Permit

Environmental Protection Act 1994

Environmental authority EPPG00477413

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

Environmental authority number: EPPG00477413

Environmental authority takes effect on 17 December 2020

Environmental authority holder(s)

Name(s)	Registered address
STATE GAS LIMITED	Level 8, 46 Edward St BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Non-Scheduled Petroleum Activity Petroleum Lease - PL	PL231

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).

Queensland Government

Contaminated land

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

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

that is causing, or is reasonably likely to cause, serious or material environmental harm.
For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

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

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or
b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Sustainable Planning Act 2009* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.
If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

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

Date issued: 17 December 2020

Enquiries:
Energy and Extractive Resources
Department of Environment and Science

Phone: 3330 5715
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Obligations under the *Environmental Protection Act 1994*

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

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

Legislative Requirements and Conditions of Environmental Authority

Conditions

Condition 1 The environmental authority authorises the carrying out of the following resource activities:

a) The petroleum activities and specified relevant activities listed in *Schedule A, Table 1 – Authorised petroleum activities and specified relevant activities* to the extent they are carried out in accordance with the activity's corresponding scale or intensity or both (where applicable); and

b) Essential petroleum activities and low impact petroleum activities that are not otherwise specified relevant activities listed in *Schedule A, Table 1 – Authorised petroleum activities and specified relevant activities*

Condition 2 The authorised resource activities are authorised subject to the conditions of this environmental authority.

Condition 3 This environmental authority does not authorise a relevant act to occur in carrying out an authorised resource activity unless a condition expressly authorises that relevant act to occur. Where there is no condition, the lack of a condition must not be construed as authorising the relevant act.

Table 1 – Authorised petroleum activities and specific relevant activities

Authorised petroleum activity	Scale		intensity
	Maximum size	location	
Coal Seam Gas and conventional appraisal wells	18ha	Within Project Area	18 wells
Historic wells	0.1Ha	Within Project Area	5 wells 1 flare pit
Seismic	5000ha	Within Project Area	-
Temporary camp associated with a drilling rig	1ha	Within Project Area	1
Temporary camp, administration site and laydown associated with exploration and appraisal activities	1ha	Within Project Area	1
Temporary sewage treatment activities with cumulative total peak design capacity of <21EP	-	Within Project Area	2

Condition 4 The holder of the environmental authority must submit to the administering authority:

a) a copy of the initial work program, later work programs and, any amendments to work programs when submitted to the Department of Employment, Economic Development and

Queensland Government

Innovation (DEEDI) under the Petroleum and Gas (Production and Safety) Act 2004 (P&G Act) for authorities to prospect; or

b) a copy of the initial development plan, later development plans and any amendments to development plans when submitted to the DEEDI under the P&G Act for petroleum leases.

Condition 5 Prior to undertaking activities that result in significant disturbance to land in areas of native vegetation, confirmation of on-the-ground biodiversity values of the native vegetation communities at that location must be undertaken by a suitably qualified person.

Condition 6 A suitably qualified person must develop and certify a methodology so that condition (Condition 5) can be complied with and which is appropriate to confirm on-the-ground biodiversity values.

Condition 7 For conditions (Condition 8) to (Condition 11), where mapped biodiversity values differ from those confirmed under conditions (Condition 5) and (Condition 6), petroleum activities may proceed in accordance with the conditions of the environmental authority based on the confirmed on-the-ground biodiversity value.

Condition 8 The location of the petroleum activity(ies) must be selected in accordance with the following site planning principles:

a) maximise the use of areas of pre-existing disturbance;
b) in order of preference, avoid, minimise or mitigate any impacts, including cumulative impacts, on areas of native vegetation or other areas of ecological value;
c) minimise disturbance to land that may result in land degradation;
d) in order of preference, avoid then minimise isolation, fragmentation, edge effects or dissection of tracts of native vegetation; and
e) in order of preference, avoid then minimise clearing of native mature trees.

Condition 9 Linear infrastructure construction corridors must:

a) maximise co-location;
b) be minimised in width to the greatest practicable extent; and
c) for linear infrastructure that is an essential petroleum activity authorised in an environmentally sensitive area or its protection zone, be no greater than 40m in total width.

Condition 10 Where petroleum activities are to be carried out in environmentally sensitive areas or their protection zones, the petroleum activities must be carried out in accordance with *Table 2 — Authorised petroleum activities in environmentally sensitive areas and their protection zones*.

Table 2 — Authorised petroleum activities in environmentally sensitive areas and their protection zones

Environmentally sensitive area	Within the environmentally sensitive area	Primary protection zone of the environmentally sensitive area	Secondary protection zone of the environmentally sensitive area
Category A environmentally sensitive areas	No petroleum activities permitted.	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.
Category B environmentally sensitive areas that are other than 'endangered' regional ecosystems	Only low impact petroleum activities permitted.	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.
Category B environmentally sensitive areas that are 'endangered' regional ecosystems	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.	Only essential petroleum activities permitted.
Category C environmentally sensitive areas that are 'nature refuges' or 'koala habitat'	Only low impact petroleum activities permitted.	Only low impact petroleum activities permitted.	
Category C environmentally sensitive areas that are 'essential habitat', 'essential regrowth habitat', or 'of concern' regional ecosystems	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.	
Category C environmentally sensitive areas that are 'regional parks' (previously known as 'resources reserves')	Only essential petroleum activities permitted.	Only essential petroleum activities permitted.	
Category C environmentally sensitive areas that are 'state forests' or 'timber reserves'	Only essential petroleum activities permitted.	Petroleum activities permitted.	
Areas of vegetation that are 'critically limited'	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.	

Condition 11 A report must be prepared for each annual return period for all petroleum activities that involved clearing of any environmentally sensitive area or protection zone which includes:

a) records able to demonstrate compliance with conditions (Condition 8), (Condition 9) and (Condition 10);
b) a description of the works;
c) a description of the area and its pre-disturbance values (which may include maps or photographs, but must include GPS coordinates for the works); and
d) based on the extent of environmentally sensitive areas and primary protection zones on the relevant resource authority(ies), the proportion of native vegetation cleared per environmentally sensitive area and primary protection zone, including regional ecosystem type, over the annual return period.

Condition 12 Despite (Condition 11) of this environmental authority, the infrastructure (and associated activities necessary for construction, operation and maintenance purposes) listed below are permitted within a Category C Environmentally Sensitive Area at the locations specified in Table 3 – Authorised Resource Activity(ies) Disturbance.

Table 3 – Authorised Resource Activity(ies) Disturbance

Tenure	Description of infrastructure	Number	Centre Point of Disturbance	Disturbance
PL231	Nyanda 8 well	1	-24°55'32.20" 148°17'35.98"	Cat C ESA – 0.87hectares, comprising: Of concern RE 11.3.25 – 0.07ha Of concern RE 11.3.4 – 0.8ha PPZ of Cat C ESA Of concern RE No concern at present RE 11.10.1 – 0.34ha

Condition 13 Significant residual impacts to prescribed environmental matter s are not authorised under this environmental authority or the *Environmental Offsets Act 2014.*

Condition 14 The holder of the environmental authority must take all reasonable and practicable measures to avoid impacting upon places of known or potential cultural heritage significance whilst carrying out petroleum activities.

Condition 15 The holder of the environmental authority must ensure that any petroleum activities carried out within a wild river area comply with the conditions in the relevant wild river declaration for the area that state they are for petroleum activities.

Condition 16 Clearing vegetation must be minimised and only be undertaken where necessary to carry out the authorised petroleum activities. Where viable alternatives exist, clearing vegetation must not be undertaken:

a) in, or within 50 metres of, the high bank of a watercourse;
b) in, or within 100 metres of a wetland or spring;
c) in a way that dissects large tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, an increase in threatening processes, or dissection of corridors of vegetation that provide connection between contiguous tracts of vegetation;
d) in a way that damages adjacent live vegetation;
e) in an 'of concern' regional ecosystem;
f) on slopes greater than 6° (-10%);
g) on dispersible soils or highly erodible soils; or
h) in discharge areas.

Condition 17 Cleared vegetation must be stockpiled in a manner that facilitates respreading or salvaging and does not impede vehicle, stock or wildlife movements.

Condition 18 Except in areas of highly erodible soils, topsoil must be:

a) removed from an area prior to other significant disturbance commencing in the area;

b) stockpiled in a manner that will minimise erosion and preserve its biological and chemical integrity; and
c) used only for on-site rehabilitation purposes.

Condition 19 When carrying out petroleum activities in areas with a high probability of acid sulfate soils, the holder of the environmental authority must comply with an acid sulfate soil environmental management plan prepared in accordance with the State Planning Policy 2/02 Guideline: Planning and Managing Development Involving Acid Sulfate Soils and the relevant Guidelines.

Condition 20 All waste fluids and muds resulting from drilling and exploration activities must be contained in an appropriately constructed dam or containment structure for disposal, remediation or reuse where applicable.

Condition 21 Oil and synthetic based drilling muds are not authorised to be used under the authority.

Condition 22 The pipeline construction corridor must not exceed 30 metres in width. Turn arounds and work areas must not exceed 50 metres in width.

Condition 23 During construction, pipe must be strung with gaps to allow for fauna movement across the line of the pipe.

Condition 24 Measures must be employed to prevent fauna entrapment in pipe sections or within the pipeline trench.

Condition 25 Open trenches and pipes must be checked for fauna prior to backfill and any trapped animals removed.

Condition 26 Hydrostatic test water must be contained in dams on site, tested and either:
a) directly reused where appropriate for petroleum activities;
b) treated so that it meets water quality criteria for the intended reuse; or
c) disposed of via evaporation.

Condition 27 The pipeline construction corridor must be rehabilitated on completion of laying the pipe, with the exception of the width of an access track, if necessary, to enable vehicular movement along the corridor for pipeline inspection and maintenance.

Condition 28 A spill response plan must be developed for all pipelines and other plant or equipment under this authority carrying liquids that have the potential to cause environmental harm. The plan must address the following:
a) monitoring and detection systems;
b) notification and reporting procedures (internal and external);
c) call-out procedures and contact lists;
d) measures required to halt the spill (i.e. control of pumps, valves etc);
e) spill containment procedures;

f) procedures to safely recover the spilt material;
g) clean up and rehabilitation procedures;
h) requirements for the remediation or disposal of contaminated soil;
i) personnel responsibilities;
j) equipment requirements, location, storage, maintenance and transport;
k) communications and logistics; and
l) incident investigation procedures.

Condition 29 Workforce training must be conducted in spill response and recovery procedures.

Condition 30 Contaminants that are likely to cause environmental nuisance, or serious or material environmental harm, must not be released directly or indirectly to land or waters unless explicitly authorised in the environmental authority.

Condition 31 As soon as the environmental authority holder is aware of any release to the environment specified in the preceding condition that is causing or threatening to cause environmental nuisance, or serious or material environmental harm, the release must be stopped, promptly rectified using appropriate equipment and remediation methods and all reasonable actions taken to prevent a recurrence of the release. Report in writing to the administering authority any findings and actions taken within 20 business days of that event.

Condition 32 Any container such as a tank or drum that contains material that has the potential to cause material or serious environmental harm if released to the environment must be appropriately labelled and be contained in a bunded area. Volumes of liquid less than 1000L may be stored without bunding
a) recovery of any spilt material is possible;
b) containers or drums are stored undercover on an impervious base;
c) the storage is occurring at least 50m from any waters; and
d) absorbent material is readily available for clean up if necessary.

Individual drums may be temporarily stored on spill containment pallet.

Condition 33 The net capacity of a bunded compound in a storage facility must be at least 110% of a single storage tank or 100% of the largest storage tank plus 10% of the second largest storage tank in multiple storage areas.

Condition 34 If an automatic fire sprinkler system is installed in or over any bunded tank or drum storage compound, the capacity of the on-site containment must be increased to include the output from the sprinkler system over a 20 minute period.

Condition 35 If the material to be bunded is contained in drums (or other small containers) the bunded area must contain at least 25% of the total volume of the stored product.

Condition 36 The bund floor and wall must be built of materials impervious to the contents of any tank or container within the bund and be capable of preventing the migration of any spillage or leakage outside the bund wall to the environment.

Condition 37 Wall type bonds at tank storage facilities must be at least 0.5 metres high and not exceed 1.5 metres high. The distance between a tank and the bund wall must be at least 1 metre.

Condition 38 A collection sump must be provided in the bund floor and the floor must be graded in such a way that liquids collect in the sump. The sump must not be connected to a sewer drainage system or any waters.

Condition 39 The bund must be designed to minimise rainwater collection. Removal of accumulated rainwater must be done with a manually operated pump, baling from the sump or via a locked valve. Rainwater from the bund must meet water quality criteria for the intended use or receiving environment prior to release.

Condition 40 All pipework must be sited above ground and go over the bund walls where possible. Pumps must still be able to operate when the bund is full of liquid.

Condition 41 Piping and pumping facilities must be arranged so that the potential for leaks to escape the confines of the bund is minimised.

Condition 42 Flammable and combustible liquids, including petroleum products, must be stored and handled in accordance with the latest edition of Australian Standard 1940 — The storage and handling of flammable and combustible liquids.

Condition 43 The holder of this authority must:

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

Condition 44 Erosion protection and sediment control measures must be designed, implemented and maintained to minimise erosion and the release of sediment resulting from carrying out the petroleum activities.

Condition 45 Unless otherwise approved under relevant legislation, the holder of the environmental authority must not

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

Condition 46 Significant disturbance to the bed or banks of a watercourse or wetland, or to a spring must:

a) only be caused where necessary for the construction, operation and/or maintenance of roads, tracks and pipelines that are essential for carrying out other authorised petroleum activities and no reasonable alternative location is feasible; and
b) be no larger than the minimum area necessary for the purpose; and
c) be designed by an appropriately qualified person; and
d) be undertaken and maintained by a person with appropriate skills who has been informed of the design and is appropriately supervised; and
e) have rehabilitation commence as soon as reasonably practicable upon cessation of the relevant authorised petroleum activities.

Condition 47 Sediment control measures must be implemented to minimise any increase in water turbidity due to carrying out petroleum activities in the bed or banks of a watercourse or wetland, or in a spring.

Condition 48 Routine visual monitoring must be undertaken while carrying out petroleum activities in a watercourse, wetland or spring. If, due to the petroleum activities, water turbidity increases in the watercourse, wetland or spring outside contained areas, works must cease and the sediment control measures must be rectified before activities recommence.

Condition 49 Only low hazard dams are authorised under this authority.

Condition 50 All dams must be designed, constructed, operated and maintained in accordance with accepted engineering standards currently appropriate for the purpose for which they are intended.

Condition 51 The hazard category of each dam must be determined by a suitably qualified and experienced person prior to its construction and at least once per year, based on documented evidence sufficient to define or confirm the current nature and extent of environmental consequences from potential failure of that dam.

Condition 52 Where the hazard category of a dam is for the first time assessed as significant or high, the holder of the environmental authority must:

a) as soon as reasonably possible, advise the administering authority of the current details of that dam, including:
    i. the assessed hazard category of that dam;
    ii. sufficient points of latitude and longitude in the current Australian;
    iii. geodetic datum to form a perimeter around that dam and its associated works;
    iv. the maximum surface area, maximum volume, maximum depth of that dam; and
b) apply to amend the environmental authority to a level 1 environmental authority; and
c) ensure that the dam meets the hydraulic performance required of the assessed hazard category within 12 months of that assessment.

Condition 53 The condition of all dams must be monitored for early signs of loss of structural or hydraulic integrity, based on the advice of a suitably qualified and experienced person. The methods of

monitoring and frequency of monitoring shall be as assessed by the person who conducts the hazard assessment based on the particular circumstances of each dam.

Condition 54 In the event of early signs of loss of structural or hydraulic integrity, the holder of the environmental authority must immediately take action to prevent or minimise any actual or potential environmental harm, and report in writing any findings and actions taken to the administering authority within 20 business days of that event.

Condition 55 Each dam must be decommissioned such that it either:

a) becomes a stable landform that no longer contains flowable substances; or
b) is approved or authorised under relevant legislation for a beneficial use; or
c) is a void authorised by the administering authority to remain after decommissioning, or
d) is compliant with the rehabilitation requirements of the authority; and
e) is agreed by the post petroleum authority landowner/holder to remain after surrender of the environmental authority and meets water quality criteria for the intended use.

Condition 56 Any dam constructed as part of the petroleum activities must be managed so that either:

a) where the quality of the water is likely to result in adverse health affects if contacted or consumed, adequate barriers are provided to limit access to the water by humans, livestock and native fauna; or
b) where the quality of the water will not result in any adverse health affects if contacted or consumed, safe access to the water is provided for livestock and native fauna.

Condition 57 Associated water may be temporarily contained in a dam or other containment vessel on site prior to:

a) reuse on site for petroleum activities; or
b) use under the provisions of the *Petroleum and Gas (Production and Safety) Act 2004;* or
c) use for an approved beneficial use; or
d) removal from site for treatment or disposal at an appropriately authorised facility.

Condition 58 If the use of associated water for a purpose other than a petroleum activity has been authorised by grant of a Notice of decision to approve a resource for beneficial use under Part 6A of the Environmental Protection (Waste Management) Regulation 2000 it can be used in accordance with the Notice for the stated type of use(s).

Condition 59 The release of noxious or offensive odour, dust, particulate matter or any other airborne contaminant resulting from the petroleum activities must not cause environmental nuisance at any sensitive place or commercial place.

Condition 60 If the environmental authority holder receives a complaint as defined in Condition 71 about noise from the petroleum activities at a sensitive place or commercial place, the holder must conduct an appropriate investigation and must implement remedial action if the noise from the petroleum activities exceeds the noise limits at the sensitive place or commercial place in *Table 4 — Noise Limits.*

Table 4 – Noise Limits

Sensitive place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**9am to 6pm**	**6pm to 10pm**	**10pm to 9am**
LA90, adj, 15 mins	lesser of bg+3 or 48	bg+0	bg+0	bg+0	bg+0	bg+0
LA10, adj, 15 mins	lesser of bg+5 or 50	lesser of bg+5 or 45	bg+0	lesser of bg+5 or 45	lesser of bg+5 or 40	bg+0
LA1, adj, 15 mins	lesser of bg+10 or 55	lesser of bg+10 or 50	lesser of bg+5 or 45	lesser of bg+10 or 50	lesser of bg+10 or 45	lesser of bg+5 or 40
Commercial place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**9am to 6pm**	**6pm to 10pm**	**10pm to 9am**
LA90, adj, is MIle	lesser of bg+5 or 50	bg+0	bg+0	lesser of bg+3 or 43	bg+0	bg+0
LA10, adj, 15 mins	lesser of bg+10 or 55	lesser of bg+10 or 50	lesser of bg+5 or 45	lesser of bg+10 or 50	lesser of bg+10 or 45	lesser of bg+5 or 40
LA1, adj, 15 mins	lesser of bg+15 or 60	lesser of bg+15 or 55	lesser of bg+10 or 50	lesser of bg+15 or 55	lesser of bg+15 or 50	lesser of bg+10 or 45

1. bg = background noise level
2. In the event that measured bg is less than 25 dB(A), then 25 dB(A) is to be substituted for the measured level
3. If the background is higher than the number shown on the second line in any box, the limit is to be background plus 0.

Condition 61 The method of measurement and reporting of noise levels must comply with the latest edition of the Department of Environment and Resource Management's (Environmental Protection Agency's) Noise Measurement Manual or the most recent version of AS1055 Acoustics — Description and measurement of environmental noise.

Condition 62 Where practicable, general waste generated in carrying out the petroleum activities must be reused, recycled or removed to a facility that can lawfully accept the waste under the *Environmental Protection Act 1994*.

Condition 63 If no viable alternative exists, solid general waste may be disposed of on site at a facility designed to receive waste at a rate of less than 50t per year only if it is:

a) disposed of into a waste disposal trench;
b) consolidated, compacted and covered with a layer of inert material following placement of the waste into the trench;
c) managed in a way that prevents scavenging and access by vermin;
d) managed in a way that prevents or contains wind blown litter; and
e) managed in a way that prevents or controls leachate generated from the activity.

Condition 64 Waste, including vegetation, must not be burnt.

Condition 65 Regulated waste must be removed and transported from the site by a person who holds a current authority to transport such wastes to a facility that is lawfully able to accept the waste under the *Environmental Protection Act 1994*.

Condition 66 Regulated waste generated in carrying out the petroleum activities can be temporarily stored on the site awaiting removal provided:

a) it is stored in a place and circumstance in which there is minimal risk of causing contamination to land or waters or a fire hazard; and
b) each container of regulated waste stored awaiting movement off site is clearly marked to identify the contents.

Condition 67 A record of all regulated waste (excluding trackable waste) must be kept detailing the following information:

a) date of pickup of waste; description of waste;
b) quantity of waste;
c) origin of waste; and
d) destination of waste.

Condition 68 Disposal of sewage effluent must not cause environmental nuisance or material or serious environmental harm.

Condition 69 Sewage treatment works on the site must not exceed a combined peak design capacity to treat sewage of more than 21 equivalent persons.

Condition 70 The holder of the environmental authority must:

a) develop a monitoring program that will demonstrate compliance with the conditions of the environmental authority;
b) document monitoring and inspections carried out under the monitoring program and any actions taken; and
c) record, compile and keep for a minimum of seven (7) years all monitoring results and data.

Condition 71 The holder of the environmental authority must:

a) when the administering authority advises the holder of a complaint that the administering authority does not consider to be frivolous, vexatious or based on a mistaken belief alleging nuisance (e.g. caused by dust or noise), investigate the complaint and advise the administering authority of the action proposed or undertaken in relation to the complaint;
b) if the administering authority is not satisfied with the proposed or completed action, undertake monitoring or other action requested by the administering authority; and
c) maintain a record of complaints and incidents causing environmental harm and actions taken in response to the complaints or incidents for a minimum of seven (7) years.

Condition 72 **Rehabilitation planning**

A Rehabilitation Plan must be developed and implemented by a suitably qualified person and must include the:

a) rehabilitation goals; and
b) procedures to be undertaken for rehabilitation that will:
    i. achieve the requirements of conditions (Condition 73) to (Condition 76), inclusive; and
    ii. provide for appropriate monitoring and maintenance.

Condition 73 Significantly disturbed areas that are no longer required for the on-going petroleum activities, must be rehabilitated within 12 months (unless an exceptional circumstance in the area to be rehabilitated (e.g. a flood event) prevents this timeframe being met) and be maintained to meet the following acceptance criteria:

a) contaminated land resulting from petroleum activities is remediated and rehabilitated
b) the areas are:
    i. non-polluting;
    ii. a stable landform;
    iii. re-profiled to contours consistent with the surrounding landform;
c) surface drainage lines are re-established;
d) top soil is reinstated; and
e) either:
    i. groundcover, that is not a declared pest species, is growing; or
    ii. an alternative soil stabilisation methodology that achieves effective stabilisation is implemented and maintained.

Condition 74 **Final rehabilitation acceptance criteria**

All significantly disturbed areas caused by petroleum activities which are not being or intended to be utilised by the landholder or overlapping tenure holder, must be rehabilitated to meet the following final acceptance criteria measured either against the highest ecological value adjacent land use or the pre-disturbed land use:

a) greater than or equal to 70% of native ground cover species richness;
b) greater than or equal to the total per cent of ground cover;
c) less than or equal to the per cent species richness of declared plant pest species; and
d) where the adjacent land use contains, or the pre-clearing land use contained, one or more regional ecosystem(s), then at least one regional ecosystem(s) from the same broad vegetation group, and with the equivalent biodiversity status or a biodiversity status with a higher conservation value as any of the regional ecosystem(s) in either the adjacent land or pre-disturbed land, must be present.

Condition 75 **Final rehabilitation acceptance criteria in environmentally sensitive areas**

Where significant disturbance to land has occurred in an environmentally sensitive area, the following final rehabilitation criteria as measured against the pre-disturbance biodiversity values assessment (required by conditions (Condition 5) and (Condition 6) must be met:

a) greater than or equal to 70% of native ground cover species richness;

b) greater than or equal to the total per cent ground cover;
c) less than or equal to the per cent species richness of declared plant pest species;
d) greater than or equal to 50% of organic litter cover;
e) greater than or equal to 50% of total density of coarse woody material; and
f) all predominant species in the ecologically dominant layer, that define the pre-disturbance regional ecosystem(s) are present.

Condition 76 Conditions (Condition 73) to (Condition 75) continue to apply after this environmental authority has ended or ceased to have effect.

Condition 77 Decommission inactive buried pipelines by in-situ decommissioning (abandonment in place).

Condition 78 Prior to pipelines and equipment being disconnected they must be drained or vented and cleaned via purging or flushing.

Condition 79 Any water used for purging or flushing pipelines must be contained in dams on site, tested and either:
a) directly reused where suitable for petroleum activities;
b) treated so that it meets water quality criteria for the intended reuse; or
c) removed from the site for disposal or treatment at an appropriately authorised facility; or
d) disposed of via evaporation in a suitably lined pond.

Condition 80 All above ground infrastructure used for the petroleum activities must be removed prior to surrender of the environmental authority, except where it is to remain under the authority of the *Petroleum and Gas (Production and Safety) Act 2004;* or with the written agreement of the administering authority and the post petroleum authority landowner/holder.

Condition 81 The holder of the environmental authority must take responsibility for the rehabilitation of any disturbance to land undertaken as part of a petroleum activity on a petroleum authority that has been transitioned (all or in part) due to the grant of a new petroleum authority over that [and which now forms part of the current project.

Definitions

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 darns, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.

Administering authority means:

a) for a matter, the administration and enforcement of which has been devolved to a local government under section 514 of the *Environmental Protection Act 1994* — the local government; or

b) for all other matters — the Chief Executive of the Department of Environment and Resource Management; or

c) another State Government Department, Authority, Storage Operator, Board or Trust, whose role is to administer provisions under other enacted legislation.

Annual return period means the 12 month period from 1 January to 31 December in a calendar year.

Appropriately qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Archaeological artefact means:

a) any artefact that is evidence of an aspect of Queensland's history, whether it is located in, on or below the surface of land, and not

b) a thing that is Aboriginal cultural heritage under the Aboriginal Cultural Heritage Act 2003 or Torres Strait Islander cultural heritage under the Torres Strait Islander Cultural Heritage Act 2003.

Assessed or **assess** by a suitably qualified and experienced person in relation to a hazard assessment of a dam means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

a) what has been assessed and the precise nature of that assessment;

b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;

c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and

d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

Associated water means underground water taken or interfered with, if the taking or interference happens during the course of, or results from, the carrying out of another activity authorised under a petroleum

authority, such as producing petroleum from a well, and includes water also known as produced formation water. The term includes all contaminants suspended or dissolved in the water.

Associated works in relation to a dam means:

a) operations of any kind and all things constructed, erected or installed for that dam; and

b) any land used for those operations.

Background noise level means the sound pressure level, measured in the absence of the noise under investigation, as the LAN, T being the A-weighted sound pressure level exceeded for 90 percent of the measurement time period T of not less than 15 minutes, using Fast response.

Bed and banks for a watercourse or wetland means land over which the water of the watercourse or wetland normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed or banks that is from time to time covered by floodwater.

Beneficial use means:

1. with respect to dams, that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:
   a) of benefit to that owner in that it adds real value to their business or to the general community,
   b) in accordance with relevant provisions of the Environmental Protection Act 1994,
   c) sustainable by virtue of written undertakings given by that owner to maintain that dam, and
   d) the transfer and use have been approved or authorised under any relevant legislation; or
2. with respect to associated water, see Environmental Protection Agency's Operational Policy Management of water produced in association with petroleum activities (associated water) and Notice of decision to approve a resource for beneficial use **—** associated water which can be accessed on Department of Environment and Resource Management's website at www.derm.qld.gov.au.

Biodiversity values, for the purposes of this environmental authority, means environmentally sensitive areas, prescribed environmental matters and wetlands.

Bund or bunded in relation to spill containment systems for fabricated or manufactured tanks or containers designed to a recognised standard means an embankment or wall of brick, stone, concrete or other impervious material which may form part or all of the perimeter of a compound and provides a barrier to retain liquid. Since the bund is the main part of a spill containment system, the whole system (or bunded area) is sometimes colloquially referred to within industry as the bund. The bund is designed to contain spillages and leaks from liquids used, stored or processed above ground and to facilitate clean-up operations. As well as being used to prevent pollution of the receiving environment, bunds are also used for fire protection, product recovery and process isolation.

Category A Environmentally sensitive area means any area listed in Schedule 19, Part 1, section 2 of the Environmental Protection Regulation 2019.

Category B Environmentally sensitive area means any area listed in Schedule 19, Part 1, section 2 of the Environmental Protection Regulation 2019.

Category C Environmentally sensitive area means any of the following areas:

- nature refuges as defined in the conservation agreement for that refuge under the Nature Conservation Act 1992
- koala habitat areas as defined under the Nature Conservation (Koala) Conservation Plan 2006
- state forests or timber reserves as defined under the Forestry Act 1959
- regional parks (previously known as resource reserves) under the Nature Conservation Act 1992
- an area validated as 'essential habitat' from ground-truthing surveys in accordance with the Vegetation Management Act 1999 for a species of wildlife listed as endangered or vulnerable under the Nature Conservation Act 1992
- 'of concern regional ecosystems' that are remnant vegetation and identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions.

Clearing means:

a) in relation to grass, scrub, or bush - the removal of vegetation by disturbing root systems and exposing underlying soil (including burning), but does not include—

i. the flattening or compaction of vegetation by vehicles if the vegetation remains living; or

ii. the slashing or mowing of vegetation to facilitate access tracks; or

iii. the clearing of noxious or introduced plant species; and

b) in relation to trees - cutting down, ringbarking, pushing over, poisoning or destroying in any way.

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

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

Cultural heritage significance means aesthetic, architectural, historical, scientific, social or other significance, to the present generation or past or future generations, as assessed against the following criteria:

a) the place is important in demonstrating the evolution or pattern of Queensland's history;

b) the place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage;

c) the place has potential to yield information that will contribute to an understanding of Queensland's history;

d) the place is important in demonstrating the principal characteristics of a particular class of cultural places;

e) the place is important because of its aesthetic significance;

f) the place is important in demonstrating a high degree of creative or technical achievement at a particular period;

g) the place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;

h) the place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.

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

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

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

Dispersible soils are structurally unstable soils that readily breakdown into their constituent particles in water (e.g. the clay material disintegrates into particles less than 2 microns across within 24 hours when soil crumbs are submerged in distilled water). These soils are also known as sodic soils and have a high percentage of sodium ions (in soluble or exchangeable form).

Ecosystem functioning means the interactions between and within living and non-living components of an ecosystem and generally correlates with the size, shape and location of an area of vegetation.

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

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

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

- low impact petroleum activities
- geophysical, geotechnical, geological, topographic and cadastral surveys (including seismic, sample /test / geotechnical pits, core holes)
- single well sites not exceeding 1 hectare disturbance and multi-well sites not exceeding 1.5 hectare disturbance
- well sites with monitoring equipment (including monitoring bores):
    - for single well sites, not exceeding 1.25 hectares disturbance
    - for multi-well sites, not exceeding 1.75 hectares disturbance
- well sites with monitoring equipment (including monitoring bores) and tanks (minimum 1 ML) for above ground fluid storage:

  - for single well sites, not exceeding 1.5 hectares disturbance
  - for multi-well sites, not exceeding 2.0 hectares disturbance
- associated infrastructure located on a well site necessary for the construction and operations of wells:
  - water pumps and generators
  - flare pits
  - chemical / fuel storages
  - sumps for residual drilling material and drilling fluids
  - tanks, or dams which are not significant or high consequence dams to contain wastewater (e.g. stimulation flow back waters, produced water)
  - pipe laydown areas
  - soil and vegetation stockpile areas
  - a temporary camp associated with a drilling rig that may involve sewage treatment works that are no release works
  - temporary administration sites and warehouses
  - dust suppression activities using water that meets the quality and operational standards approved under the environmental authority
- 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
- supporting access tracks
- gathering / flow pipelines from a well head to the initial compression facility
- activities necessary to achieve compliance with the conditions of the environmental authority in relation to another essential petroleum activity (e.g. sediment and erosion control measures, rehabilitation).

Fill means any kind of material in solid form (whether or not naturally occurring) capable of being deposited at a place but does not include material that forms a part of, or is associated with, a structure constructed in a watercourse, wetland or spring including a bridge, road, causeway, pipeline, rock revetment, drain outlet works, erosion prevention structure or fence.

Flowable substance means matter or a mixture of materials which can flow under conditions potentially affecting that substance. Constituents of a flowable substance can include water, other fluids or solids, or a mixture that includes water and any other fluids or solids either in solution or suspension.

Foreseeable future is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptably low probability of failure before that time.

Hazard in relation to a dam as defined means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

Hazard category means the level of hazard (low, significant or high) assigned to a dam as a result of an assessment against tables and other criteria in the Manual for Assessing Hazard Categories and Hydraulic

Performance of Dams (Version 1.0, 2008) published by the Environmental Protection Agency (Department of Environment and Resource Management) on its website.

Heritage place means any place that may be of cultural heritage significance, or any place with potential to contain archaeological artefacts that are an important source of information about Queensland's history.

High bank means the defining terrace or bank or, if no bank is present, the point-on the active floodplain, which confines the average annual peak flows in a watercourse.

Highly erodible soils means very unstable soils that are generally described as Sodosols with hard-setting, fine sandy loam to silty clay loam surfaces (solodics, solodised solonetz and solonetz) or soils with a dispersible layer located less than 25cm deep or soils less than 25cm deep.

Hydraulic performance means the capacity of a regulated dam to contain or safely'pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (Version 1.0, 2008) published by the Department of Environment and Resource Management on its website.

Infrastructure means water storage darns, roads and tracks, equipment, buildings and other structures built for the purpose and duration of the conduct of the petroleum activities, but does not include other facilities required for the long term management of the impact of those activities or the protection of potential resources. Such other facilities include dams other than water storage dams (e.g. evaporation ponds), pipelines and assets that have been decommissioned, rehabilitated and lawfully recognised as being subject to subsequent transfer with ownership of the land.

LA90, adJ, 15 mins means the A-weighted sound pressure level exceeded for 90 percent of the measurement time period of 15 minutes, adjusted for noise characteristics including tonality and impulsiveness and measured in the presence of the noise under investigation, using Fast Response.

LA10, adj, 15 mins means the A-weighted sound pressure level exceeded for 10 percent of the measurement time period of 15 minutes, adjusted for noise character including tonality and impulsiveness and measured in the presence of the noise under investigation, using Fast Response.

LA1 adj, 15 mins means the A-weighted sound pressure level exceeded for 1 percent of the measurement time period of 15 minutes, adjusted for noise character including tonality and impulsiveness and measured in the presence of the noise under investigation, using Fast Response.

Leachate means a liquid that contains soluble, suspended or miscible contaminants likely to have been derived from material which is stored, processed or disposed of on site and which the liquid has passed through or emerged from, or is likely to have passed through'or emerged from.

Levee means a dyke or bund that is designed only to provide for the containment and diversion. of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or flowable substances at any other times.

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.

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

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

'Of concern' regional ecosystem means an 'of concern' regional ecosystem identified in the database maintained by the Department of Environment and Resource Management called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions. The database is available for inspection on the Department of Environment and Resource Management's website at vvww.epa.ald.gov.au/nature_conservation/biodiversity/regional_ecosystems.

Offensive means causing unreasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous, or repulsive, other than trivial harm.

Overland flow water means water, including floodwater, flowing over land, otherwise than in a watercourse or lake:

a) after having fallen as rain or in any other.way; or

b) after rising to the surface naturally from underground.

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

Petroleum authority is:

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

b) a petroleum authority granted under the *Petroleum and Gas (Production and Safety) Act 2004*; or

c) a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the *Petroleum (Submerged Lands) Act 1982.*

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

Regulated dam means any dam in the significant or high hazard category as assessed using the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (Version 1.0, 2008) published by the Department of Environment and Resource Management on its website.

Regulated waste means non-domestic waste mentioned in Schedule 7 of the Environmental Protection Regulation 2008 (whether or not it has been treated or immobilised), and includes—

a) for an element any chemical compound containing the element; and

b) anything that has contained the waste.

Release of a contaminant into the environment includes:

a) to deposit, discharge, emit or disturb the contaminant; and

b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and

c) to allow the contaminant to escape; and

d) to fail to prevent the contaminant from escaping.

secondary protection zone in relation to a category A or Cateogry B ESA means an area within 100 metres from the boundary of the primary protection zone.

Sensitive place means:

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

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

c) a medical centre, surgery or hospital;

d) a protected area;

e) a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment.

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

a) contaminated land; or

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

i. to a state required under this authority; or

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

Examples of a significant disturbance to land:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, wetland, or spring where petroleum activities have occurred causing the loss of habitat or a decline in ecological processes and requiring human intervention to restore or stabilise the disturbed area and/or protect the quality of the water downstream of the disturbance;
- areas submerged by waste or water;

- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after petroleum activities have ceased; or
- areas where land has become contaminated land and a suitability statement has not been issued.

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

- areas off the petroleum authority (e.g. roads or tracks which provide access to the petroleum authority);
- areas previously significantly disturbed which have been rehabilitated to the administering authority's satisfaction;
- areas under permanent infrastructure (e.g. 'roads, bridges, buildings) as agreed by the administering authority and landholder;
- - areas that were significantly disturbed prior to the grant of the petroleum authority, unless those areas are re-disturbed by the petroleum authority holder during the course of carrying out the petroleum activities or were conducted on a petroleum authority that was replaced by the current
- authority (e.g. through conditional surrender or the transition from an authority to prospect to a petroleum lease).

Significant residual impact has the meaning in section 8 *Environmental Offsets Act 2014*

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

Specified relevant activities for this environmental authority means an activity that:
a) but for being carried out as a resource activity, would otherwise be a prescribed ERA
b) stimulation activities
c) point source discharge of treated produced water to surface waters
d) storing waste that is not regulated waste (including coal seam gas water) in a regulated dam
e) storing coal seam gas water that is not regulated waste in a low consequence dam; or
f) borrow pits or quarries that extract more than 5000 tonnes of material in the project area.

Spring means the land to which water rises naturally from below the ground and the land over which the water then flows.

Stable in relation to land means landform dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

State heritage place means a place entered in the Queensland heritage register under Part 4 of the Queensland Heritage Act 1992:

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

a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and

b) a total of five (5) years of suitable experience and demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology and geochemistry; and

c) a total of five (5) years of suitable experience and demonstrated expertise each, in three (3) of the following categories:

i. investigation and design of dams;

ii. construction, operation and maintenance of dams;

iii. hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology;

iv. hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes;

v. hydrogeology with particular reference to seepage, groundwater;

vi. solute transport processes and monitoring thereof;

vii. dam safety.

Suitably qualified and experienced person means a person:

a) holding a National Association of Testing Authorities (NATA) signatory; or

b) either;

i. who is holder of a degree in Science or Applied Science conferred after due

ii. examination by a University or College of Advanced Education in Queensland; or

iii. who is the holder of a degree in Science or Applied Science conferred after due examination by a University, College of Advanced Education or other Tertiary Education Institution outside Queensland and that is to be the like effect as a degree conferred by a University or College of Advanced Education in Queensland; or

iv. who has corporate membership of the Royal Australian Chemical Institute; and

v. has gained at least three (3) years practical experience in chemical bacteriological or other specialist analysis to demonstrate the persons capacity to maintain a high level of performance in all aspects of the performance of the particular analysis; or

c) working under the direct supervision of person(s) mentioned in a) and b).

Thing means a material object without life or consciousness or some entity, object or creature which is not or cannot be specifically designated' or precisely described.

Threatening processes are processes, features and actions that can have a detrimental effect upon the health and viability of an area of vegetation. For example, altered hydrology, land use practices, invasion by pest and weed species, land degradation, edge effects and fragmentation.

Tolerable limits means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

Topsoil means the surface (top) layer of a soil profile which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.

Void means any man-made, open excavation in the ground (includes borrow pits, drill sumps, frac pits, flare pits, cavitation pits and trenches).

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

Watercourse is a creek, river or stream

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

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

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

Wild river declaration is a statutory instrument under the Wild Rivers Act 2005. A declaration lists the relevant natural values to be preserved and delineates certain parts of the wild river area and the different constraints that may apply in these areas. With reference to environmental authorities for petroleum, each declaration also specifies conditions to be included in a new authority if the activity is to be located within the wild river area.