with the requirements of Australian Standard 2885**.**

(I8) The pipeline construction corridor must be rehabilitated on completion of laying the pipe, with the exception of the width of an access track, if necessary, to enable vehicular movement along the corridor for pipeline inspection and maintenance.

SCHEDULE J – MONITORING PROGRAMS

General

(J1) The holder of this environmental authority must develop and implement a monitoring program for all monitoring required by the conditions of this environmental authority.

(J2) All monitoring under this environmental authority must be conducted by a suitably qualified person.

(J3) 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.

(J4) 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.

(J5) 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.

(J6) 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.

(J7) 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.

(J8) 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 exceedances 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.

(J9) The evaluation and explanation of data for the purposes of the annual monitoring report must be performed by a suitably qualified person.

Noise Monitoring

(J10) The holder of this environmental authority must undertake noise monitoring as soon as practicable when requested by the administering authority.

(J11) 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.

(J12) 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 $L_{pA,\ \mathbf{15\ mins}}$;
(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 $L_{\mathbf{pZ,\ 15\ mins}}$; 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.

(J13) 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.

Blast and Vibration Monitoring

(J14) Monitoring and recording of the air blast overpressure and ground borne vibration of every blast must be undertaken.

(J15) 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.

Nuisance Monitoring (other than Noise)

(J16) 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.

(J17) 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.

(J18) 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 harm at any sensitive place.

(J19) 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 (J18), unless a longer time is agreed to by the administering authority.

(J20) If monitoring in accordance with condition (J18) and (J19), 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) do not result in further environmental nuisance.

Buried Transmission Pipeline Rehabilitation Monitoring

(J21) The holder of this environmental authority must monitor rehabilitated buried transmission pipeline corridors for subsidence and erosion at least every 20 business days for the first 120 business days after rehabilitation.

Progressive Rehabilitation Monitoring

(J22) Regular maintenance and at least yearly monitoring of rehabilitated areas must take place to measure compliance with the requirements of condition (I5).

Monitoring of Rehabilitation Success

(J23) At least yearly monitoring must be undertaken to demonstrate compliance with the requirements of condition (I6) for a minimum of five (5) years after rehabilitation is completed.

SCHEDULE K – COMMUNITY ISSUES

(K1) The holder of this environmental authority must maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident.

(K2) 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 complaint;
(c) reasons for the complaint as stated by the complainant;
(d) investigations undertaken in response to the complaint;
(e) conclusions formed;
(f) actions taken to resolve complaint;
(g) any abatement measures implemented to mitigate the cause of the complaint; and
(h) name and contact details of the person responsible for resolving the complaint.

SCHEDULE L - NOTIFICATION PROCEDURES

(L1) 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 stimulation impact monitoring result of bore water quality:
  - (i) which exceed any analysis result in the baseline water quality assessment for that bore by 10% or more; or
  - (ii) that exceed the trigger concentrations specified in the following published guidelines, relevant to the environmental values of the ground water resource:
    - i. Australian and New Zealand Environment Conservation Council Australian and New Zealand Guidelines for Fresh and Marine Water Quality ("Anzecc" 2000);
    - ii. Australian Water Drinking Guidelines ("ADWG" 2004);
    - iii. US EPA National Recommended Water Quality Criteria ("US EPA" 2000);
    - iv. American Petroleum Institute's Risk based levels for the Protection of Livestock Exposed to Petroleum Hydrocarbons, (API 2004)

(L2) Notwithstanding condition (L1), 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; or
- (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).

(L3) Subject to condition (L1), 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 greater than 200L of hydrocarbons, 1000 L of brine or 5,000 L of coal seam gas water to land;
- (c) releases of any volumes of contaminants where potential serious or material environmental harm has occurred or may occur.

(L4) The notification of emergencies or incidents as required by conditions (L1), (L2) and (L3) 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.

(L5) 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 (L4)(a) – (L4)(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.

SCHEDULE M - DEFINITIONS

Note: Where a term is not defined in this environmental authority the definition in the Environmental Protection Act 1994, its regulations and Environmental Protection Policies, or the Acts Interpretation Act 1954, or the Macquarie Dictionary or the Petroleum and Gas (Production and Safety) Act 2004 or its regulations must be used in that order.

"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.

"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 arrangements 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 undisturbed area of land against which land significantly disturbed by the carrying out of petroleum activities may be compared.

"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 Standard 4323" means Australian Standard 4323.1:1995 "Stationary source emissions method 1: Selection of sampling positions".

"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.

"bore" means a water observation bore or a water supply bore that is either sub-artesian or artesian.

"brine" means saline water with a total dissolved solid concentration greater than 40 000 mg/l.

"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—

- a Saturday or Sunday; or
- a public holiday, special holiday or bank holiday in the place in which any relevant act is to be or may be done.

"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:

- Nature Refuges as defined under the *Nature Conservation Act 1992*;
- Koala Habitat Areas as defined under the *Nature Conservation (Koala) Conservation Plan 2006*;
- State Forests or Timber Reserves as defined under the *Forestry Act 1959*;
- Declared catchment areas under the *Water Act 2000*;
- Resources reserves under the *Nature Conservation Act 1992*
- 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*;
- Any wetland shown on the Map of Referable Wetlands available from the Department of Environment and Resource Management's website; or
- 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:

- exactly what is being certified and the precise nature of that certification.
- the relevant legislative, regulatory and technical criteria on which the certification has been based;
- 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
- 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:

- all relevant material has been considered in the written document; and
- that the content of the written document is accurate and true; and
- that the written document meets the requirements of the relevant conditions of the environmental authority.

"clearing" means:

- 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—
  - the flattening or compaction of vegetation by vehicles if the vegetation remains living; or
  - the slashing or mowing of vegetation to facilitate access tracks; or
  - the clearing of noxious or introduced plant species; or
  - destroying standing vegetation by stock ; and
- in relation to trees—cutting down, ringbarking, pushing over, poisoning or destroying in any way, but does not include –
  - lopping a tree.

"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*.

"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.

"dam" means a land-based structure or a void that is designed to contains, 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.

"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.

"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).

"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.

"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" means 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 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.

"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 25 cm deep or soils less than 25 cm deep.

"hub" means more than one large compressor station and multiple items of fuel burning or combustion units located within five (5) km of each other and capable of burning fuel at a rate of at least 500 kg/hr.

"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 "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.

"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 plant or works including for example, communication systems, compressors, powerlines, pumping stations, reservoirs, roads and tracks, water storage dams, evaporation or storage ponds and tanks, equipment, buildings and other structures built for the purpose and duration of the conduct of the petroleum activity(ies) including temporary structures or structures of an industrial or technical nature, including, for example, mobile and temporary camps.

Infrastructure does not include other facilities required for the long term management of the impact of those petroleum activities or the protection of potential resources. Such other facilities include dams other than water storage dams (e.g. evaporation dams), 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.

"landfill monocell" means a specialised, isolated landfill facility where a single specific waste type is exclusively disposed (i.e. salt).

"limited petroleum activities" mean only the following petroleum activities:

- geophysical surveys (including seismic petroleum activities);
- well sites;
- well pads;
- water pumps and generators associated with well operations;
- sumps;
- flare pits;
- gathering / flow pipelines from a well head to the initial compression facility;
- supporting access tracks; and
- communication and power lines that is necessary for the undertaking of petroleum activities and can be located within well sites, well pads and pipeline right of ways without increasing the disturbance area of petroleum activities.

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

- the construction of infrastructure for processing or storing petroleum or by-products;
- dams;
- borrow pits;
- ponds used to contain and/or store stimulation fluids;
- compressor stations;
- campsites / workforce accommodation;
- power supplies;
- 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)
- waste disposal; or
- other supporting infrastructure for the project (e.g. sewage treatment plants).

"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.

"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.

.**"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—
- immediately before the beginning of the corresponding day of the next named month; or
- 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.

"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.

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

"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

"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—
- covering more than 50% of the undisturbed predominant canopy; and
- averaging more than 70% of the vegetation's undisturbed height; and
- composed of species characteristic of the vegetation's undisturbed predominant canopy cover.

"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:
- a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel; or
- a library, childcare centre, kindergarten, school, university or other educational institution;
- a medical centre, surgery or hospital; or
- a protected area; or
- 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
- 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:
- a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel; or
- a library, childcare centre, kindergarten, school, university or other educational institution;
- a medical centre, surgery or hospital; or
- a protected area; or
- 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
- 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*.

"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.

"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 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:
- exactly what has been assessed and the precise nature of that assessment;
- the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- 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
- the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

"suitably qualified and experienced person" in relation to dams means one who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Engineers Act 1988, or registered as a National Professional Engineer (NPER) with the Institution of Engineers Australia, or holds equivalent professional qualifications to the satisfaction of the administering authority for the *Environmental Protection Act 1994*, and the administering authority for the *Environmental Protection Act 1994* is satisfied that person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

- knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- a total of five (5) years of suitable experience and demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology and geochemistry, and
- a total of five (5) years of suitable experience and demonstrated expertise each, in three (3) 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.

"tolerable limits" means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values (e.g. a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing damage 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 300 mm 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, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, 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.

Examples under this definition exclude:

- areas that may be covered by water but are not wetlands according to the definition
- floodplains that are intermittently covered by flowing water but do not meet the hydrophytes and soil criteria
- the riparian zone above the saturation level.

"year" means a period of 12 months.

End of Condition

Appendix 1 – Map of PPL147

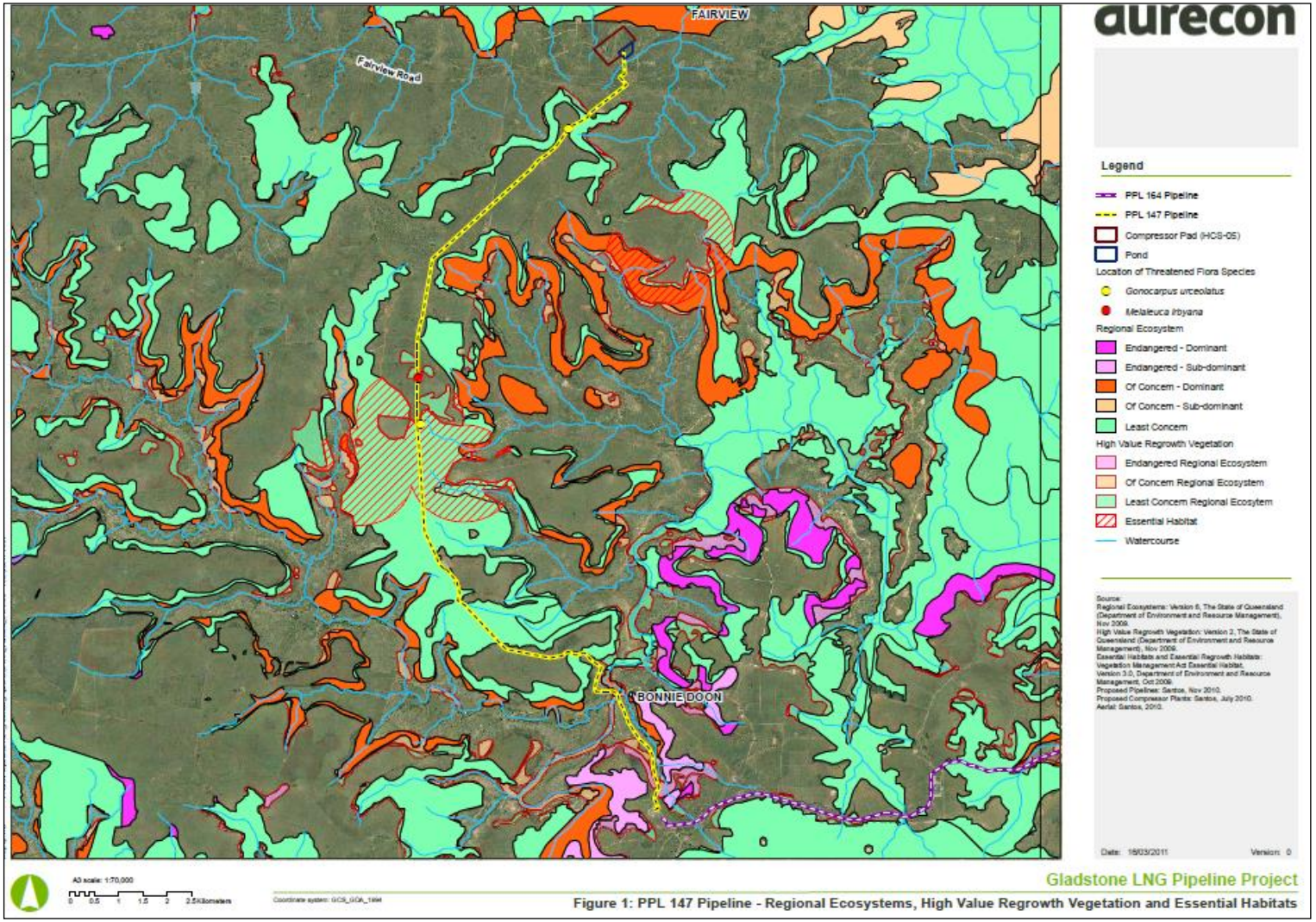

Figure 1: PPL 147 Pipeline - Regional Ecosystems, High Value Regrowth Vegetation and Essential Habitats