Permit

Environmental Protection Act 1994

Environmental authority EA0000874

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

Environmental authority number: EA0000874

Environmental authority takes effect on 21-December-2017**.** This is the take effect date.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the take effect date. The payment of the annual fee will be due each year on this day.

Environmental authority holder(s)

Name(s)	Registered address
Chi Oil and Gas Pty Ltd	107 Enerst Street MANLY QLD 4179

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Non-Scheduled - Petroleum Activity - Authority to Prospect (ATP)	ATP1195

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.

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).

ABN 46 640 294 485

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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 *Planning Act 2016* 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.

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day.An annual return will be due each year on 01 April.

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.

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

Permit and Licence Management
Department of Environment and Science
GPO Box 2454 BRISBANE QLD 4001
Phone: 1300 130 372 (option 4)
Email: palm@des.qld.gov.au

Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

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)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Legislative Requirements and Conditions of Environmental Authority

Legislative Requirements

RLR005

(a) The applicant for the environmental authority is the holder of, or an applicant for only the following tenure types under the Petroleum and Gas (Production and Safety) Act 2004 or the Petroleum Act 1923:
- (i) data acquisition authority (DAA)
- (ii) water monitoring authority (WMA)
- (iii) authority to prospect (ATP).

(b) The petroleum activities are authorised petroleum activities for the purposes of the Petroleum and Gas (Production and Safety) Act 2004 and the Petroleum Act 1923.
(c) The petroleum activities when combined do not cause a total significant disturbance to more than 1% of the total land area on the relevant tenure(s) at any point in time.
(d) The petroleum activity is not, or will not be, carried out under an environmental authority under which any of the following is, or is to be, authorised:
- (i) the injection of a waste fluid or gas for gas storage into a natural underground reservoir or aquifer
- (ii) a regulated dam
- (iii) the carrying out of the following environmentally relevant activities (ERAs):
  - (1) ERA 8 - Chemical Storage
  - (2) ERA 60(1a) - (1d) - Regulated waste disposal
  - (3) ERA 60(2d) - (2h) - General waste disposal > 10,000t/year
  - (4) ERA 63(1a)(ii) - (1b)(ii), (1c) - (1g) - Sewage treatment with a total daily peak design capacity of greater than 21 equivalent persons (EP) which releases to other than an infiltration trench or irrigation scheme or where the sewage treatment activities have a total combined daily peak design capacity exceeding 1500 EP
  - (5) ERA 64(2a) and (2b) and (4a) and (4b) - Water treatment where desalination of more than 0.5ML of water is treated, allowing the release of waste to waters other than seawater; or carrying out, in a day, advanced treatment of 5ML or more of water, allowing the release of waste only to seawater; or to waters other than seawater.

RLR009

General obligations under the Environmental Protection Act 1994
Responsibilities under the Environmental Protection Act 1994
Separate to the requirements of standard conditions, the holder of the environmental authority must also meet their obligations under the Environmental Protection Act 1994, and the regulations made under that Act. For example, the holder must be aware of the following provisions of the Environmental Protection Act 1994.
General environmental duty
Section 319 of the Environmental Protection Act 1994 states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to think about these issues:
- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of the successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity

It is not an offence not to comply with the general environmental duty, however maintaining your general environmental duty is a defence against the following acts:
- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard

(c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG. More information is available on the Department of Environment and Heritage Protection website www.ehp.qld.gov.au.

Duty to notify

Section 320 of the Environmental Protection Act 1994 explains the duty to notify. The duty to notify applies to all persons and requires a person or company to give notice where serious or material environmental harm is caused or threatened. Notice must be given of the event, its nature and the circumstances in which the event happened. Notification can be verbal, written or by public notice depending on who is notifying and being notified.

The duty to notify arises where:

- a person carries out activities or becomes aware of an act of another person arising from or connected to those activities which causes or threatens serious or material environmental harm
- while carrying out activities a person becomes aware of the happening of one or both of the following events:
    - the activity negatively affects (or is reasonably likely to negatively affect) the water quality of an aquifer
    - the activity has caused the unauthorised connection of 2 or more aquifers.

For more information on the duty to notify requirements refer to the guideline Duty to notify of environmental harm (EM467).

Notifiable activities

It is a requirement under the Environmental Protection Act 1994 that if an owner or occupier of land becomes aware that a Notifiable Activity (as defined by Schedule 4 of the Environmental Protection Act 1994) is being carried out on the land or that the land has been affected by a hazardous contaminant, they must, within 22 business days after becoming so aware, give notice to the administering authority.

Some relevant offences under the Environmental Protection Act 1994

Non-compliance with a condition of an environmental authority (section 430)

Section 430 of the Environmental Protection Act 1994 requires that a person who is the holder of, or is acting under, an environmental authority must not wilfully contravene, or contravene a condition of the authority.

Environmental authority holder responsible for ensuring conditions complied with (section 431)

Section 431 of the Environmental Protection Act 1994 requires that the holder of an environmental authority must ensure everyone acting under the authority complies with the conditions of the authority. If another person acting under the authority commits an offence against section 430, the holder also commits an offence, namely, the offence of failing to ensure the other person complies with the conditions.

Causing serious or material environmental harm (sections 437–39)

Material environmental harm is environmental harm that is not trivial or negligible in nature. It may be great in extent or context or it may cause actual or potential loss or damage to property. The difference between material and serious harm relates to the costs of damages or the costs required to either prevent or minimise the harm or to rehabilitate the environment. Serious environmental harm may have irreversible or widespread effects or it may be caused in an area of high conservation significance. Serious or material environmental harm excludes environmental nuisance.

Causing environmental nuisance (section 440)

Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.

Depositing a prescribed water contaminant in waters (section 440ZG)

Prescribed contaminants include a wide variety of contaminants listed in Schedule 9 of the Environmental Protection Regulation 2008.

It is your responsibility to ensure that prescribed contaminants are not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This includes making sure that stormwater falling on or running across your site does not leave the site contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove contaminants. You should also consider where and how you store material used in your processes onsite to reduce the chance of water contamination.

Placing a contaminant where environmental harm or nuisance may be caused (section 443)

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the Waste Reduction and Recycling Act 2011

Littering (section 103)
Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer or grass clippings swept into the gutter. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a building, manufacturing, mining or primary industry.
Illegal dumping of waste (section 104)
Illegal dumping is the dumping of large volumes of litter (200L or more) at a place. Illegal dumping can also include abandoned vehicles.
Responsibilities under other legislation
An environmental authority pursuant to the Environmental Protection Act 1994 does not remove the need to obtain any additional approval for the activity that might be required by other State and/or Commonwealth legislation. Other legislation for which a permit may be required includes but is not limited to the:

- Aboriginal Cultural Heritage Act 2003
- Contaminated land provisions of the Environmental Protection Act 1994
- Fisheries Act 1994
- Forestry Act 1959
- Nature Conservation Act 1992
- Petroleum and Gas (Production and Safety) Act 2004 / Petroleum Act 1923
- Queensland Heritage Act 1992
- Planning Act 2016
- Water Supply (Safety and Reliability) Act 2008
- Water Act 2000

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.
An environmental authority for petroleum activities is not an authority to negatively impact on water levels or pressure heads in groundwater aquifers in or surrounding formations. There are obligations to minimise or mitigate any such negative impact under other Queensland Government and Commonwealth Government legislation.

Condition

General

RSG042 (S) All plant and equipment reasonably necessary to ensure compliance with the standard conditions must be installed.

RSG043 (S) All measures reasonably necessary to ensure compliance with the standard conditions must be implemented.

RSG046 (S) Chemicals and fuels on the relevant tenures must be stored in, or serviced by, an effective containment system that meets Australian Standards, where such a standard is relevant.

RSG049 (S) All low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity as specified in the initial hazard assessment.

RSG057 (S) All reasonable steps must be taken to ensure the petroleum activities comply with the eligibility criteria for the activity

RSG058 (S) The following types of petroleum activities are not authorised:
(a) processing or storing petroleum or petroleum by-products that are not necessarily associated with well operations
(b) extracting earthen materials (other than drilling waste rock) of more than 100,000t/year
(c) extracting by dredging of more than 1000t/year of material from the bed of naturally occurring surface waters
(d) drilling wells with fluids that are oil-based or synthetic oil-based

(e) carrying out stimulation activities using stimulation fluid that contains chemical additives where polycyclic aromatic hydrocarbons are in concentrations above the reporting limit.

RSG059 (S) Petroleum activities that cause significant disturbance to land must not be carried out until financial assurance has been given to the administering authority as security for compliance with the environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the Environmental Protection Act 1994.

RSG060 (S) Contaminants must not be directly or indirectly released to land or air except for those releases authorised by standard conditions RSW033, RSL010, RSN049, RSN050, RSG068, RSL027, RSL012, RSL028, RSW036, RSL029, RSW037, RSL030, RSA003 or RSW038.

RSG061 (S) All plans and procedures required to be developed must be implemented.

RSG062 (S) All plant and equipment must be maintained and operated in their proper and effective condition.

RSG063 (S) Petroleum activities involving significant disturbance to land or which have the potential to cause environmental harm can only commence after the development of written contingency procedures which address the risks of non-compliance with RSG059, RSS010, RSG060, RSL023, RSL024, RSL025 and RSL026 standard conditions.

RSG064 (S) The contingency procedures must include, but not necessarily be limited to:

(a) environmental nuisance and complaint management procedures including:

(i) a description of the petroleum activities that might result in non-compliance with RSG059, RSS010, RSG060, RSL023, RSL024, RSL025 and RSL026 standard conditions and what mitigation measures are required to be implemented; and

(ii) the action that will be undertaken when a member of the public makes a valid complaint

(b) management procedures including details of what actions will be taken to protect environmental values and minimise potential environmental harm from petroleum activities as a result of floods, severe storms and fires

(c) environmental emergency management procedures including details of the response and mitigation measures that will be actioned to reduce negative impacts to environmental values in the event of a non-compliance with RSG059, RSS010, RSG060, RSL023, RSL024, RSL025 and RSL026 standard conditions.

RSG065 (S) Low hazard dams must be:

(a) constructed, operated and maintained in accordance with accepted engineering standards currently appropriate for the purpose for which the dam is intended to be used; and

(b) designed with a floor and sides made of material that will contain the wetting front and any entrained contaminants within the bounds of the containment system during both its operational life and including any period of decommissioning and rehabilitation.

RSG066 (S) When no longer required all low hazard dams must be decommissioned to no longer accept inflow from the petroleum activities and be either:

(a) rehabilitated; or

(b) agreed to in writing by the administering authority and the landholder to remain in situ following the cessation of the petroleum activity (ies) associated with the dam, with the contained water of a quality suitable for the intended ongoing uses(s) by that landholder.

RSG067 (S) Measures must be implemented so that waste is managed in accordance with the waste and resource management hierarchy and the waste and resource management principles

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RSG068 (S) Waste, including waste fluids but excluding waste gas, must be transported off-site for lawful re-use, remediation, recycling or disposal unless the waste is specifically authorised by standard conditions RSL027, RSL012, RSL028, RSW036, RSL029, RSW037, RSL030 or RSA003 to be disposed of or used on-site

RSG069 (S) Prior to any changes in petroleum activities which would result in an increase to the maximum disturbance since the last financial assurance calculation was submitted, the holder of the environmental authority must submit, and the administering authority must have approved, an application to amend the financial assurance

RSG070 (S) All monitoring must be undertaken by a suitably qualified person

RSG071 (S) All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests, except as otherwise authorised in writing by the administering authority

RSG072 (S) Notwithstanding standard condition RSG071, where there are no NATA accredited laboratories available to test for a specific analyte or substance, then duplicate samples must be sent to separate laboratories for independent testing or evaluation.

RSG073 (S) In addition to the requirements under section 320A of the Environmental Protection Act 1994, the administering authority must be notified in writing within 5 business days of any event which has resulted in the contingency procedures required by standard conditions RSG063 and RSG064 being activated.

RSG074 (S) The annual return must include an Update Report detailing activities during the annual return period, demonstrating:
(a) significant disturbance during the period
(b) rehabilitation undertaken
(c) a list of all valid complaints relating to environmental issues made including the date, source, reason for the complaint and a description of investigations undertaken in resolving the complaint
(d) the results of all monitoring undertaken.

RSG078 (S) All plans, procedures and reports must:
(a) be certified by a suitably qualified person
(b) be kept on record for a minimum of 5 years.

Acoustic

RSN045 (S) A Blast Management Plan must be developed for each blasting activity in accordance with Australian Standard 2187.

RSN047 (S) Noise must be measured in accordance with the prescribed standards in the Environmental Protection Regulation 2008.

RSN049 (S) Blasting operations must be designed to not exceed an airblast overpressure level of 120 dB (linear peak) at any time, when measured at or extrapolated to any sensitive place

RSN050 (S) Blasting operations must be designed to not exceed a ground-borne vibration peak particle velocity of 10mm/s at any time, when measured at or extrapolated to any sensitive place

Air

RSA003 (S) Unless venting is authorised under section 72 of the Petroleum and Gas (Production and Safety) Act 2004 or section 74M of the Petroleum Act 1923, waste gas from production testing must be flared in a manner such that:
(a) an automatic ignition system is used; and
(b) a flame is visible at all times while the waste gas is being flared; and
(c) there is no visible smoke emissions other than for a total period of no more than 5 minutes in any 2 hours; or
(d) it uses an enclosed flare.

RSA004 (S) The method of measurement of ambient air quality or point source contaminant releases to air must comply with the Queensland Air Quality Sampling Manual and/or Australian Standard 4323.1:1995 Stationary source emissions method 1: Selection of sampling positions, whichever is appropriate for the relevant measurement

Land

RSL009 (S) Measures to prevent fauna entrapment must be implemented during the construction and operation of well infrastructure and dams.

RSL010 (S) Sediment and erosion control measures to prevent soil loss and deposition beyond significantly disturbed land must be implemented and maintained.

RSL012 (S) Green waste may be used on-site for rehabilitation and/or sediment and erosion control purposes.

RSL020 (S) Only low impact petroleum activities can be undertaken within Category B Environmentally Sensitive Areas (ESAs) or Category C ESAs other than state forests or timber reserves; or within the primary protection zone of Category A ESAs.

RSL021 (S) Only essential petroleum activities can be undertaken in:
(a) the primary protection zone of Category B ESAs or Category C ESAs other than state forests or timber reserves
(b) the secondary protection zone of Category A ESAs or Category B ESAs
(c) Category C ESAs that are state forests or timber reserves.

RSL022 (S) Essential petroleum activities carried out in a primary protection zone must:
(a) be located in areas of pre-existing disturbance; and
(b) not negatively impact the ESA.

RSL023 (S)
(a) Only low impact petroleum activities are permitted in a designated precinct of a Strategic Environmental Area.
(b) Only essential petroleum activities are permitted within all other areas of a Strategic Environmental Area not identified in condition (a).

RSL024 (S) Prior to carrying out petroleum activities, the location of petroleum activities must be selected to:
(a) firstly avoid, then minimise, then mitigate any negative impacts on areas of vegetation or other areas of ecological value
(b) minimise disturbance to land that may otherwise result in land degradation
(c) minimise isolation, fragmentation or dissection of tracts of vegetation that would lead to a reduction in the current level of ecosystem functioning or ecological connectivity
(d) minimise clearing of mature or hollow bearing trees.

RSL025 (S) Records must be kept to demonstrate compliance with standard condition RSL024.

RSL026 (S) Prior to any significant disturbance to land:
(a) an ecological assessment of areas with native vegetation that are to be significantly disturbed, must be conducted in accordance with the Queensland Government's Biocondition, a Condition Assessment Framework for Terrestrial Biodiversity in Queensland, Assessment Manual; and
(b) an assessment of the impacts that will occur as a result of significant disturbance to land must be undertaken.

RSL027 (S) Sumps may be used for residual drilling material and drilling fluids only for the duration of drilling activities

RSL028 (S) Treated sewage effluent or greywater can be released to land provided it:
(a) meets or exceeds secondary treated class B standards for a treatment system with a daily peak design capacity of between 150 EP and 1500 EP; or
(b) meets or exceeds secondary treated class C standards for a treatment system with a daily peak design capacity of less than 150 EP; and
(c) is released within fenced and signed contaminant release area(s) and does not result in pooling or run-off or aerosols or spray drift or vegetation die-off.

RSL029 (S) Produced water may be used for dust suppression and construction activities provided that it does not result in adverse effects on the composition and structure of soil or subsoils and can be demonstrated to meet the following standards:
(a) pH between 6-9
(b) electrical conductivity (EC) not exceeding 3000µS/cm
(c) sodium adsorption ratio (SAR) not exceeding 8
(d) bicarbonate ion concentration not exceeding 100mg/L.

RSL030 (S) Residual drilling material can only be disposed of on-site:
(a) by mix-bury-cover method if the residual drilling material meets the approved quality criteria; or
(b) if it is certified by a suitably qualified third party as being of acceptable quality for disposal to land by the proposed method and that environmental harm will not result from the proposed disposal.

RSL031 (S) Records must be kept of drilling fluids and all additives used in drilling activities

RSL032 (S) Significantly disturbed areas that are no longer required for the ongoing conduct of the petroleum activities must be progressively rehabilitated within 6 months (unless an exceptional circumstance in the area to be rehabilitated (e.g. a flood event) prevents this timeframe being met) so that:

(a) the areas are reshaped to a stable landform

(b) the areas are re-profiled to contours consistent with the surrounding landform

(c) surface drainage lines are re-established

(d) top soil is reinstated.

RSL033 (S) All significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet standard condition RSL032 and the following final acceptance criteria:
(a) any contaminated land (e.g. contaminated soils, decommissioned dams containing salt) is remediated and rehabilitated
(b) rehabilitation is undertaken in a manner such that any actual or potential acid sulfate soils on the area of significant disturbance are treated to prevent

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or minimise environmental harm in accordance with the Instructions for the Treatment and Management of Acid Sulfate Soils (2001)
(c) for land that is not being cultivated by the landholder:
(i) groundcover, that is not a declared pest species is established and self-sustaining
(ii) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining
(d) for land that is to be cultivated by the landholder, cover crop is reinstated, unless the landholder will be preparing the site for cropping within 3 months of petroleum activities being completed.

RSL034 (S) Monitoring of performance indicators must be carried out on rehabilitation activities until final acceptance criteria in standard condition RSL033 have been met for the rehabilitated area.

RSL035 (S) Prior to relinquishing all or part of an authority to prospect area, a rehabilitation report must be prepared which specifically relates to the area to be relinquished and which:
(a) reports on the condition of the area to be relinquished against the requirements of standard conditions RSL032 and RSL033; and
(b) includes the results of all rehabilitation monitoring undertaken in the area to be relinquished in accordance with standard condition RSL034.

RSL036 (S) The report required under standard condition RSL035 must be submitted to the administering authority at least 20 business days prior to the relinquishment notice being lodged with the administering authority for the Petroleum and Gas (Production and Safety) Act 2004.

Social

RSS009 (S) If requested by the administering authority in relation to investigating a valid complaint, monitoring must be undertaken within 10 business days.

RSS010 (S) Petroleum activities must not cause environmental nuisance from dust, odour, light, smoke or noise at a sensitive place, other than where an alternative arrangement is in place

Water

RSW022 (S) Measures to minimise stormwater entry onto significantly disturbed land must be implemented and maintained.

RSW029 (S) The methods of surface water sampling must comply with that set out in the Queensland Government's Monitoring and Sampling Manual 2009 - Environmental Protection (Water) Policy 2009.

RSW031 (S) Petroleum activities that require earthworks, vegetation clearing and/or placing fill, other than that associated with the construction of linear infrastructure, are not permitted in or within:
(a) 200 metres of any wetland, lake or spring; or
(b) 100 metres of the outer bank of any other watercourse.

RSW032 (S) The construction and/or maintenance of linear infrastructure that will result in significant disturbance to a wetland, lake, spring or watercourse must be conducted in accordance with the following order of preference. Conducting works:
(a) firstly, in times where there is no water present
(b) secondly, in times of no flow

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(c) thirdly, in times of flow, but in a way that does not impede low flow.

RSW033 (S) Petroleum activities must not result in water turbidity increases of more than 10% in high ecological value waters outside contained construction or maintenance areas

RSW034 (S) The construction and/or maintenance of linear infrastructure that will result in significant disturbance to a lake, spring or watercourse must be designed and undertaken by a suitably qualified person in accordance with the guideline Activities in a watercourse, lake or spring associated with a resource activity or mining operations.

RSW035 (S) The construction and/or maintenance of linear infrastructure that will result in significant disturbance to a wetland must be designed and undertaken by a suitably qualified person taking into consideration sections 5 and 6 of the guideline Activities in a watercourse, lake or spring associated with a resource activity or mining operations

RSW036 (S) Produced water and stimulation flow-back water may be reused in:
(a) drilling and well hole activities; or
(b) stimulation activities where its use will not result in negative effects on waters beyond the stimulation impact zone.

RSW037 (S) Produced water used by an owner or occupier for domestic purposes or stock purposes in accordance with section 186 of the Petroleum and Gas (Production and Safety) Act 2004 or section 86 of the Petroleum Act 1923 must meet the irrigation or livestock watering criteria as relevant to those purposes in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000).

RSW038 (S) The petroleum activities must not involve well stimulation activities at a well located within 2 kilometres laterally of a landholder's active groundwater bore and sourced from a formation within 200 metres vertically of the stimulation impact zone

RSW039 (S) Prior to undertaking well stimulation activities, written stimulation management procedures must be developed

RSW040 (S) Stimulation activities must not result in:
(a) negative impacts to groundwater quality beyond the stimulation impact zone; or
(b) negative impacts to water quality in landholder's active groundwater bore(s) which tap into the target formation; or
(c) interconnectivity between the target formation and another aquifer.

RSW041 (S) The methods of groundwater sampling must comply with the Australian Government's Groundwater Sampling and Analysis - A Field Guide (2009:27 GeoCat #6890.1)

Definition

RD004 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.

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RD006 Acid sulfate soil(s) means a soil or soil horizon which contains sulfides or an acid soil horizon affected by oxidation of sulfides.

RD009 Administering authority has the meaning in Schedule 4 of the Environmental Protection Act 1994.

RD013 Alternative arrangement means a written agreement about the way in which a particular environmental nuisance impact will be dealt with at a sensitive place, and may include an agreed period of time for which the arrangement is in place. An alternative arrangement may include, but is not limited to, a range of nuisance abatement measures to be installed at the sensitive place, or provision of alternative accommodation for the duration of the relevant nuisance impact.

RD014 Analogue site(s) means an area of land which contains values and characteristics representative of an area to be rehabilitated prior to disturbance. Such values must encompass land use, topographic, soil, vegetation, vegetation community attributes and other ecological characteristics. Analogue sites can be the pre-disturbed site of interest where significant surveying effort has been undertaken to establish benchmark parameters.

RD015 Analyte(s) means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.

RD018 Annual return period means the most current 12-month period between two anniversary dates.

RD023 Approved quality criteria for the purposes of residual drilling materials, means the residual drilling material meet the following quality standards:
Part A In all cases:

Parameter	Maximum concentration
pH	6-10.5 (range)
Electrical Conductivity	20dS/m (20,000µS/cm)
Chloride*	8000mg/L

*Chloride analysis is only required if an additive containing chloride was used in the drilling process
The limits in Part A must be measured in the clarified filtrate of oversaturated solids prior to mixing.

Part B If any of the following metals are a component of the drilling fluids, then for that metal:
The limits in Part B refer to the post soil/by-product mix.

Parameter	Maximum concentration
Arsenic	20mg/kg
Selenium	5mg/kg
Boron	100mg/kg
Cadmium	3mg/kg
Chromium (total)	400mg/kg
Copper	100mg/kg
Lead	600mg/kg
Nickel	60mg/kg
Zinc	200mg/kg
Mercury	1mg/kg

Part C If a hydrocarbon sheen is visible, the following hydrocarbon fractions:

TPH	Maximum concentration
C6-C10	170mg/kg
C10-C16	150mg/kg
C16-C34	1300mg/kg
C34-C40	5600mg/kg
Total Polycyclic Aromatic Hydrocarbons (PAHs)	20mg/kg
Phenols (halogenated)	1mg/kg
Phenols (non-halogenated)	60mg/kg
Monocyclic aromatic hydrocarbons	7mg/kg

(Total sum of benzene, toluene, ethyl benzene, xylenes (includes ortho, para and meta xylenes) and styrene)	
Benzene	1mg/kg

The limits in Part C refer to the post soil/by-product mix.

RD024 Aquifer means an identifiable stratigraphic formation that has the potential to produce useful flows of water.

RD025 Areas of pre-existing disturbance means areas where environmental values have been negatively impacted as a result of anthropogenic activity and these impacts are still evident. Areas of pre-disturbance may include areas where legal clearing, logging, timber harvesting, or grazing activities have previously occurred, where high densities of weed or pest species are present which have inhibited re-colonisation of native regrowth, or where there is existing infrastructure (regardless of whether the infrastructure is associated with the authorised petroleum activities). The term 'areas of pre-disturbance' does not include areas that have been impacted by wildfire/s, controlled burning, flood or natural vegetation die-back.

RD037 Bed of any waters, has the meaning in Schedule 12 Part 2 of the Environmental Protection Regulation 2008.

RD043 Business day has the meaning in section 36 of the Acts Interpretation Act 1954.

RD044 Category A Environmentally Sensitive Area means any area listed in Schedule 12, Section 1 of the Environmental Protection Regulation 2008.

RD045 Category B Environmentally Sensitive Area means any area listed in Schedule 12, Section 2 of the Environmental Protection Regulation 2008.

RD047 Category C ESA means any of the following areas:
(a) nature refuges as defined in the conservation agreement for that refuge under the Nature Conservation Act 1992
(b) State forests or timber reserves as defined under the Forestry Act 1959
(c) resources reserves under the Nature Conservation Act 1992
(d) an area validated as 'essential habitat' or 'essential regrowth habitat' from ground-truthing surveys in accordance with the Vegetation Management Act 1999 for a species of wildlife listed as endangered, vulnerable, rare or near threatened under the Nature Conservation Act 1992
(e) 'of concern regional ecosystems' identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions
(f) threshold regional ecosystems as defined and listed in Appendix 6 of the Queensland Biodiversity Offsets Policy
(g) critically limited regional ecosystems as defined and listed in Appendix 5 of the Queensland Biodiversity Offsets Policy.

RD050 Certified in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams means, a Statutory Declaration by a suitably qualified person or suitably qualified third party accompanying the written document stating:
(a) the person's qualifications and experience relevant to the function
(b) that the person has not knowingly included false, misleading or incomplete information in the document
(c) that the person has not knowingly failed to reveal any relevant information or document to the administering authority
(d) that the document addresses the relevant matters for the function and is factually correct; and
(e) that the opinions expressed in the document are honestly and reasonably held.

RD053 Certifying, certify or certified have a corresponding meaning as 'certification'.

RD056 Clearing has the meaning in the dictionary of the Vegetation Management Act 2000.

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RD068 Cultivated means used for cropping or gardening.

RD069 Daily peak design capacity for sewage treatment works, has the meaning in Schedule 2, section 63(4) of the Environmental Protection Regulation 2008 as the higher equivalent person (EP) for the works calculated using each of the formulae found in the definition for EP.

RD072 Dam(s) means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.

RD073 Declared pest species has the meaning in the Land Protection (Pest and Stock Route Management) Regulation 2003 and is a live animal or plant declared to be a declared pest under section 36 (Declaring Pests by Regulation) or section 37(2) (Declaring Pest under Emergency Pest Notice) of that Act and includes reproductive material of the animal or plant.

RD080 Designated precinct has the meaning in Part 5 section 15(3) of the Regional Planning Interests Regulation 2014:

(a) for a strategic environmental area mentioned in section 4(1)-the area identified as a designated precinct on the strategic environmental area map for the strategic environmental area; or
(b) if a strategic environmental area is shown on a map in a regional plan - the area identified on the map as a designated precinct for the strategic environmental area.

RD082 Development approval means a development approval under the Integrated Planning Act 1997, the Sustainable Planning Act 2009 or the Planning Act 2016 in relation to a matter that involves an environmentally relevant activity under the Environmental Protection Act 1994.

RD086 Documents has the meaning in section 36 of the Acts Interpretation Act 1954.

RD088 Domestic purposes has the meaning in Schedule 2 of the Petroleum and Gas (Production and Safety) Act 2004 and section 86 of the Petroleum Act 1923.

RD090 Ecological connectivity is a measure of ecological condition and means the flow or connection of organisms and ecological processes across landscapes at multiple scales. Ecological connectivity has a positive relationship with landscape connectivity and habitat connectivity and effects vary between species. It includes connectivity by stepping stone or contiguous bioregional/local corridor networks.

RD093 Ecosystem functioning means the interactions between and within living and nonliving components of an ecosystem and generally correlates with the size, shape and location of the vegetation community.

RD095 Eligibility criteria for an environmentally relevant activity, has the meaning in section 112 of the Environmental Protection Act 1994.

RD097 Enclosed flare means a device where the residual gas is burned in a cylindrical or rectilinear enclosure that includes a burning system and a damper where air for the combustion reaction is admitted.

RD099 Environmental attribute has the meaning in section 11(2) of the Regional Planning Interests Act 2014.

RD101 Environmental harm has the meaning in section 14 of the Environmental Protection Act 1994.

RD104 Environmental nuisance has the meaning in section 15 of the Environmental Protection Act 1994.

RD106 Environmental value(s) has the meaning in section 9 of the Environmental Protection Act 1994.

RD108 Environmentally relevant activity or ERA has the meaning in section 18 of the Environmental Protection Act 1994.

RD112 Equivalent person or EP has the meaning under section 3 of the Planning Guidelines For Water Supply and Sewerage, 2005, published by the Queensland Government. It is calculated in accordance with Schedule 2, Section 63(4) of the Environmental Protection Regulation 2008 where:

(a) EP = V/200 where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day; or
(b) EP = M/2.5 where M is the mass, in grams, of phosphorus in the influent that the works are designed to treat as the inlet load in a day.

RD115 Essential petroleum activities means activities that are essential to bringing the resource to the surface and are only the following:

(a)low impact petroleum activities
(b) single well sites not exceeding 1 hectare disturbance and multi-well sites not exceeding 1.5 hectare disturbance
(c) associated infrastructure located on a well site necessary for the construction and operations of wells:
    (i) water pumps and generators
    (ii) flare pits
    (iii) above ground containers and chemical / fuel storages
    (iv) sumps for residual drilling material and drilling fluids
    (v) dams to contain stimulation flow back waters that are not significant or high hazard dams
    (vi) erosion and sediment and control structures
    (vii) pipe laydown and vegetation stockpile areas
    (viii) a temporary camp associated with a drilling rig that may involve sewage treatment works that are no release works
(d) communication and power lines that are necessary for the undertaking of petroleum activities and that are located within well sites, well pads and pipeline right of ways without increasing the disturbance area of petroleum activities
(e) ecological surveys, geophysical surveys, topographic or cadastral surveys or geological surveys (including seismic and geotechnical petroleum activities)
(f) gathering / flow pipelines from a well head to the initial compression facility
(g) supporting access tracks.

RD121 Financial assurance for an environmental authority, means financial assurance given for the authority under Chapter 5, part 12, division 2 of the Environmental Protection Act 1994.

RD123 Flare pit means a containment area where any hydrocarbon that is discovered in an over-pressured reservoir during the drilling operation is diverted to, and combusted. The flare pit is only used during the drilling and workover process.

RD133 Green waste means waste that is grass cuttings, trees, bushes, shrubs, material lopped from trees, untreated timber or other waste that is similar in nature but does not include declared pest species.

RD134 Greywater means wastewater generated from domestic activities such as laundry, dishwashing, and bathing. Greywater does not include sewage.

RD137 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, published by the Queensland Government, as amended from time to time.

RD139 High ecological value waters means Queensland waters that are scheduled waters under the Environmental Protection (Water) Policy 2009 as high value ecological waters.

RD151 Lake means:

(a) a lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
(b) the bed and banks and any other element confining or containing the water.

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RD155 Landholder's active groundwater bore means bores that are able to continue to provide a reasonable yield of water in terms of quantity for the bores authorised purpose or use. This term does not include monitoring bores owned by the administering authority of the Water Act 2000.

RD157 Levee means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.

RD160 Linear infrastructure means powerlines, pipelines, roads and access tracks.

RD165 Low hazard dam means any dam that is not classified as high or significant as assessed using the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, published by the Queensland Government and which contains contaminants in concentrations which exceed or will exceed, during the dam's operational life, the values or range shown in Table 3 of the manual.

RD167 Low impact petroleum activities means petroleum activities which do not result in the clearing of native vegetation, cause disruption to soil profiles through earthworks or excavation or result in significant disturbance to land which cannot be rehabilitated immediately using hand tools after the activity is completed. Examples of such activities include but are not necessarily limited to soil surveys (excluding test pits), topographic surveys, cadastral surveys and ecological surveys, may include installation of monitoring equipment provided that it is within the meaning of low impact and traversing land by car or foot via existing access tracks or routes or in such a way that does not result in permanent damage to vegetation.

RD181 Mix-bury-cover means the stabilisation of residual drilling solids in the bottom of a sump by mixing with subsoil and which occurs in a accordance with the following methodology:

(a) the base of the subsoil and residual solid mixture must be separated from the groundwater table by at least one metre of a continuous layer of impermeable subsoil material (kw=10-8m/s) or subsoil with a clay content of >20%; and
(b) the residual solids is mixed with subsoil in the sump and cover; and
(c) the subsoil and residual solids is mixed at least three parts subsoil to one part waste (v/v); and
(d) a minimum of one metre of clean subsoil must be placed over the subsoil and residual solids mixture; and
(e) topsoil is replaced.

RD184 Month is defined in s36 of the Acts Interpretation Act 1954.

RD185 NATA accreditation means accreditation by the National Association of Testing Authorities Australia.

RD191 Oil-based in relation to a fluid, means where the base fluid is a petroleum product such as diesel fuel.

RD193 Outer bank has the meaning in section 5A of the Water Act 2000.

RD195 Performance indicator(s) means a quantitative measure against which success can be assessed and audited in a consistent, objective and repeatable manner.

RD203 Primary protection zone means an area within 200m from the boundary of any Category A, B or C ESA.

RD204 Produced water has the meaning in section 15A of the Petroleum and Gas (Production and Safety) Act 2004.

RD207 Production testing has the meaning in section 73 of the Petroleum and Gas (Production and Safety) Act 2004.

RD215 Regulated dam(s) means any dam in the significant or high hazard category as assessed using the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, published by the Queensland Government, as amended from time to time.

RD218 Rehabilitation or rehabilitated means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with acceptance criteria and, where relevant, includes remediation of contaminated land.

RD223 Release, releases, released has the meaning in Schedule 4 of the Environmental Protection Act 1994.

RD225 Reporting limit means the lowest concentration that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes, the reporting limit is selected as the lowest non-zero standard in the calibration curve. Results that fall below the reporting limit will be reported as 'less than' the value of the reporting limit. The reporting limit is also referred to as the practical quantitation limit or the limit of quantitation. For polycyclic aromatic hydrocarbons, the reporting limit must be based on super-ultra trace methods and, depending on the specific polycyclic aromatic hydrocarbon, will range between 0.005µg/L - 0.02µg/L.

RD228 Residual drilling material means waste drilling materials including muds and cuttings returned from well holes and which have been left behind after the drilling fluids are pumped out.

RD236 Secondary protection zone in relation to a Category A or Category B ESA means an area within 100 metres from the boundary of the primary protection zone.

RD238 Secondary treated class B standards means treated sewage effluent or greywater which meets the following standards:

(a) total phosphorous as P, maximum 20mg/L
(b) total nitrogen as N, maximum 30mg/L
(c) 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L
(d) suspended solids, maximum 30mg/L
(e) pH, range 6.0 to 8.5
(f) e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 1000cfu per 100mL, maximum 10 000cfu per 100mL.

RD239 Secondary treated class C standards means treated sewage effluent or greywater which meets the following standards:

(a) total phosphorous as P, maximum 20mg/L
(b) total nitrogen as N, maximum 30mg/L
(c) 5-day biochemical oxygen demand (inhibited) (e.g. Release pipe from sewage treatment plant), maximum 20mg/L
(d) suspended solids, maximum 30mg/L
(e) pH, range 6.0 to 8.5
(f) e-Coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 10 000cfu per 100mL, maximum 100 000cfu per 100mL.

RD241 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
(f) 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
(g) for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.

RD248 Significantly disturbed or significant disturbance or significant disturbance to land or areas means disturbance to land as defined in Schedule 12, section 4 of the Environmental Protection Regulation 2008.

RD249 Species diversity means the diversity within an ecological community that incorporates both species richness and the evenness of species' abundances.

RD250 Species richness means the number of different species in a given area.

RD252 Spring(s) has the meaning in Schedule 4 of the Water Act 2000.

RD254 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.

RD259 Stimulation means a technique used to increase the permeability of a natural underground reservoir that is undertaken above the formation pressure and involves the addition of chemicals. It includes hydraulic fracturing/hydrofraccing, fracture acidizing and the use of proppant treatments.
Explanatory note: This definition is restricted from that in the Petroleum and Gas (Production and Safety) Act 2004 in order to only capture the types of stimulation activities that pose a risk to the environmental values of water quality in aquifers.

RD260 Stimulation fluid means the fluid injected underground to increase permeability. For clarity, the term stimulation fluid only applies to fluid injected down well post-perforation.

RD261 Stimulation impact zone means a 100m maximum radial distance from the stimulation target location within a gas producing formation.

RD262 Stimulation management procedures means procedures for the management of stimulation activities that include, but is not necessarily limited to information on:

(a) the local stratigraphy including aquifers, faults, linear features, hydraulic conductivity, porosity, seismic risk and groundwater dependent assets
(b) the impacts of applied stresses including aquifer drawdown, on connectivity to aquifers above and below the fractured zone subsequent to the stimulation activity
(c) the extent to which there are vertically impermeable formations between the fractured zone and other aquifers
(d) methods to ensure isolation of hydrocarbon bearing formations from aquifers and internal and external mechanical integrity of well(s)
(e) process control techniques incorporating real-time analysis, fracture modelling and formation understanding utilising techniques such as micro-seismic measurements
(f) quantity and quality monitoring of flow back water.

RD264 Stock purposes has the meaning in Schedule 2 of the Petroleum and Gas (Production and Safety) Act 2004 and section 86 of the Petroleum Act 1923.

RD265 Strategic environmental area has the meaning in section 11(1) of the Regional Planning Interests Act 2014.

RD267 Structure means dam or levee.

RD272 Suitably qualified person means a person who has qualifications, training, skills and 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.

RD273 Suitably qualified third party means a person who:

(a) has qualifications and experience relevant to performing the function including but not limited to:

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(i) a bachelor's degree in science or engineering; and
(ii) 3 years' experience in undertaking soil contamination assessments; and
(b) is a member of at least one organisation prescribed in Schedule 8 of the Environmental Protection Regulation 2008; and
(c) not be an employee of, nor have a financial interest or any involvement which would lead to a conflict of interest with the holder(s) of the environmental authority.

RD276 Synthetic oil-based means for a mud or drilling fluid, the base fluid being a synthetic oil, consisting of chemical compounds which are artificially made or synthesised by chemically modifying petroleum components or other raw materials rather than the whole crude oil.

RD281 Top soil 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.

RD286 Valid complaint means a complaint that is not considered by the administering authority or the holder of the environmental authority to be frivolous, vexatious or based on mistaken belief.

RD289 Waste and resource management hierarchy is defined in section 9 of the Waste Reduction and Recycling Act 2011.

RD291 Waste and resource management principles is defined in section 4(2)(b) of the Waste Reduction and Recycling Act 2011.

RD298 Watercourse is defined in Schedule 4 of the Environmental Protection Act 1994.

RD301 Waters refers to 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.

RD303 Well infrastructure means infrastructure required for the construction, completion and operation of a well including but not limited to cellar pits, dams and drill sumps.

RD305 Well site means a maximum area of land disturbance for the purposes of constructing, installing and operating an exploration well or such wells as part of a multi-well arrangement and includes well lease infrastructure.

RD309 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 6 metres. To be classified as a wetland, the area must have one or more of the following attributes:

(a) 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
(b) the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers; or
(c) the substratum is not soil and is saturated with water, or covered by water at some time.

For the purposes of petroleum activities, wetlands do not include springs and watercourses and those wetlands that are defined in the Wetland Mapping and Classification Methodology (2005) published by the Queensland Government as:

(a) H2M1 Riverine or ex-riverine (lacustrine) water bodies associated with dams and weirs located in a channel
(b) H2M3p Ponded pastures
(c) H2M5 Palustrine/lacustrine water bodies where ecological character has changed due to gross mechanical disturbance (e.g. cropping)
(d) H2M6 Palustrine/lacustrine water bodies that have been converted, completely or mostly, to a ring tank or other controlled storage
(e) H2M7 Riverine water bodies that have been converted mostly to canals or irrigation channels

(f) H3C1 Artificial stand-alone water storages not within a natural water body or channel; or
(g) H3C2 Artificial Channel drain/canal - bore drains, swales, bores and irrigation channel overflows/ponding.

Explanatory note: This definition has been amended from the Queensland Wetlands Program definition so that low value wetlands and man-made water bodies are excluded.

RD313 Year(s) is defined in section 36 of the Acts Interpretation Act 1954.

Appendices

RA012 Protecting air values, Appendix RA012—Authorised point sources

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Protecting air values, Appendix RA012—Authorised point sources at the specified release point reference

						NOx as Nitrogen		Carbon Monoxide	
Resource Authority	Facility	Release Point Reference	Equipment Description	Minimum Release Height (m)	Minimum Efflux Velocity (m/sec)	Maximum concentration (mg/Nm3)	Maximum Mass emission rate	Maximum concentration (mg/Nm3)	Maximum Mass emission rate (g/sec)