Department of Environment and Resource Management

Environmental Protection Act 1994
Level 2 Environmental Authority (chapter 5A activities)
DERM Permit[1] Number: PEN201091710

Under section 310Y of the *Environmental Protection Act 1994* this permit is issued to:

Principal Holder

Origin Energy Wallumbilla Transmission Pty Ltd
Australia Square
Level 45
264-278 George Street
SYDNEY NSW 2000

ACN: 127 059 152

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)
Wallumbilla to Walloons Gas Pipeline	**Pipeline Licence (PPL) 134**

This environmental authority takes effect from: 30 March 2011.

The anniversary date of this environmental authority is 4 July.

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

30 MARCH 2011
Date

Ahmad Rahman
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 and Reliability) Act 2009*; 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 and Appendices

Schedule A	- General
Schedule B	- Air Emissions
Schedule C	- Water Management
Schedule D	- Noise Management
Schedule E	- Waste Management
Schedule F	- Land Management
Schedule G	- Cultural Heritage
Schedule H	- Nature Conservation
Schedule I	- Declared Wild River Areas
Schedule J	- PPL134 – Gas Pipeline
Schedule K	- Monitoring Programs
Schedule L	- Community Issues
Schedule M	- Notification Procedures
Schedule N	- Transition of Petroleum Authority

Appendix 1	Definitions
Appendix 2	Locality Map of PPL134
Appendix 3	Map of PPL134 Environmentally Sensitive Areas
Appendix 4	Environmentally Sensitive Areas

SCHEDULE A GENERAL CONDITIONS

PREVENT AND/OR MINIMISE LIKELIHOOD OF ENVIRONMENTAL HARM

(A1) This authority does not authorise environmental harm unless a condition contained within this authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.

(A2) In carrying out petroleum activities the holder of this authority must prevent and / or minimise the likelihood of environmental harm being caused.

MAINTENANCE OF MEASURES, PLANT AND EQUIPMENT

(A3) The holder of this authority must:

a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this authority; and
b) maintain such measures, plant and equipment in a proper and efficient condition; and
c) operate such measures, plant and equipment in a proper and efficient manner.

(A4) All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this authority must be calibrated, appropriately operated and maintained.

(A5) No change, replacement or alteration of any plant or equipment is permitted if the change, replacement or alteration increases the environmental harm caused by the petroleum activities.

(A6) The holder of this authority must ensure that daily operation and maintenance of all plant and equipment relating to the authorised petroleum activities are carried out by suitability qualified, competent and experienced person(s).

(A7) All analyses and tests required to be conducted under this authority must be carried out by a laboratory that has NATA certification for such analyses and tests, except as otherwise authorised by the administering authority.

SPILL RESPONSE

(A8) A spill response plan must be developed for all pipelines and other plant or equipment under this authority carrying liquids that have the potential to cause environmental harm. The plan must address the following:

a) monitoring and detection systems;
b) notification and reporting procedures (internal and external);
c) call-out procedures and contact lists;
d) measures required to halt the spill (i.e. control of pumps, valves etc);
e) spill containment procedures;
f) procedures to safely recover the spilt material;
g) clean up and rehabilitation procedures;
h) requirements for the remediation or disposal of contaminated soil;
i) personnel responsibilities;
j) equipment requirements, location, storage, maintenance and transport;
k) communications and logistics; and
l) incident investigation procedures.

ENVIRONMENTAL MANAGEMENT SYSTEM

(A9) The holder of this authority must develop and implement an Environmental Management System based on AS/NZS ISO 14001 to control and manage environmental risks and impacts related to the petroleum activities on the relevant petroleum authority.

COMPLIANCE WITH RELEVANT ENVIRONMENTAL MANAGEMENT PLAN

(A10) Not withstanding condition (A9), the holder of this authority must comply with the relevant control strategies and standards detailed in the document titled *"Environmental Management Plan"* in the *Report to Accompany Application for Environmental Authority – Wallumbilla to Walloons Gas Pipeline for Origin Energy Wallumbilla Transmission Pty Limited, Revision 0, Document No. 46406-REP-001"*, dated 11 February 2008, to manage environmental impacts caused by the undertaking petroleum activities authorised under this authority. To the extent of any inconsistency between the conditions of this authority and the Environmental Management Plan, the conditions of this authority prevail.

COMPLIANCE WITH AUSTRALIAN PIPELINE INDUSTRY ASSOCIATION CODE OF ENVIRONMENTAL PRACTICE

(A11) The holder of this authority must undertake petroleum activities in relation to the operation of petroleum pipelines in accordance with the *"Australian Pipeline Industry Association Code of Environmental Practice – Onshore Pipelines"* dated October 2005 (the Code) or subsequent versions thereof. To the extent of any inconsistency between the conditions of this environmental authority and the Code, the conditions of this authority prevail.

FINANCIAL ASSURANCE

(A12) The holder of this authority must provide a financial assurance in the amount and form required by the administering authority for the operation and decommissioning of the pipeline and any associated infrastructure. The calculation of financial assurance must be in accordance with the Department of Environment and Resource Management guideline *"Financial assurance for petroleum activities".*

(A13) Subject to Condition (A12), the holder of this authority must revise the estimate of financial assurance every five (5) years on the anniversary date of this authority.

(A14) In accordance with Condition (A13), the revised calculation of financial assurance must be provided to the administering authority on the anniversary date of this authority.

(A15) 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.

SIGNIFICANT DISTURBANCE

(A16) The holder of this environmental authority must ensure that:

a) 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.

b) 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.*

WORK PROGRAM AND DEVELOPMENT PLAN

(A17) The holder of this environmental authority must submit to the administering authority:
a) a copy of the initial work program, later work programs and any amendments to work programs when submitted to the Department of Employment, Economic Development and Innovation (DEEDI) under the *Petroleum and Gas (Production and Safety) Act 2004* (P&G Act) for authorities to prospect; or
b) a copy of the initial development plan, later development plans and any amendments to development plans when submitted to the DEEDI under the P&G Act for petroleum leases.

DEFINITIONS

(A18) Words and phrases used in this authority are defined in Appendix 1 – Definitions. Where a definition for a term used in this authority is sought and the term is not defined within this authority, the definitions in the *Environmental Protection Act 1994*, its Regulation and Environmental Protection Policies must be used.

SCHEDULE B AIR EMISSIONS

DUST MANAGEMENT

(B1) The release of any dust and particulate matter resulting from the petroleum activities must not cause an environmental nuisance at any sensitive or commercial place.

(B2) Notwithstanding Condition (B1), dust and particulate matter must not exceed the following levels when measured at any sensitive or commercial place:

a) Dust deposition of 120 milligrams per square metre per day, averaged over one (1) month, when monitored in accordance with *AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991;* or

b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a nuisance sensitive or commercial place downwind of the site, when monitored in accordance with AS3580.9.6 *'Ambient air – Particulate matter – Determination of suspended particulate PM10 high-volume sampler with size-selective inlet Gravimetric method';* or

c) a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometre (µm) (PM2.5) suspended in the atmosphere of 25 micrograms per cubic metre over a 24 hour averaging time, at a nuisance sensitive or commercial place downwind of the site, when monitored in accordance with AS/NZS3580.9.10.2006.

(B3) 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 or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

(B4) If monitoring, in accordance with Condition (B3) indicates exceedence of the relevant limits in Condition (B2), then the holder of this authority must:

a) address the complaint including the use of appropriate dispute resolution if required; and/or
b) as soon as practicable implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

(B5) Upon written agreement by any affected person(s), arrangements will be made to remove any affected person(s) from any identified sensitive place with air emission levels that exceed the air emission levels provided in Condition (B2) for the time period of the excessive air emission levels. These arrangements will be made with all related costs incurred to be borne by the holder of the environmental authority.

ODOUR MANAGEMENT

(B6) The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the petroleum activity must not cause an environmental nuisance at any sensitive or commercial place.

(B7) When requested by the administering authority, odour 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, and the results must be notified within 14 days to the administering authority following completion of monitoring.

(B8) If monitoring in accordance with Condition (B7), indicates Condition (B6) is not being met, then the holder of this authority must:

a) address the complaint including the use of appropriate dispute resolution if required; and/or
b) as soon as practicable implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

SCHEDULE C WATER MANAGEMENT

RELEASE TO WATERS

(C1) The holder of this authority must ensure that the petroleum activities do not result in the release of contaminants to waters, unless specifically authorised under this authority.

RELEASE TO LAND

(C2) The holder of this authority may allow pipeline trench water to be released to land for disposal provided that the water does not have any properties nor contain any organisms or other contaminants in concentrations that are capable of causing environmental harm.

(C3) Subject to Condition (C2), the holder of this authority must ensure that the release of trench water to land must be carried out in a manner that ensures that:

a) vegetation is not damaged;
b) soil erosion and soil structure damage is avoided;
c) there is no surface ponding of trench water;
d) the quality of groundwater is not adversely affected; and
e) there are no releases of trench water to any surface waters.

MANAGEMENT OF HYDRO-TEST WATER

(C4) Hydrostatic test water must be contained in existing dams on site, tested and either:
a) directly reused where appropriate for petroleum activities; and
b) treated so that it meets water quality criteria for the intended reuse.

EROSION AND SEDIMENTATION CONTROL

(C5) The holder of this authority must:

a) design, install and maintain adequate erosion and sediment control structures to minimise the potential for stormwater runoff to enter areas disturbed by petroleum activities; and
b) design, install and maintain adequate erosion and sediment control structures where necessary to prevent or minimise soil erosion in areas disturbed by petroleum activities and the sedimentation of any waters.

STORMWATER MANAGEMENT

(C6) Except as otherwise provided by the conditions of this authority, petroleum activities must be carried out by such reasonable and practicable means necessary to prevent the contact of incident rainfall and stormwater runoff with waste or other contaminants.

(C7) All stormwater treatment devices used to treat stormwater from the authorised activities must be maintained in proper and efficient working condition.

(C8) The maintenance and cleaning of vehicles and other equipment or plant must be carried out in areas where the resultant contaminants are not to be released to any waters.

(C9) A stormwater management system must be designed, implemented and maintained so that:

a) contour banks and diversion drains minimise the potential for overland flow to enter areas disturbed by petroleum activities;
b) erosion and sediment control structures are placed to minimise erosion of disturbed areas and prevent the contamination of any waters; and
c) contaminated stormwater runoff, incident rainfall and leachate is collected; and treated, reused, or released in accordance with the conditions of this authority.

DETERMINING WATER QUALITY CONTAMINANTS

(C10) All determinations of the quality of contaminants released must be made in accordance with methods prescribed in the latest edition of the Department of Environment and Resource Management Water Quality Sampling Manual, and carried out on samples that are representative.

PROTECTION OF WATERCOURSES, WETLANDS AND SPRINGS

(C11) Unless otherwise approved under relevant legislation, the holder of this environmental authority must not:

a) excavate or place **fill** in a way that 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;
b) undertake activities that take water from a watercourse, wetland or spring; or
c) undertake activities that take **overland flow water** using works that are mentioned as assessable development in a water resource plan under the *Water Act 2000*.

ACTIVITIES IN A WATERCOURSE, WETLAND OR SPRING

(C12) Significant disturbance to the **bed or banks** of a watercourse or wetland, or to a spring must:

a) only be caused where necessary for the construction, operation and/or maintenance of roads, tracks and pipelines that are essential for carrying out other authorised petroleum activities and no reasonable alternative location is feasible; and
b) be no larger than the minimum area necessary for the purpose; and

c) be designed by an appropriately qualified person; and
d) be undertaken and maintained by a person with appropriate skills who has been informed of the design and is appropriately supervised; and
e) have rehabilitation commencing as soon as reasonably practicable upon cessation of the relevant authorised petroleum activities.

SCHEDULE D NOISE MANAGEMENT

(D1) 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.

(D2) 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 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 D, 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 D, 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 (D2) (j); and
(l) mediation processes to be used in the event that noise complaints are not able to be resolved.

(D3) The holder of this environmental authority must implement the Noise Management Plan.

(D4) 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 D, Table 1 – Noise limits at Sensitive Receptors.

(D5) 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.

Schedule D, 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	$L_{Aeq,adj,15\ mins}$	45 dBA	43 dBA	40 dBA
6:00 pm – 10:00 pm	$L_{Aeq,adj,15\ mins}$	40 dBA	38 dBA	35 dBA
10:00 pm – 6:00 am	$L_{Aeq,adj,15\ mins}$	28 dBA	28 dBA	28 dBA
	Max $L_{pA,\ 15\ mins}$	55 dBA	55 dBA	55 dBA
6:00 am – 7:00 am	$L_{Aeq,adj,15\ mins}$	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*

(D6) If the noise subject to a complaint is tonal or impulsive, the adjustments detailed in Schedule D, 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 D, 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

(D7) Where alternative arrangements are in place with an affected person(s) at a sensitive receptor as referred to by condition (D2) (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.

LOW FREQUENCY NOISE

(D8) Notwithstanding condition (D6), emission of any noise below 315 Hz must not cause an environmental nuisance.

(D9) Low frequency noise from the petroleum activity(ies) is not considered to be an environmental nuisance under condition (D8) 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.

(D10) 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.*

VIBRATION AND BLASTING

(D11) A Blast Management Plan must be developed in accordance with **Australian Standard 2187** by a suitably qualified person prior to each blasting activity.

(D12) 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.

(D13) All blasting must be carried out in a proper manner by a suitably qualified person.

(D14) All blasting must be carried out in accordance with the Blast Management Plan.

(D15) 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.

(D16) 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 E WASTE MANAGEMENT

(E1) The holder of this authority must ensure that petroleum activities do not result in the release or likely release of a hazardous contaminant to land or waters.

(E2) Where practicable, general waste generated in carrying out the petroleum activities must be reused, recycled or removed to a facility that can lawfully accept the waste under the *Environmental Protection Act 1994.*

(E3) Waste, including vegetation, must not be burnt on site.

(E4) Any spillage of hazardous waste or other contaminants that may cause environmental harm, must be effectively contained and/or cleaned up as quickly as practicable. Such spillage must not be cleaned up by hosing, or otherwise thereby releasing such waste or contaminants to any land or waters.

(E5) All regulated waste removed from the site must be removed 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 facility licensed to accept such waste.

(E6) When regulated waste is removed from within the boundary of the operational land and transported by the holder of this authority, a record must be kept of the following:

a) date of waste transport;
b) quantity of waste removed and transported;
c) type of waste removed and transported;
d) route selected for transport of waste;
e) quantity of waste delivered; and
f) any incidents (e.g. spillage) that may have occurred on route.

(E7) If a person removes regulated waste associated with activities within the operational land and disposes of such waste in a manner which is not authorised or is improper or unlawful then, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

SCHEDULE F LAND MANAGEMENT

MINIMISING DISTURBANCE TO LAND AND SOIL

(F1) The holder of this authority must:

a) 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 (except in area of highly erosive soils), 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 in accordance with condition (F19).

ACID SULFATE SOILS

(F2) The holder of this authority must determine the presence of **acid sulfate soils** prior to any excavation or filling in areas below 5 metres Australian Height Datum (AHD) where the natural ground level is less than 20 metres AHD.

(F3) Where the presence of potential or actual acid sulfate soils has been determined, the holder of this environmental authority must comply with an acid sulfate soil environmental management plan prepared in accordance with Appendix 4 of the *State Planning Policy 2/02 Guideline Acid Sulphate Soils* when carrying out petroleum activities on all land, soil and sediment if

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

(F4) The acid sulfate soil environmental management plan must be prepared and implemented by a suitably qualified person.

(F5) Any filling and excavation subject to condition (F3) and condition (F4) is prohibited unless the holder of this environmental authority has submitted to the administering authority a copy of the acid sulfate soil environmental management plan which has been assessed and accepted by the administering authority.

VEGETATION MANAGEMENT

(F6) The holder of this authority must:

a) prevent or minimise disturbance to vegetation, particularly remnant vegetation, by petroleum activities; and
b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation.

(F7) The holder of this authority must consider whether it is feasible to avoid clearing, and where viable alternatives exist, must not clear vegetation:

a) in, or within 50 metres of, the high bank of a watercourse;
b) in, or within 50 metres of, the static high water mark of wetlands, lakes or springs;
c) in a way that isolates clumps or dissects corridors of vegetation;
d) on slopes greater than 5%;

e) on dispersible soils; and
f) in existing or potential discharge areas.

FAUNA MANAGEMENT

(F8) During construction, pipe must be strung with gaps to allow for fauna movement across the line of the pipe.

(F9) Measures must be employed to prevent fauna entrapment in pipe section or within the pipeline trench.

(F10) Open trenches and pipes must be checked for fauna prior to backfill and any trapped animals removed.

PROTECTION OF RIVERINE AREAS

(F11) Unless otherwise approved under relevant legislation, the holder of this authority must not:

a) excavate or place fill in a way that 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;
b) undertake activities that take water from a watercourse, wetland or spring;
c) undertake activities that take overland flow water using works that are mentioned as assessable development in a water resource plan under the *Water Act 2000.*

(F12) Activities resulting in significant disturbance to the bed or banks of a watercourse or wetland, or a spring must:

a) only be undertaken where necessary for the construction and/or maintenance of roads, tracks and pipelines that are essential for carrying out the authorised petroleum activities and no reasonable alternative location is feasible; and
b) be no greater than the minimum area necessary for the purpose of the significant disturbance; and
c) be designed and undertaken by an appropriately qualified person; and
d) have rehabilitation commence immediately upon cessation of the works.

(F13) Sediment control measures must be implemented to minimise any increase in water turbidity due to carrying out petroleum activities in the bed or banks of a watercourse or wetland, or a spring.

(F14) Routine visual monitoring must be undertaken while carrying out petroleum activities in a watercourse, wetland or spring. If, due to the petroleum activities, water turbidity increases in the watercourse, wetland or spring outside contained areas, works must cease and the sediment control measures must be rectified before activities recommence.

RIVER IMPROVEMENET AREAS

(F15) Petroleum Activities must not be carried out in **River Improvement Areas** without the approval of the relevant River Trust.

REHABILITATION REQUIREMENTS

(F16) Progressive rehabilitation of disturbed areas must commence as soon as practicable following the completion of any construction or operational works associated with the authorised petroleum activities on the relevant petroleum authority.

(F17) The holder of the authority must:

a) remediate contaminated land caused by petroleum activities in accordance with EP Act requirements and this environmental authority; and
b) undertake works to establish a safe, stable, non polluting landform similar to that of surrounding undisturbed areas, including where relevant excavate or place fill in a way that does not interfere with the flow of water in a watercourse, wetland, or spring, including:
   i. backfilling any voids and trenches;
   ii. neutralising and/or encapsulating any acid producing or potentially acid producing material;
   iii. re-establishing surface drainage lines;
   iv. minimising the potential for slumping, subsidence or erosion;
   v. reinstating the top layer of the soil profile;
   vi. respreading any cleared vegetation; and
   vii. promoting establishment of vegetation of similar species composition and density of cover to the surrounding undisturbed land

unless the holder of this authority has the written consent of the landowner/holder and the administering authority.

(F18) As soon as practicable and within three (3) months from the date of cessation of petroleum activities that cause any significant disturbance to land, the holder of this authority must:

a) investigate contaminated land status in accordance with *Environmental Protection Act 1994* requirements and the National Environment Protection (Site Assessment) Measure 1999 (NEPM) where land has been subject to contamination caused by petroleum activities authorised under this authority.

(F19) All land significantly disturbed by petroleum activities must be rehabilitated to:

a) a stable landform with a self-sustaining vegetation cover with same species and density of cover to that of the surrounding undisturbed areas;
b) ensure that all land is reinstated to the pre-disturbed land use and suitability class;
c) ensure that the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance by petroleum activities; and
d) ensure that the water quality of any residual void or water bodies constructed by petroleum activities meets criteria for subsequent uses and does not have potential to cause environmental harm.

(F20) Maintenance of rehabilitated areas must take place to ensure and demonstrate:

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

(F21) 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 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.

STORAGE AND HANDLING OF CHEMICALS, FLAMMABLE AND COMBUSTIBLE LIQUIDS

(F22) All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the relevant Australian Standard where such is available.

(F23) Flammable and combustible liquids (including petroleum products and associated piping and infrastructure), must be stored, handled and maintained in accordance with the latest edition of Australian Standard 1940 – *The Storage and Handling of Flammable and Combustible Liquids.*

(F24) 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. Where no relevant Australian Standard is available, the following must be applied:

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.

(F25) All containment systems must be designed to minimise rainfall collection within the system.

SCHEDULE G CULTURAL HERITAGE

HERITAGE PLACES AND ARCHAEOLOGICAL ARTEFACTS

(G1) The holder of the 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.

SCHEDULE H NATURE CONSERVATION

ENVIRONMENTALLY SENSITIVE AREAS

(H1) The holder of this environmental authority must ensure that petroleum activities:

(a) are not conducted in or within 200 metres of any listed category A or B ESA's; and
(b) do not involve activities other than limited petroleum activities within 1km of a listed category A ESA, or within 500m of a listed category B or C ESA; and
(c) are not conducted in or within 200 metres of any listed category C ESA's unless the environmental authority holder receives written authorisation from the administering authority.

Note: To obtain written authorisation from the administering authority to undertake activities in a category C ESA, or associated buffer zone, the environmental authority holder must on a case by case basis undertake and submit to the administering authority a risk assessment demonstrating that the listed category C ESA and the adjoining ecological and environmental values will not be adversely impacted, or subject to a heightened level of risk. If authorisation is granted, the administering authority may impose additional conditions on undertaking petroleum activities within a Category C environmentally sensitive area, or within the associated buffer zone. These additional conditions could be imposed using the provisions of section 312E of the Environmental Protection Act 1994.

(H2) If the relevant administering authority gives written permission to conduct petroleum activities in a category C environmentally sensitive area with conditions that are in conflict with the conditions of this authority – the holder must as a minimum comply with the conditions of this authority.

(H3) Not withstanding any other condition of this authority, the holder of this authority must ensure that:

a) petroleum activities are not conducted within a category A or B environmentally sensitive area unless that work has been specified in the document 'Report to Accompany Application for Environmental Authority – Wallumbilla to Wallons Gas Pipeline for Origin Energy Walloons Transmission Pipeline Pty Limited, Revision 0, Document No. 46406-REP-001;
b) petroleum activities 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 that work has been specified in the document 'Report to Accompany Application for Environmental Authority – Wallumbilla to Wallons Gas Pipeline for Origin Energy Walloons Transmission Pipeline Pty Limited, Revision 0, Document No. 46406-REP-001; and
c) staff, contractors or agents carrying out petroleum activities on a petroleum authority are aware of the location of any relevant category A, B or C environmentally sensitive areas within the petroleum authority.

SCHEDULE I DECLARED WILD RIVER AREAS

(I1) In a declared Wild River Area, petroleum activity(ies) must be consistent with the conditions stated in the relevant Wild River declaration and in circumstances where there is any inconsistency or conflict the conditions of the Wild River declaration prevail.

SCHEDULE J PPL134 – GAS PIPELINE

PETROLEUM INFRASTRUCTURE

(J1) All petroleum infrastructure (including buildings, structures, plant and equipment erected and/or used for the petroleum activities) authorised under this authority must be located within the PPL134 licence areas as shown in Appendix 2 and defined by the coordinates in Schedule J, Table 1 and Table 1A.

Schedule J, Table 1 – Location of the PPL134 pipeline corridor

Pipeline Licence No.	Location	Latitude (GDA 94)	Longitude (GDA 94)
PPL 134	171 Sub-blocks as per "**Description of Land**" section found in Pipeline Licence No. 134 granted on 8 September 2008 by Queensland Government under the *Petroleum and Gas (Production and Safety) Act 2004*		
	Start Point	-26.69010	149.189267
	End Point	-26.88998	150.353070

Schedule J, Table 1A – Location of extension to the PPL134 pipeline corridor

Pipeline Licence No.	Location	Latitude (GDA 94)	Longitude (GDA 94)
PPL134	Start Point	-26.695157	149.188788
	End Point	-26.694894	149.183305

(J2) The gas pipeline authorised under this authority is constructed in accordance with the design specifications and operating parameters as described in the relevant environmental management plan and in Schedule J, Table 2, listed below:

Schedule J, Table 2 - Pipeline Design Specifications

Design Element	Design Specifications
Total Length	135 km
Diameter	Nominal 450 mm diameter Wallumbilla Connection Line 250 mm
Wall Thickness	450 mm - 10.3 mm (Standard), 12.3 mm (Heavy walled) 250 mm – 11 mm, 9.5 mm, 6.5 mm
Pipeline Coating	3 layer high density polyethylene (HDPE-3LPE)
Pipeline Content	Natural Gas
Operational Pressure	14.7MPa @ 60°C
Maximum Allowable Operating Pressure	14.7MPa @ 60°C
Steel Grade	API 5L – 70X
Standard Construction Easement Width	25 metres
Minimum depth of cover	Generally – minimum 900mm Road crossings / road reserves – minimum 1200mm Water crossings – minimum 1200mm
Buried Marker Tape	As required under AS2885
Cathodic Protection	Impressed current cathodic protection for corrosion protection
Non Destructive Testing	100% Radiography of welded joints; Hydrostatic pressure testing of completed pipeline to at least 125% of operating pressure for a minimum of 4 hours.
Design life	50 years
Design Capacity	450 TJ/day
Supervisory Control and Data Acquisition (SCADA)	Yes
Annual Capacity	Limited to production from gas field which is an average of 960,000 tonnes per year.

(J3) The relevant pipeline facilities for each petroleum and gas pipeline authorised under this authority and detailed in the relevant environmental management plan are to be located in accordance with Schedule J, Table 3 – Pipeline Facilities, and depicted in Appendix 2 - Location of PPL134 corridor.

Schedule J, Table 3 - Pipeline Facilities

Pipeline Facilities	Description	Location (KP)
Pig Launchers and Receivers	Pig Launcher Pig Receiver	KP0 KP136
Pipeline Pump Stations	Possible future at Talinga	KP136
Supervisory Control and Data Acquisition (SCADA)	Central	Talinga Control Centre
Pipeline markers	Intervisible in accordance with AS2885	Intervisible
Main Line Valves	MLV1 MLV2 ATP702P Berwyndale	KP26 KP77 KP116 KP131
Meter Station	Spring Gully Wallumbilla Talinga	KP0 KP136
Cathodic Protection	Impressed Current	KP0 and KP136
Leak Detection and line break	Rate of change of pressure closes valves at meter stations. Intermediate main line valves.	KP0 and KP136

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

OPERATION OF PIPELINES TO PREVENT ENVIRONMENTAL HARM

(J4) The holder of this authority must provide the administering authority a copy an operational plan for each authorised pipeline that details how the holder will ensure that pipeline activities are undertaken to minimize the potential risk of causing environmental harm.

(J5) The holder of this authority must ensure that, where the current operational plan covers decommissioning and rehabilitation of the pipeline, those operations are consistent with the conditions of this authority.

EMERGENCY RESPONSE PLANS FOR DEALING WITH PIPELINE INCIDENTS THAT MAY RESULT IN ENVIRONMENTAL HARM

(J6) The holder of this authority must implement an Emergency Response Plan from the date of grant of this authority and submit to the Administering Authority a copy of the original or subsequently amended Emergency Response Plan for the operating of the pipelines and associated facilities to aid in the effective response to an emergency situation that may result in environmental harm. The plan shall include:

a) means by which an emergency response is initiated;
b) defined key roles and responsibilities required to respond to an emergency;
c) facilities required to coordinate the emergency response;
d) key contact list;
e) criteria for escalation of an emergency
f) likely emergency scenarios and guidelines for responding to such scenarios;
g) communication and documentation requirements; and
h) evacuation protocols and muster points.

(J7) The Emergency Response Plan shall be reviewed annually to validate the adequacy of the scope of emergency scenarios and adequacy of the content.

(J8) In accordance with Condition (J7), the holder of this authority must ensure that relevant personnel shall be trained and competent to effectively fulfill their roles required as detailed in the Emergency Response Plan to deal with pipeline incidents that could potentially result in environmental harm. Training records are to be kept for five (5) years.

(J9) The holder of this authority must undertake emergency exercises to:

a) test the effectiveness of the emergency response plan;
b) validate the competency of key emergency response personnel;
c) assess capability to respond to an emergency;
d) reinforce prior training; and
e) identify opportunities for improvement.

Emergency response exercises may be in the form of simulated emergencies, practical drills, desktop exercises, resources and equipment checks, or other exercises designed to systematically include all personnel likely to be involved.

DECOMMISSIONING PIPELINES

(J10) Prior to the commencement of decommissioning or abandonment activities the scope of work for decommissioning or abandonment of project infrastructure shall be developed and agreed to by the administering authority.

(J11) The holder of this environmental authority must decommission inactive buried pipelines by in-situ decommissioning (abandonment in place).

(J12) Prior to pipelines and equipment being disconnected they must be drained or vented and cleaned via purging or flushing.

(J13) Any water used for purging or flushing the pipelines must be contained in dams on site, tested and either:

a) directly reused where suitable for petroleum activities;
b) treated so that it meets water quality criteria for the intended reuse; or
c) removed from the site for disposal or treatment at an appropriately authorised facility; or
d) disposed of via evaporation in a suitably lined pond.

(J14) All petroleum infrastructure must be removed from the relevant petroleum authority prior to surrender of this authority, except where agreed in writing by the administering authority and the current landowner.

SCHEDULE K MONITORING PROGRAMS

MONITORING PROGRAMS

(K1) The holder of this authority must:

a) develop and implement a monitoring program that will demonstrate compliance with the conditions in this authority; and
b) document the monitoring and inspections carried out under the program and any actions taken.

(K2) The holder of this authority must ensure that a suitably qualified, experienced and competent person(s) conduct all monitoring required by this authority.

(K3) Record, compile and keep for a minimum of five (5) years all monitoring results required by this authority and make available for inspection all or any of these records upon request by the administering authority. Monitoring results relating to rehabilitation should be kept until the relevant petroleum tenure is surrendered.

(K4) An annual monitoring report must be prepared each year and presented to the administering authority when requested. This report shall include but not be limited to:

a) a summary of the previous twelve (12) months monitoring results obtained under any monitoring programs required under this authority and, a comparison of the previous twelve (12) months monitoring results to both this authority limits and to relevant prior results; and
b) an evaluation/explanation of the data from any monitoring programs; and
c) a summary of any record of quantities of releases required to be kept under this authority; and
d) a summary of the record of equipment failures or events recorded for any site under this approval; and
e) an outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs.

SCHEDULE L COMMUNITY ISSUES

MANAGING COMPLAINTS

(L1) When the administering authority advises the holder of a complaint alleging nuisance (e.g. caused by dust or noise), investigate the complaint and advise the administering authority of the action proposed or undertaken in relation to the complaint.

(L2) If the administering authority is not satisfied with the proposed or completed action, undertake monitoring or other action requested by the administering authority.

(L3) When requested by the administering authority, the authority holder must undertake relevant specified monitoring within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint of environmental harm at any sensitive or commercial place. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within 14 days of completion of the investigation, or receipt of monitoring results, whichever is the latter.

(L4) Maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident.

(L5) Retain the record of complaints required by this condition for 5 years.

COMPLAINT RESPONSE

(L6) The holder of this authority must record the following details for all complaints received and provide this information to the administering authority on request:

a) time, date, name and contact details of the complainant;
b) reasons for the complaint;
c) any investigations undertaken;
d) conclusions formed; and
e) any actions taken.

SCHEDULE M NOTIFICATION PROCEDURES

NOTIFICATION OF EMERGENCIES AND INCIDENTS

(M1) The holder of this authority must:

c) telephone the Department of Environment and Resource Management'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 authority or any event where environmental harm has been caused or may be threatened; and
d) notify the administering authority in writing within 14 days of the initial notification.

(M2) Subject to condition (M1), the holder of this authority is required to report in the case of uncontained spills (including hydrocarbon, associated water or a mixtures of both) of the following volumes or kind:

a) releases of any volume to water; and
b) releases of volume greater than 200L to land; and
c) releases of any volumes where potential serious or material environmental harm is considered to exist.

(M3) The notification of emergencies or incidents as required by conditions number (M1 and M2) must include but not be limited to the following:

a) the authority number and name of holder;
b) the name and telephone number of the designated contact person;
c) the location of the emergency or incident;
d) the date and time of the release;
e) the time the holder of the authority became aware of the emergency or incident;
f) the estimated quantity and type of any substances involved in the incident;
g) the actual or potential suspected cause of the release;
h) a description of the effects of the incident including the environmental harm caused, threatened, or suspected to be caused by the release;
i) any sampling conducted or proposed, relevant to the emergency or incident; and
j) actions taken to prevent any further release and mitigate any environmental harm caused by the release.

(M4) Within 14 days following the initial notification of an emergency or incident or receipt of monitoring results, whichever is the later, further written advice must be provided to the administering authority, including the following:

a) results and interpretation of any samples taken and analysed;
b) outcomes of actions taken at the time to prevent or minimise environmental harm; and
c) proposed actions to prevent a recurrence of the emergency or incident.

(M5) As soon as practicable, but not more than six (6) weeks following the conduct of any environmental monitoring performed in relation to the emergency or incident, which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this authority, written advice must be provided of the results of any such monitoring performed to the administering authority.

(M6) A record of incidents must be maintained to include a record of all incidents occurring in the previous 5 years.

SCHEDULE N TRANSITION OF PETROLEUM AUTHORITY

(N1) The holder of this environmental authority must take responsibility for the rehabilitation of any disturbance to land undertaken as part of a petroleum activity on a petroleum authority that has been transitioned (all or in part) due to the grant of a new resource authority over that land which now forms part of the current project.

END OF CONDITIONS

APPENDIX 1 – DEFINITIONS

Note: Where a term is not defined in this Authority, the definition in the *Environmental Protection Act 1994*, its regulations and Environmental Protection Policies or the *Petroleum and Gas (Production and Safety) Act 2004* and its regulations must be used in that order.

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.

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.

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.

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 water means underground water taken or interfered with, if the taking or interference happens during the course of, or results from, the carrying out of another activity authorised under a petroleum authority, such as producing petroleum from a well, and includes water also known as produced formation water. The term includes all contaminants suspended or dissolved in the water.

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.

Authority Means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994.*

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:

1. 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:
   (a) of benefit to that owner in that it adds real value to their business or to the general community,
   (b) in accordance with relevant provisions of the *Environmental Protection Act 1994*,
   (c) sustainable by virtue of written undertakings given by that owner to maintain that dam, and
   (d) the transfer and use have been approved or authorised under any relevant legislation; or
2. with respect to associated water, see Environmental Protection Agency's Operational Policy *Management of water produced in association with petroleum activities (associated water)* 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.

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.

Certification or **certified** by a suitably qualified and experienced person in relation to a **design plan** 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.

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.

Commercial place means a work place used as an office or for business or commercial purposes which is not part of the petroleum activities and does not include employees accommodation or public roads.

Construction in relation to a dam includes building a new dam and modifying or lifting an existing dam.

Contaminant is defined by the *Environmental Protection Act 1994*, under Section 11, as:

(a) a gas, liquid or solid; or

(b) an odour; or

(c) an organism (whether alive or dead), including a virus; or

(d) energy, including noise, heat, radioactivity and electromagnetic radiation; or

(e) a combination of contaminants.

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 (including a **levee,** dyke or bund) or a void that is intended or used to contain, divert or control **flowable substances**, and includes any substances that are thereby contained or controlled by that land-based structure or void and **associated works**. However; a dam does *not* mean a fabricated or manufactured tank or container designed to a recognised standard, nor does a dam mean a land-based structure where that structure is designed to an Australian Standard such as a bund designed for spill containment to AS1940.

Declared pest plants are listed in Schedule 2 of the *Land Protection (Pest and Stock Route Management) Regulation 2003.*

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.

Discharge area is an area in the landscape where the net movement of groundwater is out of the aquifer. This may be expressed by waterlogging where groundwater discharges at the soil surface because of seepage or salting because of evaporation.

Dispersible soils are structurally unstable soils that readily breakdown 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).

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.

Environmental nuisance 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

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.

Equivalent person means an equivalent person as defined in Item 63 of Schedule 2 in the *Environmental Protection Regulation 2008.*

Evaporation pond means a dam specifically designed for the purpose of disposing of a liquid via evaporation.

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 conditions potentially affecting that substance. Constituents of a flowable substance can include water, other fluids or solids, or a mixture that includes water and any other 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.

Groundwater Groundwater means subsurface water, generally saturating the soil or rock in which it occurs

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 the level of hazard (low, significant or high) assigned to a dam as a result of an assessment against tables and other criteria in *the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (Version 1.0, 2008)* published by the Environmental Protection Agency (Department of Environment and Resource Management) on its website.

Hazardous contaminant is 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

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.

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 by the Department of Environment and Resource Management on its website.

"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.

Lake means a natural or artificial body of water, either permanent or intermittent.

Land use is a term to describe the selected final use of the land, which is planned to occur after the cessation of petroleum operations.

$L_{Aeq, adj, 15\ mins}$ 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.

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.

Limited petroleum activities mean activities including geophysical surveys (including seismic activities), well sites, well pads, sumps, flare pits, flow lines and supporting access tracks. Limited petroleum activities do not include the construction of production infrastructure for processing or storing petroleum or by-products, dams, compressor stations, campsites/workforce accommodation, power supplies, waste disposal or other supporting infrastructure for the project.

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.

Max $L_{pZ,\ 15\ mins}$ means the maximum value of the Z-weighted sound pressure level measured over 15 minutes.

Max $L_{pA,\ 15\ mins}$ 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.

Noxious means harmful or injurious to health or physical well being.

Noise means a sound or vibration of any frequency, whether transmitted through air or any other physical medium

'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.

Operational land means the land associated with the petroleum project for which this authority has been issued.

Overland flow water means water, including floodwater, flowing over land, otherwise 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.

Petroleum activities means activities authorised to take place on land subject to a petroleum authority, including rehabilitation and decommissioning activities.

Petroleum authority is:

(a) a 1923 Act petroleum tenure granted under the *Petroleum Act 1923*; or

(b) a petroleum 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.*

Potential discharge area means low lying parts of the landscape (relative to adjacent terrain) where groundwater movements are within 2-5m of the land surface and the landscape may be subject to upward movement of groundwater in the future

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 (Version 1.0, 2008)* published by the Department of Environment and Resource Management on its website.

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.

Representative means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the petroleum activities.

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

Self sustaining means an area of land that has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

Sensitive place means:

(a) a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel;

(b) a library, childcare centre, kindergarten, school, university or other educational institution;

(c) a medical centre, surgery or hospital;

(d) a protected area;

(e) 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.

Significantly disturbed land or **significant disturbance to land** means land that is:

(a) contaminated land; or

(b) disturbed and human intervention is needed to rehabilitate it:

  i to a state required under this authority; or

  ii if the authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

Examples of a significant 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, wetland, or spring where petroleum activities have occurred causing the loss of habitat or a decline in ecological processes and requiring human intervention to restore or stabilise the disturbed area and/or protect the quality of the water downstream of the disturbance;

(e) areas submerged by waste or water;

(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 (e.g. roads, bridges, buildings) as agreed by the administering authority and landholder;

(d) areas that were significantly disturbed prior to the grant of the petroleum authority, unless those areas are re-disturbed by the petroleum authority holder during the course of carrying out the petroleum activities or were conducted on a petroleum authority that was replaced by the current authority (e.g. through conditional surrender or the transition from an authority to prospect to a petroleum lease).

Site means the area within the petroleum authority or authorities to which the environmental authority relates.

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.

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.*

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 Act; AND the administering authority for the Act is satisfied that person 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 (5) 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 (5) years of suitable experience and demonstrated expertise each, in three (3) of the following categories:
   i investigation and design of dams;
   ii construction, operation and maintenance of dams;
   iii hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology;
   iv hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes;
   v hydrogeology with particular reference to seepage, groundwater;
   vi solute transport processes and monitoring thereof;
   vii 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.

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.

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.

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 is a creek, river or stream

(a) in which water flows intermittently or permanently in a visibly defined channel, whether artificial, artificially improved or natural; and

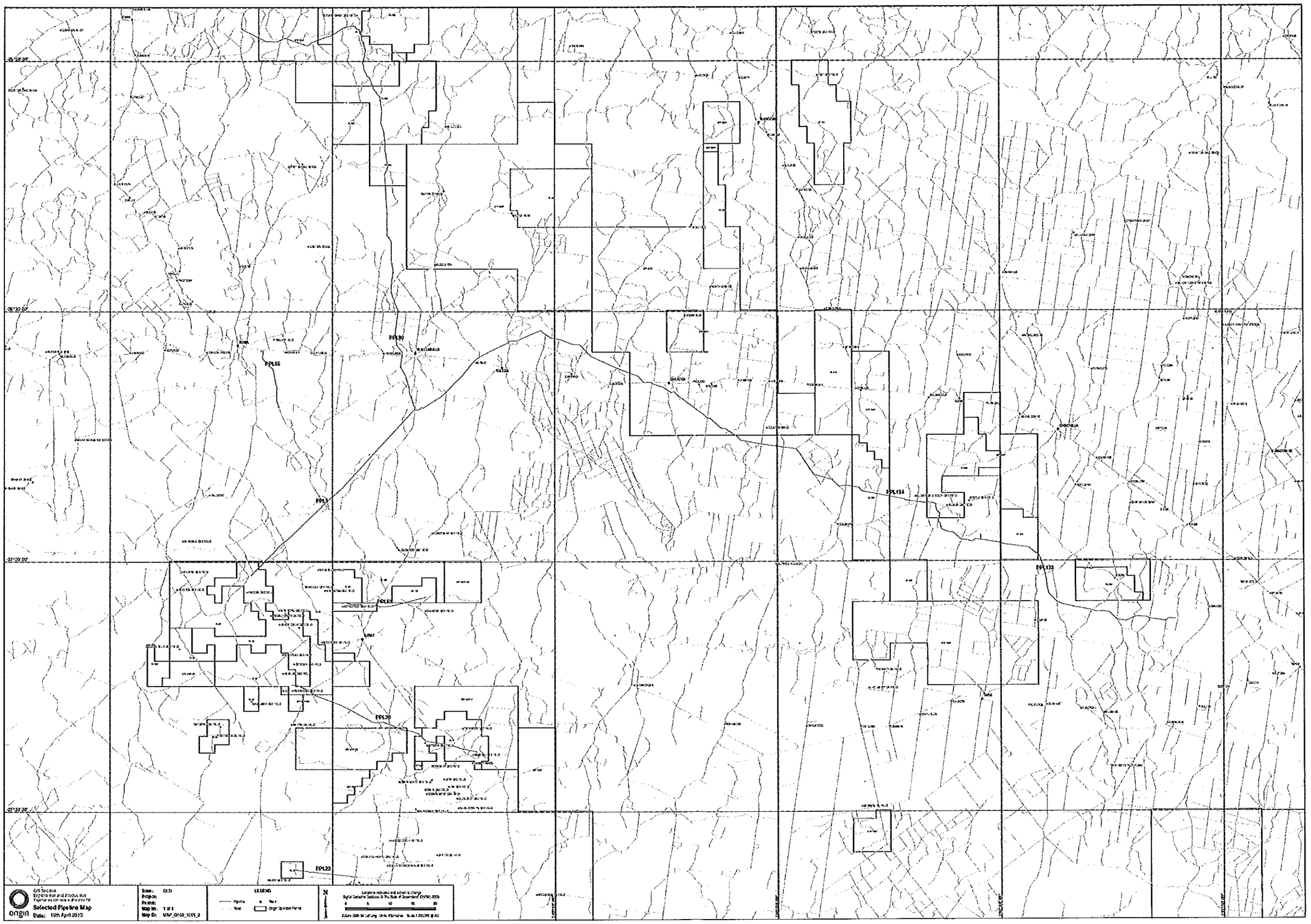
(b) that has evidence of biological dependence on any water that flows in the creek, river or stream or on the banks or bed.

Waterway A naturally occurring feature where surface water runoff normally collects, such as a clearly defined swale or gully, but only flows in response to a local rainfall event.

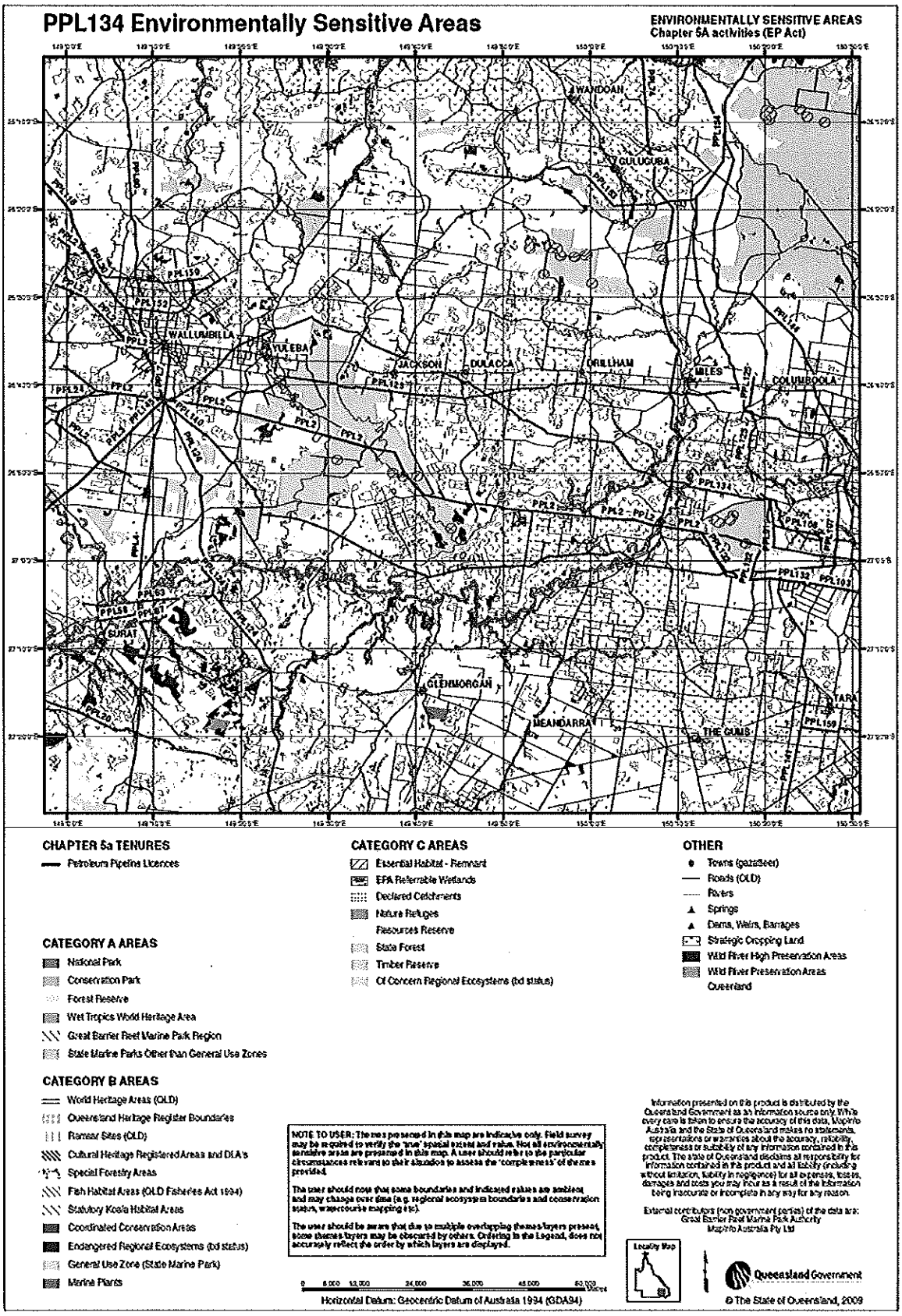
Wetland means an area shown as a wetland on a 'Map of referable wetlands', a document approved by the chief executive (environment). A map of referable wetlands can be viewed at www.derm.qld.gov.au.

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 authority if the activity is to be located within the wild river area.

APPENDIX 2 Location of PPL134 Licence Area



APPENDIX 3 - Map of PPL134 Environmentally Sensitive Areas



APPENDIX 4 – ENVIRONMENTALLY SENSITIVE AREAS

Category A and Category B environmentally sensitive areas

Category A and Category 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 2006*	Department of Environment and Resource Management
An area identified as essential habitat by the DERM 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
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	*Sections 17, 18 and 19a of the Vegetation Management Act*	Department of Environment and Resource Management

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