

Environmentally relevant activity standard

Petroleum exploration activities (ESR/2016/2386)

Eligibility criteria and standard conditions for petroleum exploration activities

DELIVERING
FOR QUEENSLAND



Queensland
Government

Prepared by: Regional and Regulation Support
Department of the Environment, Tourism
Science and Innovation.

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The Department of the Environment, Tourism, Science and Innovation acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Owners and custodians of the land. We recognise their connection to land, sea and community, and pay our respects to Elders past and present.

The department is committed to respecting, protecting and promoting human rights, and our obligations under the Human Rights Act 2019.

Month date of publication

Disclaimer

This document has been prepared with all due diligence and care, based on the best available information at the time of publication. The department holds no responsibility for any errors or omissions within this document.

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Version history

Version	Date	Description
1.00	31 May 2015	ERA standard originally took effect
2.00	30 September 2015	Amended for repeal of wild river provisions (as allowed in section 715C of the <i>Environmental Protection Act 1994</i>), updated definitions, and version history added.
2.01	21 October 2015	Minor amendment to correct typographical error on page 5, and legislative reference on page 15.
3.00	XXX XXXX 2025	Add groundwater monitoring activities to conditions PESCA 4 and 5 and Appendix 2: Definitions. Update outdated legislative and document references. Streamlining and general minor amendments to requirements for more effective regulation of activities.

ERA standards

An environmentally relevant activity (ERA) standard is made up of two parts:

- **Eligibility criteria** are constraints set to ensure environmental risks associated with the operation of the ERA are able to be managed by the standard conditions.
- **Standard conditions** are the minimum operating requirements an environmental authority holder must comply with.

Environmental authority applications

There are three types of application for a new environmental authority for which there is an ERA standard. The type of application that can be made depends on whether the applicant can meet the eligibility criteria and/or standard conditions:

- **Standard application**—If an applicant can meet all of the eligibility criteria and standard conditions, then they make a standard application.
- **Variation application**—If an applicant can comply with all the eligibility criteria but not all of the standard conditions, then the applicant may make a variation application.
- **Site-specific application**—Applicants who cannot meet the eligibility criteria must make a site-specific application.

Once an environmental authority is issued, the holder of the environmental authority can amend, add or remove a condition(s) in/to their authority by making an amendment application.

The [forms and fees for environmental authorities](#) can be found on the Business Queensland website at www.business.qld.gov.au. Applicants can apply for a standard, variation, site-specific or amendment application online through [Online Services](#) or by downloading the relevant application form from the Business Queensland website.

For requirements for the surrender of an environmental authority refer to the *Environmental Protection Act 1994*.

For assistance with the application forms or process, you can contact our Permit and Licence Management team via email to palm@detsi.qld.gov.au or calling 1300 130 372 (select option 4).

Definitions

Defined terms in this document are underlined the first time they appear and their definitions are provided in Appendix 2.

References to other documents

References in this document to laws, regulations, standards, policies, programs, guidelines and similar documents and instruments are to the current version of those documents and instruments, as amended or replaced from time to time.

Eligibility criteria

PEEC 1.

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*:

- data acquisition authority (DAA)
- water monitoring authority (WMA)
- authority to prospect (ATP).

PEEC 2.

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*.

PEEC 3.

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.

PEEC 4.

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:

- (a) the injection of a waste fluid or gas for gas storage into a natural underground reservoir or aquifer
- (b) a regulated dam
- (c) the carrying out of the following environmentally relevant activities (ERAs):
 - (i) ERA 8 – Chemical Storage
 - (ii) ERA 60(1a) – (1d) – Regulated waste disposal
 - (iii) ERA 60(2d) – (2h) – General waste disposal > 10,000t/year
 - (iv) 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
 - (v) 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.

Standard conditions

Schedule A: Authorised activities

Explanatory note: Schedule A outlines the activities that are authorised under the Petroleum and Gas (Production and Safety) Act 2004 and the Petroleum Act 1923, a number of activities are not authorised or are otherwise restricted under the standard conditions in Schedule A (i.e. the 'PESCA' conditions). This is because the process followed for a standard application does not require a formal assessment by the administering authority.

PESCA 1.

All reasonable steps must be taken to ensure The petroleum activities comply with the eligibility criteria for the activity.

PESCA 2.

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.

PESCA 3.

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.

Explanatory note: Category A ESAs are excised from DAA, WMA and ATP tenure types and therefore petroleum activities cannot occur in these areas.

Where there are overlapping Category C ESAs (e.g. a state forest and essential habitat), the Category C ESA with the most stringent limitation is to be applied to the area.

PESCA 4.

Only essential petroleum activities and groundwater monitoring 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.

PESCA 5.

Essential petroleum activities **and groundwater monitoring 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.

PESCA 6.

Records demonstrating compliance with standard condition (PPSCA 5) must be kept.

Explanatory Note: A risk assessment of the environmental values, impacts and mitigation measures can be developed to help demonstrate compliance with standard conditions (PPSCA 3), (PPSCA 4) and (PPSCA5).

Schedule B: Protecting environmental values

Explanatory note: Schedule B outlines the environmental values to be protected or enhanced to minimise environmental harm resulting from the petroleum activities. Negative impacts to these environmental values beyond the authorisations in the standard conditions in Schedule B (i.e. the 'PESCB' conditions) are considered unlawful environmental harm.

PESCB 1.

~~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~~

Petroleum activities must not be carried out unless an estimate rehabilitation cost decision is in effect and payment has been made to scheme assurance.

Explanatory note: Prior to any changes in petroleum activities which would result in an increase to the estimated rehabilitation cost (ERC) or maximum amount of disturbance since the last ERC decision, the holder of the environmental authority must submit, and the administering authority must have approved, an application for a new ERC decision.

PESCB 2.

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.

PESCB 3.

Contaminants must not be directly or indirectly released to land or air except for those releases authorised by standard conditions (PESCC 7), (PESCC 10), (PESCC 18), (PESCC 19), (PESCC 21), (PESCC 22), (PESCC 23), (PESCC 24), (PESCC 25), (PESCC 26), (PESCC 27), (PESCC 29), (PESCC 31) or (PESCC 32).

PESCB 4.

Only low impact petroleum activities are permitted in a designated precinct of a Strategic Environmental Area.

~~(a) Only essential petroleum activities are permitted within all other areas of a Strategic Environmental Area not identified in condition (a).~~

Site planning

PESCB 5.

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.

PESCB 6.

Prior to any significant disturbance to land, a suitably qualified person must undertake:

- (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.

PESCB 7.

Clearing of native vegetation must be undertaken under the direction of a fauna spotter-catcher that is a suitably qualified person, to identify, relocate and minimise impacts to native fauna.

PESCB 8.

Records must be kept to demonstrate compliance with standard condition (PESCB 5 and PESCB 6).

Schedule C: Operating standards

Explanatory note: Schedule C outlines the operating requirements considered by the administering authority to be acceptable performance standards. In complying with the standard conditions in Schedule C (i.e. the 'PESCC' conditions), the holder will be carrying out the petroleum activities in a way that reduces the risk of environmental harm. Industry is encouraged to exceed these performance standards.

Documentation

PESCC 1.

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.

PESCC 2.

All plans and procedures required to be developed must be implemented.

Plant and equipment

PESCC 3.

All plant and equipment reasonably necessary to ensure compliance with the standard conditions must be installed, maintained and operated in their proper and effective condition.

~~PESCC 4.~~

~~All plant and equipment must be maintained and operated in their proper and effective condition.~~

~~PESCC 5.~~

~~All measures reasonably necessary to ensure compliance with the standard conditions must be implemented.~~

PESCC 4.

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

Contingency and emergency response

~~PESCC 7.~~

~~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 Schedule B standard conditions.~~

~~PESCC 8.~~

~~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 Schedule B 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 Schedule B standard conditions.~~

Explanatory note: *The contingency procedures may incorporate other documents by reference*

Activities in wetlands, lakes, springs and watercourses

PESCC 5.

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.

PESCC 6.

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:

- (1) firstly, in times where there is no water present
- (2) secondly, in times of no flow,
- (3) thirdly, in times of flow, but in a way that does not impede low flow.

PESCC 7.

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

~~PESCC 12.~~

~~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.~~

~~PESCC 13.~~

~~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.~~

PESCC 8.

The construction and/or maintenance of linear infrastructure that will result in significant disturbance to a lake, spring, watercourse or wetland must be designed and undertaken by a suitably qualified person in accordance with the Riverine protection permit exemption requirements (WSS/2013/726).

Erosion and sediment control

PESCC 9.

Measures to minimise stormwater entry onto significantly disturbed land must be implemented and maintained.

PESCC 10.

For petroleum activities involving significant disturbance to land, control measures that are commensurate to the site-specific risk of erosion, and risk of sediment release to waters must be implemented to:

- (a) allow stormwater to pass through the site in a controlled manner and at non-erosive flow velocities
- (b) minimise soil erosion resulting from wind, rain, and flowing water
- (c) minimise the duration that disturbed soils are exposed to the erosive forces of wind, rain, and flowing water
- (d) minimise work-related soil erosion and sediment runoff; and
- (e) minimise negative impacts to land or properties adjacent to the activities (including roads).

~~Sediment and erosion control measures to prevent soil loss and deposition beyond significantly disturbed land must be implemented and maintained.~~

PESCC 11.

The measures required by standard conditions (PESCC 9) and (PESCC 10) must be in accordance with the International Erosion Control Association (IECA) *Best Practice Erosion and Sediment Control* (BPESC).

Chemical storage

PESCC 12.

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.

Structures that are dams or levees

PESCC 13.

Other than for flare pits and sumps used to store residual drilling material and drilling fluids, the hazard category of any dam or levee to be used in carrying out petroleum activities must be assessed in accordance with the Queensland Government *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933).

PESCC 14.

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 and constructed 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.

PESCC 15.

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

PESCC 16.

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.

Blasting

PESCC 17.

A Blast Management Plan must be developed for each blasting activity in accordance with *Australian Standard 2187*.

PESCC 18.

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 at a sensitive place.

PESCC 19.

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 at a sensitive place.

Waste management

PESCC 20.

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.

PESCC 21.

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 (PESCC 22), (PESCC 23), (PESCC 24), (PESCC 25), (PESCC 26), (PESCC 27), (PESCC 29) or (PESCC 31) to be disposed of or used on-site.

PESCC 22.

Sumps may be used for residual drilling material and drilling fluids only for the duration of drilling activities.

PESCC 23.

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

Treated sewage effluent

PESCC 24.

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.

Produced water

PESCC 25.

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.

PESCC 26.

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; **does not result in runoff or release to waters** 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.

PESCC 27.

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 latest version of *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.

Produced water may be provided to a third party if the following requirements are met:

- (a) the EA holder holds the appropriate approvals to transport the produced water to the third party under the *Environmental Protection Act 1994* and the *Waste Reduction and Recycling Act 2011* and subordinate legislation; and**
- (b) The third party has the appropriate approvals to receive, store and use the produced water under the *Environmental Protection Act 1994* or the *Waste Reduction and Recycling Act 2011* and subordinate legislation.**

PESCC 28

Produced water provided to a third party must meet the irrigation or livestock watering criteria as relevant to those purposes in the latest version of *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.

Explanatory note:

In Queensland, End-of-Waste (EOW) codes enable the beneficial use of CSG water by recognising it as a resource rather than waste when certain conditions are met. Although obtaining an EOW approval is voluntary, it provides a formal pathway to demonstrate that associated water is used in a manner that meets defined quality standards and is no longer classified as waste.

While an EA held by a petroleum operator can authorise the supply of associated water to a landholder for specific uses (e.g., livestock watering or domestic purposes), the water may still be considered waste unless an EOW approval applies. In such cases, associated water may be regarded as waste, meaning the landholder could be required to hold

an EA to store or use the water under the EP Act. Furthermore, the EA holder may be required to comply with waste transport requirements under the EP Act to transport the water.

Residual drilling material

PESCC 29.

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.

Explanatory note: Mix-bury-cover of residual drilling materials may trigger Notifiable Activity 20: Landfill—disposing of waste (excluding inert construction and demolition waste) as listed in Schedule 4 of the Environmental Protection Act 1994. The conditions do not remove obligations to comply with the contaminated land provisions in that Act, despite the use of quality criteria for the material to be buried. Where notification has occurred and where that notification results in the property being listed on the Environmental Management Register due to sufficient levels of hazardous contaminants, the administering authority will have a record of the locations where disposal has occurred. The rehabilitation conditions ensure that any contaminated land will be remediated and restored prior to surrender. If this is not possible, the surrender may occur but only if a Site Management Plan is in place to manage the contamination

PESCC 30.

Records must be kept of drilling fluids and all additives used in drilling activities.

Venting and well flaring

PESCC 31.

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.

Explanatory note: If an enclosed flare is used, the requirements in relation to the ignition system, flame and smoke do not apply.

Stimulation

PESCC 32.

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.

PESCC 33.

Prior to undertaking well stimulation activities, written stimulation management procedures must be developed **and implemented.**

Explanatory note: The stimulation management procedures may incorporate other documents by reference.

PESCC 34.

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.

Rehabilitation

Explanatory note: Rehabilitation activities should be completed prior to the tenure expiring. A surrender application must be supported by sufficient information to decide the application.

PESCC 35.

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) any infrastructure is removed**
- (b) the areas are reshaped to a stable landform
- (c) the areas are re-profiled to contours consistent with the surrounding landform
- (d) surface drainage lines are re-established
- (e) top soil is reinstated.

PESCC 36.

All significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet standard condition (PESCC 35) 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 or minimise environmental harm in accordance with the Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines.
- (c) for land that is not being cultivated by the landholder:
 - (i) groundcover, that is not an invasive plant 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.

PESCC 37.

Monitoring of performance indicators must be carried out on rehabilitation activities until final acceptance criteria in standard condition (PESCC 36) have been met for the rehabilitated area.

PESCC 41.

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.

Schedule D: Monitoring and reporting conditions

Explanatory note: Schedule D outlines the monitoring and reporting requirements (i.e. the 'PESCD' conditions) that are necessary and desirable to ensure the activities are being undertaken in compliance with the standard conditions under Schedule B and Schedule C.

Monitoring and sampling

PESCD 1.

All monitoring must be undertaken by a suitably qualified person.

PESCD 1.

If requested by the administering authority in relation to investigating a valid complaint or incident involving contamination of the environment and/or environmental nuisance, monitoring and sampling must be undertaken within 40 business days by a suitably qualified person, in the way and within the timeframe required by the administering authority.

PESCD 3.

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.

PESCD 4.

Notwithstanding standard condition (PESCD 3), 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.

Rehabilitation reporting for relinquishment of part of an authority to prospect area under the *Petroleum and Gas (Production and Safety) Act 2004*.

PESCD 5.

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 (PESCC 38) and (PESCC 39); and
- (b) includes the results of all rehabilitation monitoring undertaken in the area to be relinquished in accordance with standard condition (PESCC 40).

PESCD 6.

The report required under standard condition (PESCD 5) 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*.

Sampling**PESCD 7.**

The methods of surface water sampling must comply with that set out in the Queensland Government's *Monitoring and Sampling Manual 2018 — Environmental Protection (Water and Wetland Biodiversity) Policy 2019*.

PESCD 8.

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

PESCD 9.

Noise must be measured in accordance with the prescribed standards in the *Environmental Protection Regulation 2019*.

PESCD 10.

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 4323.1:2021 *Stationary source emissions method 1: Selection of sampling positions*, whichever is appropriate for the relevant measurement.

Notification**PESCD 2.**

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 (PESCC 7) and (PESCC 8) being activated an investigation must be undertaken and a report must be provided to the administering authority within 30 days of an event or incident that results in a condition of the authority not being met. The report must:

- (a) outline the understanding of the causes of the event or incident
- (b) detail the investigation undertaken including monitoring, sampling and results
- (c) actions to be taken to remedy or remediate
- (d) details of registered owners or occupiers of any affected land and consultation conducted
- (e) any outstanding actions with timelines for completion; and
- (f) confirmation that environmental harm was not caused.

Explanatory note: Notification under standard condition (PESCD 11) should occur using the form, Incident notification for resource activities other than mining (ESR/2015/1753) available from the administering authority's website.

Reporting

PESCD 12:

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.

Appendix 1: General legislative 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 reasonably** 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.

Where a person has not met their general environmental duty and the contravention causes, or is likely to cause, serious or material environmental harm, they will have committed an offence under section 319(2) of the *Environmental Protection Act 1994*.

~~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 the Environment, Tourism, Science and Innovation website at www.detsi.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* (ESR/2016/2271).

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 20 business days** after becoming so aware, give notice to the administering authority.

Duty to restore the environment

Section 319 C of the *Environmental Protection Act 1994* explains the duty to restore the environment. If a person causes or permits an incident that results in unlawful environmental harm through contamination of the environment, they must, as soon as reasonably practicable, and as far as reasonably practicable, rehabilitate or restore the environment to its condition before the harm.

For more information regarding the duty to restore read the information sheet *Duty to restore the environment overview* (ESR/2024/6836).

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 10 of the Environmental Protection Regulation 2019.

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.**

Responsibilities under the *Environmental Offsets Act 2014*

The standard conditions outlined in this document do not allow for petroleum activities to have significant risks to ESAs or prescribed environmental matters. Therefore, negative impacts are not authorised to environmental or biodiversity values that are required to be offset under the *Environmental Offset Act 2014*. However, applications to vary the standard condition may trigger the requirement for an offset.

Responsibilities 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.~~

Littering is the unlawful deposit of any type of waste material that is less than 200 litres in volume. For the meaning of waste refer to 8AA of the *Waste Reduction and Recycling Act 2011*. Examples of litter include, but are not limited to, cigarette butts, drinks bottles, fast food packaging, food scraps and green waste.

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.

Illegal dumping is the deposit of large volumes of waste (200L or more) at a place. Examples of commonly dumped items include, but are not limited to, large volumes of rubbish or green waste, whitegoods and furniture, construction and demolition materials, old tyres, chemical drums, disused vehicles and asbestos.

End of waste codes

Where the use of a waste as a resource has been demonstrated to have benefits through sustainable use and negligible environmental risks, an end of waste (EOW) code may be developed. End of waste (EOW) codes specify outcomes that need to be achieved for a waste to be deemed a resource. It states requirements for the registered resource producer as well as conditions for the use of the resource.

Further details are available by searching 'end of waste codes' at the Business Queensland website at www.business.qld.gov.au.

Estimated Rehabilitation Cost (Financial Provisioning Scheme for resource activities)

EA holders for a resource activity, may be required to contribute a security deposit to the Financial Provisioning Scheme. If you hold an EA for resource activities, you must apply for an Estimated Rehabilitation Cost (ERC) decision. Your ERC is based on the likely costs and expenses that the Queensland Government may incur when taking action to rehabilitate or restore and protect the environment because of environmental harm that your activity may cause.

Further details are available at the Business Queensland website at www.business.qld.gov.au.

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*
- *Regional Planning Interests Act 2014*
- *Sustainable Planning Act 2009*
- *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.

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Appendix 2: Definitions

Explanatory note: Where a term is not defined in this document, the definition in the Environmental Protection Act 1994, its regulations and environmental protection policies, then the Acts Interpretation Act 1954 then the Macquarie Dictionary should be used in that order.

Term	Definition				
acid sulfate soil(s)	means a soil or soil horizon which contains sulfides or an acid soil horizon affected by oxidation of sulfides.				
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 <i>Australian National Committee on Large Dams</i> (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.				
administering authority	has the meaning in Schedule 4 of the <i>Environmental Protection Act 1994</i> .				
alternative arrangement	means a written agreement about the way in which a particular 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.				
analogue site(s)	means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.				
annual return period	means the most current 12-month period between 2 anniversary dates.				
approved quality criteria	for the purposes of residual drilling materials, means the residual drilling material meet the following quality standards: <u>Part A</u> In all cases: <table border="1"> <tr> <th>Parameter</th><th>Maximum concentration</th></tr> <tr> <td>pH</td><td>6-10.5(range)</td></tr> </table>	Parameter	Maximum concentration	pH	6-10.5(range)
Parameter	Maximum concentration				
pH	6-10.5(range)				

	Electrical Conductivity	20dS/m (20,000µS/cm)
	Chloride*	8000 mg/L
	*Chloride analysis is only required if an additive containing chloride was used in the drilling process.	
	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
	The limits in Part B refer to the post soil/by-product mix.	
	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 ¹	7mg/kg
	Benzene	1mg/kg
	The limits in Part C refer to the post soil/by-product mix	
	¹ Total sum of benzene, toluene, ethyl benzene, xylenes (includes ortho, para and meta xylenes) and styrene	
aquifer	means an identifiable stratigraphic formation that has the potential to produce useful flows of water.	
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.	
bed	of any waters, has the meaning in Schedule 19, Part 2 of the Environmental Protection Regulation 2019 .	

business day	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
category A environmentally relevant activity (ESA)	means any area listed in Schedule 19, Part 1 of the Environmental Protection Regulation 2019 .
category B environmentally relevant activity (ESA)	means any area listed in Schedule 19, Part 1 of the Environmental Protection Regulation 2019 .
category C environmentally relevant activity (ESA)	means any of the following areas: • nature refuges as defined in the conservation agreement for that refuge under the <i>Nature Conservation Act 1992</i> • state forests or timber reserves as defined under the <i>Forestry Act 1959</i> • resources reserves under the <i>Nature Conservation Act 1992</i> • an area validated as from ground-truthing surveys as 'essential habitat' on the Queensland Government Essential Habitat Map in accordance with section 20AC of the Vegetation Management Act 1999 for a species of wildlife listed as critically endangered, endangered, vulnerable under the <i>Nature Conservation Act 1992</i> • an area validated from ground-truthing surveys as 'protected wildlife habitat' that is category A, B or C on the Regulated Vegetation Management Map, in accordance with section 20A of the Vegetation Management Act 1999, for a species of wildlife listed as critically endangered, endangered or vulnerable under the <i>Nature Conservation Act 1992</i> • 'of concern regional ecosystems' that are remnant vegetation and identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions.
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: • the person's qualifications and experience relevant to the function • that the person has not knowingly included false, misleading or incomplete information in the document • that the person has not knowingly failed to reveal any relevant information or document to the administering authority • that the document addresses the relevant matters for the function and is factually correct; and • that the opinions expressed in the document are honestly and reasonably held.

clearing	has the meaning in the dictionary of the <i>Vegetation Management Act 1999</i> .
cultivated	means used for cropping or gardening.
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.
daily peak design capacity	for sewage treatment works, has the meaning in Schedule 2, section 63(4) of the Environmental Protection Regulation 2019 as the higher equivalent person (EP) for the works calculated using each of the formulae found in the definition for EP.
designated precinct	has the meaning in Schedule 2 of the Regional Planning Interests Regulation 2014: • 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 • 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.
documents	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
domestic purposes	has the meaning in Schedule 2 of the <i>Petroleum and Gas (Production and Safety) Act 2004</i> and section 86 of the <i>Petroleum Act 1923</i> .
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.
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.
eligibility criteria	for an environmentally relevant activity, has the meaning in section 112 of the <i>Environmental Protection Act 1994</i> .

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.
environmental attribute	has the meaning in section 11(2) of the <i>Regional Planning Interests Act 2014</i> .
environmental harm	has the meaning in section 14 of the <i>Environmental Protection Act 1994</i> .
environmental value(s)	has the meaning in section 9 of the <i>Environmental Protection Act 1994</i> .
environmental nuisance	has the meaning in section 15 of the <i>Environmental Protection Act 1994</i> .
equivalent person (EP)	has the meaning under section 3 of the Planning Guidelines For Water Supply and Sewerage (2010), published by the Queensland Government. It is calculated in accordance with Schedule 2, section 63(4) of the Environmental Protection Regulation 2019 where: • $EP = V/200$ 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 • $EP = M/2.5$ 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.
environmentally relevant activity (ERA)	has the meaning in section 18 of the <i>Environmental Protection Act 1994</i> .
essential petroleum activities	means activities that are essential to bringing the resource to the surface and are only the following: • low impact petroleum activities • single well sites not exceeding 1 hectare disturbance and multi-well sites not exceeding 1.5 hectare disturbance • associated infrastructure located on a well site necessary for the construction and operations of wells: ○ water pumps and generators ○ flare pits ○ above ground containers and chemical / fuel storages ○ sumps for residual drilling material and drilling fluids ○ dams to contain stimulation flow back waters that are not • significant or high hazard dams ○ erosion and sediment and control structures ○ pipe laydown and vegetation stockpile areas ○ a temporary camp associated with a drilling rig that may involve • sewage treatment works that are no release works. • 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 • ecological surveys, geophysical surveys, topographic or cadastral surveys or geological surveys (including seismic and geotechnical petroleum activities) • gathering / flow pipelines from a well head to the initial compression facility

estimated rehabilitation cost	has the meaning in section 300(2) of the <i>Environmental Protection Act 1994</i> .
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.
gas storage	means activities authorised under the <i>Greenhouse Gas Storage Act 2009</i> .
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 invasive plant species .
greywater	means wastewater generated from domestic activities such as laundry, dishwashing, and bathing. Greywater does not include sewage.
groundwater monitoring activities	means water and groundwater monitoring activities undertaken: • under section 187 of the <i>Petroleum and Gas Act 2002</i> • as required under Chapter 3 of the <i>Water Act 2000</i> for resource tenure holders for the exercise of their underground water rights (e.g. monitoring required in a water monitoring strategy of an approved underground water impact report).
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 <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> , published by the Queensland Government, as amended from time to time.
high ecological value waters	means Queensland waters that are scheduled waters under the <i>Environmental Protection (Water and Wetland Biodiversity) Policy 2019</i> as high value ecological waters.
invasive plant species	means a species that is an invasive plant under Schedule 4 of the <i>Biosecurity Act 2014</i> .
lake	means: • a lagoon, swamp or other natural collection of water, whether permanent or intermittent; and • the bed and banks and any other element confining or containing the water.
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 <i>Water Act 2000</i> .

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.
linear infrastructure	means powerlines, pipelines, roads and access tracks.
low hazard dam	means any dam that is not classified as high or significant as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) , 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.
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.
mix-bury-cover	means the stabilisation of residual drilling solids in the bottom of a sump by mixing with subsoil and which occurs in accordance with the following methodology: - 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 ($k_w=10-8m/s$) or subsoil with a clay content of >20%; and - the residual solids is mixed with subsoil in the sump and cover; and - the subsoil and residual solids is mixed at least three parts subsoil to one part waste (v/v); and - a minimum of one metre of clean subsoil must be placed over the subsoil and residual solids mixture; and - topsoil is replaced.
Month	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
NATA accreditation	means accreditation by the National Association of Testing Authorities Australia.

oil-based	in relation to a fluid, means where the base fluid is a petroleum product such as diesel fuel.
outer bank	has the meaning in section 5A of the <i>Water Act 2000</i> .
performance indicator(s)	means a quantitative measure against which success can be assessed and audited in a consistent, objective and repeatable manner.
primary protection zone	means an area within 200 metres from the boundary of any category A, B or C environmentally sensitive area.
produced water	has the meaning in section 15A of the <i>Petroleum and Gas (Production and Safety) Act 2004</i> .
production testing	has the meaning in section 73 of the <i>Petroleum and Gas (Production and Safety) Act 2004</i> .
regulated dam(s)	means any dam in the significant or high consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) , published by the Queensland Government, as amended from time to time.
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.
release, releases or released	has the meaning in Schedule 4 of the <i>Environmental Protection Act 1994</i> .
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.
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.

secondary protection zone	in relation to a category A or B environmentally sensitive area means an area within 100 metres from the boundary of the primary protection zone.
secondary treated class B standards	means treated sewage effluent or greywater which meets the following standards: • total phosphorous as P, maximum 20mg/L • total nitrogen as N, maximum 30mg/L • 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0 to 8.5 • e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 1000cfu per 100mL, maximum 10000cfu per 100mL.
secondary treated class C standards	means treated sewage effluent or greywater which meets the following standards: • total Phosphorous as P, maximum 20mg/L • total Nitrogen as N, maximum 30mg/L • 5-day Biochemical oxygen demand (inhibited) (e.g. Release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0 to 8.5 • e-Coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 10000cfu per 100mL, maximum 100000cfu per 100mL.
sensitive place	means: • a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel) • a library, childcare centre, kindergarten, school, university or other educational institution • a medical centre, surgery or hospital • a protected area • 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 • 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 • for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2019.

significantly disturbed or significant disturbance or significant disturbance to land or areas	Is land that: (a) is contaminated land; or (b) has been disturbed and human intervention is needed to rehabilitate it— (i) to a condition required under the relevant environmental authority; or (ii) if the environmental authority does not require the land to be rehabilitated to a particular condition—to the condition it was in immediately before the disturbance. Examples of a disturbance to land— • the covering, compaction, exposure, removal or stockpiling of soil or other material • the destruction or removal of vegetation • the carrying out of a mining activity in a watercourse or wetland • the submergence of an area with a hazardous contaminant, tailings, or water Without limiting (b) above, land requires human intervention to rehabilitate it if— (a) the disturbance has made the land more susceptible to erosion; or (b) the land use capability or suitability of the land is diminished; or (c) the quality of water in a watercourse downstream of the land has been significantly reduced. If land is significantly disturbed land because it is contaminated land, it ceases to be significantly disturbed land if a suitability statement is issued for the land. If land is significantly disturbed land under subsection (1)(b), it ceases to be significantly disturbed land if the administering authority is satisfied the land has been rehabilitated— (a) to the condition it was in immediately before the disturbance; or (b) to another condition decided by the administering authority.
species richness	means the number of different species in a given area.
species diversity	means the diversity within an ecological community that incorporates both species richness and the evenness of species' abundances.
spring(s)	has the meaning in Schedule 4 of the <i>Water Act 2000</i> .
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.
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/hydrofracturing, 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

	<i>stimulation activities that pose a risk to the environmental values of water quality in aquifers.</i>
stimulation fluid	means the fluid injected underground to increase permeability. For clarity, the term stimulation fluid only applies to fluids injected down well post-perforation.
stimulation impact zone	means a 100 metres maximum radial distance from the stimulation target location within a gas producing formation.
stimulation management procedures	means procedures for the management of stimulation activities that include, but is not necessarily limited to information on: • the local stratigraphy including aquifers, faults, linear features, hydraulic conductivity, porosity, seismic risk and groundwater dependent assets • the impacts of applied stresses including aquifer drawdown, on connectivity to aquifers above and below the fractured zone subsequent to the stimulation activity • the extent to which there are vertically impermeable formations between the fractured zone and other aquifers • methods to ensure isolation of hydrocarbon bearing formations from aquifers and internal and external mechanical integrity of well(s) • process control techniques incorporating real-time analysis, fracture modelling and formation understanding utilising techniques such as micro-seismic measurements • quantity and quality monitoring of flow back water.
stock purposes	has the meaning in Schedule 2 of the <i>Petroleum and Gas (Production and Safety) Act 2004</i> and section 86 of the <i>Petroleum Act 1923</i> .
strategic environmental area	has the meaning in section 11(1) of the <i>Regional Planning Interests Act 2014</i> .
structure	means a dam or levee.
suitably qualified person	means a person who has the professional qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis about performance relative to the subject matter using the relevant protocols, standards, methods or literature.

suitably qualified third party	means a person who: (a) has qualifications and experience relevant to performing the function including but not limited to: (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 14 of the Environmental Protection Regulation 2019; 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.
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.
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.
valid complaint	means a complaint that is not considered by the administering authority or holder of the environmental authority to be frivolous, vexatious or based on mistaken belief.
waste and resource management hierarchy	has the meaning provided in section 9 of the <i>Waste Reduction and Recycling Act 2011</i> .
waste and resource management principles	has the meaning provided in section 4(2)(b) of the <i>Waste Reduction and Recycling Act 2011</i> .
waters	means all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.

watercourse	has the meaning provided in Schedule 4 of the <i>Environmental Protection Act 1994</i> .
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.
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.
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: • at least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle; or • the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers; or • the substratum is not soil and is saturated with water, or covered by water at some time. For the purposes of petroleum activities, wetlands do not include springs and watercourses and those wetlands that are defined in the <i>Wetland Mapping and Classification Methodology</i> (2005) published by the Queensland Government as: • H2M1 Riverine or ex-riverine (lacustrine) water bodies associated with dams and weirs located in a channel • H2M3p Ponded pastures • H2M5 Palustrine/lacustrine water bodies where ecological character has changed due to gross mechanical disturbance (e.g. cropping) • H2M6 Palustrine/lacustrine water bodies that have been converted, completely or mostly, to a ring tank or other controlled storage • H2M7 Riverine water bodies that have been converted mostly to canals or irrigation channels • H3C1 Artificial stand-alone water storages not within a natural water body or channel; or • H3C2 Artificial Channel drain/canal – bore drains, swales, 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.
year(s)	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .