

Permit

Environmental Protection Act 1994

Environmental authority EPPG00622613

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

Environmental authority number: EPPG00622613

Environmental authority takes effect on 12 November 2019

Environmental authority holder(s)

Name(s)	Registered address
Westside Mungi Pty Limited	Hsbc Level 17 300 Queen St BRISBANE CITY QLD 4000 Australia
Mitsui E&P Australia Pty Limited	Level 22 2 The Esplanade PERTH WA 6000
Harcourt (Queensland) LLC	Level 10, 345 Queen Street BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Non-Scheduled Petroleum Activity Authority to Prospect - ATP	ATP2027

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).

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

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- 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.

Clancy Mackaway
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Delegate of the administering authority
Environmental Protection Act 1994

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Date issued: 12 November 2019

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

Legislative requirements

Additional advice about the approval

Environmentally relevant activities

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

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

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

Contaminated land

It is a requirement of the EP Act that if an owner or occupier of land becomes aware a notifiable activity (as defined in Schedule 3 and Schedule 4) is being carried out on the land, or that the land has been, or is being, contaminated by a hazardous contaminant, the owner or occupier must, within 22 business days after becoming so aware, give written notice to the chief executive.

Responsibilities under the Environmental Protection Act 1994

Separate to the requirements of standard conditions, the holder of the environmental authority must also meet their obligations under the Environmental Protection Act 1994, and the regulations made under that Act. For example, the holder must be aware of the following provisions of the

Environmental Protection Act 1994.

General environmental duty

Section 319 of the Environmental Protection Act 1994 states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to think about these issues:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of the successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty, however maintaining your general environmental duty is a defence against the following acts:

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG. More information is available on the Department of Environment and Heritage Protection website www.des.qld.gov.au.

Duty to notify

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

The duty to notify arises where:

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

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

Notifiable activities

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

Some relevant offences under the *Environmental Protection Act 1994***Non-compliance with a condition of an environmental authority (section 430)**

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

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

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

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

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

Causing environmental nuisance (section 440)

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

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

Prescribed contaminants include a wide variety of contaminants listed in Schedule 9 of the *Environmental Protection Act 1994*.

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

Placing a contaminant where environmental harm or nuisance may be caused (section 443) A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the Waste Reduction and Recycling Act 2011

Littering (section 103)

Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer or grass clippings swept into the gutter. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a building, manufacturing, mining or primary industry.

Illegal dumping of waste (section 104)

Illegal dumping is the dumping of large volumes of litter (200L or more) at a place. Illegal dumping can also include abandoned vehicles.

Responsibilities under other legislation

An environmental authority pursuant to the Environmental Protection Act 1994 does not remove the need to obtain any additional approval for the activity that might be required by other State and/or Commonwealth legislation. Other legislation for which a permit may be required includes but is not limited to the:

- Aboriginal Cultural Heritage Act 2003
- contaminated land provisions of the Environmental Protection Act 1994
- Fisheries Act 1994
- Forestry Act 1959
- Nature Conservation Act 1992
- Petroleum and Gas (Production and Safety) Act 2004 / Petroleum Act 1923
- Queensland Heritage Act 1992
- Sustainable Planning Act 2009
- 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 impact on water levels or pressure heads in groundwater aquifers in or surrounding formations. There are obligations to minimise or mitigate any such impact under other Queensland Government and Commonwealth Government legislation.

Conditions of environmental authority

Schedule A – General Conditions	
Condition number	Condition
Significant disturbance	
Condition 1	The holder of this environmental authority must ensure that: (a) Petroleum activities do not cause more than 0.1% of the total land area on the relevant petroleum authorities (excluding pipeline licences) that constitute the petroleum project to be significantly disturbed at any one time. (b) Prior to conducting petroleum activity(ies) that involve significant disturbance to land, an assessment must be undertaken of the condition, type and ecological value of any vegetation in such areas where the activity is proposed to take place. The assessment must be submitted to the administering authority at any time upon request. (c) The assessment required by Condition 1 (b) must be undertaken by a suitably qualified person and include the carrying out of field validation surveys, observations and mapping of any category A, B or C Environmentally Sensitive Areas (ESA's) and the presence of species classed as endangered, vulnerable, rare or near threatened under the <i>Nature Conservation Act 1992</i>.
Work program and development plan	
Condition 2	The holder of this environmental authority must submit to the administering authority: (a) a copy of the initial work program, later work programs and any amendments to work programs when submitted to the Department of Natural Resource and Mines (DNRM) under the <i>Petroleum and Gas (Production and Safety) Act 2004</i> (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 DNRM under the P&G Act for petroleum leases.
Financial assurance	
Condition 3	The holder or proposed holder of this environmental authority must: (a) calculate a financial assurance as required by the administering authority; and (b) attach a completed Schedule of Disturbance to the original and any amended work program or development plan; and (c) provide to the administering authority the financial assurance in the amount and form required by the administering authority at the time of submission of any original, later or amended work program or development plan; and (d) maintain the financial assurance until the administering authority is satisfied that no claim is likely to be made on the assurance.

Authorised activities	
Condition 4	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; and (d) drilling wells with fluids that are oil-based or synthetic oil-based.
Condition 5	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.
Condition 6	Only essential petroleum activities can be undertaken in: (a) the primary protection zone of Category B ESAs or Category C ESAs other than state forests or timber reserves; (b) the secondary protection zone of Category A ESAs or Category B ESAs; (c) Category C ESAs that are state forests or timber reserves.
Condition 7	Essential petroleum activities carried out in a primary protection zone must: (a) be located in areas of pre-existing disturbance; and (b) not negatively impact the ESA.
Disturbance to Land — Offsets	
Condition 8	When requested by the administering authority the holder of this environmental authority must: (a) enter into an agreement with the administering authority to provide an environmental offset to counterbalance the impacts of the activity on an 'Of Concern' RE. (b) comply with any environmental offset agreement made in accordance with the conditions of this environmental authority.
River Improvement Areas	
Condition 9	Petroleum Activities must not be carried out in "River Improvement Trust Asset Area" without the written permission of the administering authority.
Heritage places and archaeological artefacts	
Condition 10	The holder of this 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.

Wild river areas	
Condition 11	The holder of this 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 states they are for petroleum activities.
Clearing vegetation	
Condition 12	The holder of this environmental authority, when carrying out (a) petroleum activity(ies) must avoid, minimise or mitigate (in order of preference) any impacts on areas of vegetation or other areas of ecological value. <i>Note: This environmental authority does not authorise the taking of protected animals or the tampering with an animal breeding place as defined under the Nature Conservation Act 1992 and Regulations</i>
Condition 13	In accordance with Condition 12, the holder of this environmental authority must not clear vegetation, excavate or place fill, except for the construction of roads and pipelines, in or within: (a) 200 metres from any natural significant wetland; (b) 100 metres from any natural wetland, lakes or springs; or (c) 100 metres of the high bank of any other watercourse.
Condition 14	The holder of this environmental authority, must ensure that clearing of remnant vegetation shall not exceed ten (10) metres in width for the purpose of establishing tracks and 20 metres in width for dual carriageway roads unless otherwise approved by the administering authority in writing.
Condition 15	The holder of this environmental authority must not clear vegetation or place fill: (a) in a way which significantly isolates, fragments or dissects tracts of vegetation resulting in a reduction in the current level of ecosystem functioning, ecological connectivity (i.e. stepping stone or contiguous bioregional/local corridor networks) and/or results in an increase in threatening processes (e.g. potential impacts associated with edge effects or introduced species); (b) on dispersible soils or highly erodible soils; (c) on slopes greater than 10% for activities other than pipelines and wells; or (d) in discharge areas.
Condition 16	Cleared vegetation must be stockpiled in a manner that facilitates resprouting or salvaging and does not impede vehicle, stock or wildlife movements.
Acid Sulfate soils	
Condition 17	The holder of this authority must determine the presence of potential and actual acid sulfate soils prior to any excavation or filling in areas below 5 metres Australian Height Datum (AHD) where the natural ground level is less than 20 metres AHD.

Condition 18	Where the presence of potential or actual acid sulfate soils has been determined, the holder of this environmental authority must comply with an acid sulfate soils environmental management plan prepared in accordance with Appendix 4 of the State Planning Policy 2/02 Guideline Acid Sulfate Soils when carrying out petroleum activities on all land, soil and sediment if (a) excavating or otherwise removing 100m ³ or more of soil or sediment; or (b) filling of land involving 500m ³ or more of material with an average depth of 0.5 of a metre or greater.
Condition 19	The acid sulfate soil environmental management plan must be prepared and implemented by a suitably qualified person .
Condition 20	Any filling and excavation subject to Condition 17 and Condition 18 is prohibited unless the holder of this environmental authority has submitted to the administering authority a copy of the acid sulfate soil environmental management plan which has been assessed and accepted by the administering authority .
Topsoil management	
Condition 21	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.
Drilling operations	
Condition 22	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 23	Oil and synthetic based drilling muds are not authorised to be used under this environmental authority.
Pipeline construction	
Condition 24	Outside of an ESA, the pipeline construction corridor must not exceed 30 metres in width. Turn arounds and work areas must not exceed 50 metres in width.
Condition 25	During construction, pipe must be strung with gaps to allow for fauna movement across the line of the pipe.
Condition 26	Measures must be employed to prevent fauna entrapment in pipe sections or within the pipeline trench.
Condition 27	Open trenches and pipes must be checked for fauna prior to backfill and any trapped animals removed.

Condition 28	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 29	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.
Spill response	
Condition 30	A spill response plan must be developed for all pipelines and other plant or equipment under this environmental 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 31	Workforce training must be conducted in spill response and recovery procedures within one month of an employee commencing on the job and annually thereafter and records of this training must be kept and submitted to the administering authority upon request.
Contaminant release	
Condition 32	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 this environmental authority.
Condition 33	As soon as the holder of this environmental authority becomes aware of any release not in accordance with this environmental authority, the release must be stopped, promptly rectified using appropriate equipment and remediation methods and all reasonable actions must be taken to prevent a recurrence of the release. The holder of this environmental authority must report in writing to the administering authority any findings and actions taken within 20 business days of the release.

Bunding	
Condition 34	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 if: (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 pallets.
Condition 35	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 36	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 37	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 38	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 39	Wall type bunds 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 40	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 41	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 42	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 43	Piping and pumping facilities must be arranged so that the potential for leaks to escape the confines of the bund is minimised.
Flammable and combustible liquids	
Condition 44	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.

Notification	
Condition 45	The holder of this environmental authority must: (a) telephone Department of Environment and Science's Pollution Hotline (1300 130 372) and affected landholders or their nominated representatives as soon as practicable, but within 24 hours, after becoming aware of any release of contaminants not in accordance with the conditions of this environmental 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.
Erosion and sediment control	
Condition 46	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.
Protection of watercourses, wetlands and springs	
Condition 47	Unless otherwise approved under relevant legislation, the holder of this environmental authority must not: (a) excavate or place fill in a way that interferes with the flow of water in a watercourse, wetland, or spring, including: works that divert the course of flow of the water or works that impound the water; (b) undertake activities that take water from a watercourse, wetland or spring; or (c) undertake activities that take overland flow water using works that are mentioned as assessable development in a water resource plan under the <i>Water Act 2000</i>.
Activities in a watercourse, wetland or spring	
Condition 48	Significant disturbance to the bed or banks of a watercourse or wetland, or to a spring must: (a) only be caused where necessary for the construction, operation and/or maintenance of roads, tracks and pipelines that are essential for carrying out other authorised petroleum activities and no reasonable alternative location is feasible; and (b) be no larger than the minimum area necessary for the purpose; and (c) be designed by an appropriately qualified person; and (d) be undertaken and maintained by a person with appropriate skills who has been informed of the design and is appropriately supervised; and (e) have rehabilitation commencing as soon as reasonably practicable upon cessation of the relevant authorised petroleum activities.
Condition 49	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 50	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.

Management of dams	
Condition 51	Only low hazard dams are authorised under this environmental authority.
Condition 52	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 53	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 54	Where the hazard category of a dam is for the first time assessed as significant or high, the holder of this 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 geodetic datum to form a perimeter around that dam and its associated works, iii. the maximum surface area, maximum volume, maximum depth of that dam; and (b) apply to amend this 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 55	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 56	In the event of early signs of loss of structural or hydraulic integrity, the holder of this 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.
Decommissioning dams	
Condition 57	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) becomes 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.

Access to dams	
Condition 58	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 effects 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 effects if contacted or consumed, safe access to the water is provided for livestock and native fauna.
CSG water	
Condition 59	CSG 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 <i>Petroleum and Gas (Production and Safety) Act 2004</i>; or (c) use for an approved beneficial use; or (d) removal from the site for treatment or disposal at an appropriately authorised facility.
Condition 60	If the use of CSG 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 the <i>Waste Reduction and Recycling Act 2011</i> it can be used in accordance with the Notice for the stated type of use(s).
Release of contaminants to the atmosphere	
Condition 61	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.
Noise management	
Condition 62	If the holder of this environmental authority receives a complaint as defined in Condition 74 about noise from the petroleum activities at a sensitive place or commercial place, the holder of this environmental authority 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 <i>Table 1 —Noise Limits</i>.

	<table><tr><th colspan="7">Table 1 — Noise Limits</th></tr><tr><th colspan="7">Sensitive Place</th></tr><tr><th rowspan="2">Noise level dB(A) measured as:</th><th colspan="3">Monday to Saturday</th><th colspan="3">Sundays and public holidays</th></tr><tr><th>7am to 6pm</th><th>6pm to 10pm</th><th>10pm to 7am</th><th>9am to 6pm</th><th>6pm to 10pm</th><th>10pm to 9am</th></tr><tr><td>L_{A90}, adj, 15mins</td><td>lesser of bg+3 or 48</td><td>bg+0</td><td>bg+0</td><td>bg+0</td><td>bg+0</td><td>bg+0</td></tr><tr><td>L_{A10}, adj, 15 mins</td><td>lesser of bg+5 or 50</td><td>lesser of bg+5 or 45</td><td>bg+0</td><td>lesser of bg+5 or 45</td><td>lesser of bg+5 or 40</td><td>bg+0</td></tr><tr><td>L_{A1}, adj, 15mins</td><td>lesser of bg+10 or 55</td><td>lesser of bg+10 or 50</td><td>lesser of bg+5 or 45</td><td>lesser of bg+10 or 50</td><td>lesser of bg+10 or 45</td><td>lesser of bg+5 or 40</td></tr><tr><th colspan="7">Commercial Place</th></tr><tr><th rowspan="2">Noise level dB(A) measured as:</th><th colspan="3">Monday to Saturday</th><th colspan="3">Sundays and public holidays</th></tr><tr><th>7am to 6pm</th><th>6pm to 10pm</th><th>10pm to 7am</th><th>9am to 6pm</th><th>6pm to 10pm</th><th>10pm to 9am</th></tr><tr><td>L_{A90}, adj, 15mins</td><td>lesser of bg+5 or 50</td><td>bg+0</td><td>bg+0</td><td>lesser of bg+3 or 43</td><td>bg+0</td><td>bg+0</td></tr><tr><td>L_{A10}, adj, 15 mins</td><td>lesser of bg+10 or 55</td><td>lesser of bg+10 or 50</td><td>lesser of bg+5 or 45</td><td>lesser of bg+10 or 50</td><td>lesser of bg+10 or 45</td><td>lesser of bg+5 or 40</td></tr><tr><td>L_{A1}, adj, 15mins</td><td>lesser of bg+15 or 60</td><td>lesser of bg+15 or 55</td><td>lesser of bg+10 or 50</td><td>lesser of bg+15 or 55</td><td>lesser of bg+15 or 50</td><td>lesser of bg+10 or 45</td></tr><tr><td colspan="7"> • bg = background noise level • In the event that measured bg is less than 25 dB(A), then 25 dB(A) is to be substituted for the measured level. • If the background is higher than the number shown on the second line in any box, the limit is to be background plus 0. </td></tr></table>	Table 1 — 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	L _{A90} , adj, 15mins	lesser of bg+3 or 48	bg+0	bg+0	bg+0	bg+0	bg+0	L _{A10} , 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	L _{A1} , adj, 15mins	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	L _{A90} , adj, 15mins	lesser of bg+5 or 50	bg+0	bg+0	lesser of bg+3 or 43	bg+0	bg+0	L _{A10} , 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	L _{A1} , adj, 15mins	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	• bg = background noise level • In the event that measured bg is less than 25 dB(A), then 25 dB(A) is to be substituted for the measured level. • If the background is higher than the number shown on the second line in any box, the limit is to be background plus 0.						
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Condition 63	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority’s Noise Measurement Manuel or the most recent version of <i>AS1055 Acoustics — Description and measurement of environmental noise</i> .																																																																																																
General waste management																																																																																																	
Condition 64	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 <i>Environmental Protection Act 1994</i> .																																																																																																
Condition 65	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 66	Waste, including vegetation, must not be burnt.
Regulated waste	
Condition 67	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 <i>Environmental Protection Act 1994</i> .
Condition 68	Regulated waste generated in carrying out the petroleum activities can be temporarily stored on 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 69	A record of all regulated waste (excluding trackable waste) must be kept detailing the following information: (a) date of pickup of waste; (b) description of waste; (c) quantity of waste; (d) origin of waste; and (e) destination of waste.
Sewage	
Condition 70	Disposal of sewage effluent must not cause environmental nuisance or material or serious environmental harm.
Condition 71	Sewage treatment works on the site must not exceed a combined peak design capacity to treat sewage of more than 21 equivalent persons .
Monitoring	
Condition 72	The holder of this 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.
Complaints	
Condition 73	The holder of this 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.
Rehabilitation	
Condition 74	As soon as practicable after the end of petroleum activities that have caused significant disturbance to land, the holder of this environmental authority must: (a) remediate contaminated land caused by petroleum activities in accordance with EP Act requirements and this authority; and (b) undertake works to establish a safe, stable, non polluting landform similar to that of surrounding undisturbed areas, including where relevant: - backfilling any voids and trenches; - neutralising and/or encapsulating any acid producing or potentially acid producing material; - removing or encapsulating in low permeability material saline residues from evaporation ponds; - re-establishing surface drainage lines; - minimising the potential for slumping, subsidence or erosion; - reinstating the top layer of the soil profile; - respreding any cleared vegetation; and - promoting establishment of vegetation of similar species composition and density of cover to the surrounding undisturbed land; unless the holder of this environmental authority has the written consent of the landowner/holder and the administering authority.
Maintenance of land rehabilitation	
Condition 75	Monitoring and maintenance of rehabilitated areas must take place to ensure and demonstrate: (a) the stability of landforms; (b) that erosion control measures remain effective; (c) that stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters; (d) that plants show healthy growth and recruitment is occurring; and (e) that rehabilitated areas are free of any declared pest plants.
Rehabilitation Success	
Condition 76	Rehabilitation can be considered successful when the site can be managed for its designated land use (either similar to that of surrounding undisturbed areas or as otherwise agreed in a written document with the landowner/holder and the administering authority) without any greater management input than for other land

	in the area being used for a similar purpose and there is evidence that the rehabilitation has been successful for at least three (3) years.
Decommissioning pipelines	
Condition 77	The holder of this environmental authority must 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 the pipelines must be contained in dams on site , tested and either: (a) directly reused where suitable for petroleum activities; (b) treated so that it meets water quality criteria for the intended reuse; or (c) removed from the site for disposal or treatment at an appropriately authorised facility; or (d) disposed of via evaporation in a suitably lined pond.
Infrastructure	
Condition 80	All above ground infrastructure used for the petroleum activities must be removed prior to surrender of this environmental authority, except where it is to remain under a resource authority pursuant to <i>Petroleum and Gas (Production and Safety) Act 2004</i> , or with the written agreement of the administering authority and the post petroleum authority landowner/holder.
Transition of petroleum authority	
Condition 81	The holder of this environmental authority must take responsibility for the rehabilitation of any disturbance to land undertaken as part of a petroleum activity on a petroleum authority that has been transitioned (all or in part) due to the grant of a new resource authority over that land which now forms part of the current project.
Condition 82	The holder of this environmental authority must ensure that records containing construction dates of existing and future petroleum infrastructure are available to the administering authority upon request.

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, or the Petroleum and Gas (Production and Safety) Act 2004 then the Acts Interpretation Act 1954 then the Macquarie Dictionary should be used in that order.

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

Accepted engineering standards, in relation to **dams**, means those standards of design, **construction**, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered: In the case of **dams**, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.

Acid sulfate soils means soil or sediment containing highly acidic soil horizons or layers affected by the oxidation of iron sulfides (*actual acid sulfate soils*) and/or soil or sediment containing iron sulfides or other sulfidic material that has not been exposed to air and oxidised (*potential acid sulfate soils*).

Note: The term **acid sulfate soil** generally includes both actual and potential **acid sulfate soils**. Actual and potential **acid sulfate soils** are often found in the same soil profile, with actual **acid sulfate soils** generally overlying potential **acid sulfate soil** horizons.

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

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

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.

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 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 **LA90**, τ 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 of any **waters**, has the meaning in Schedule 12 Part 2 of the Environmental Protection Regulation 2008.

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:

- (a) 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:
 - i. of benefit to that owner in that it adds real value to their business or to the general community,
 - ii. in accordance with relevant provisions of the *Environmental Protection Act 1994*,
 - iii. sustainable by virtue of written undertakings given by that owner to maintain that **dam**, and
 - iv. the transfer and use have been approved or authorised under any relevant legislation; or
- (b) with respect to associated water, see Department of Environment and Science's *Coal Seam Gas Water Management Policy* and *Notice of decision to approve a resource for beneficial use— associated water* which can be accessed on Department of Environment and Science's website at www.des.qld.gov.au

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

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

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

Category C Environmentally Sensitive Area means any of the following areas:

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

- any **wetland** shown on the Map of Referable Wetlands available from the administering authority's website.

Certification or **certified** by a suitable qualified and experienced person in relation to a **design plan** or an annual report regarding **dams**, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- exactly what is being **certified** and the precise nature of that **certification**;
- the relevant legislative, regulatory and technical criteria on which the **certification** has been based;
- the relevant data and facts on which the **certification** has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- the reasoning on which the **certification** has been based using the relevant data and facts, and the relevant criteria.

Clearing means:

- in relation to grass, scrub or bush - the removal of vegetation by disturbing root systems and exposing underlying soil (including burning), but does not include—
 - the flattening or compaction of vegetation by vehicles if the vegetation remains living; or
 - the slashing or mowing of vegetation to facilitate access tracks; or
 - the **clearing** of **noxious** or introduced plant species; and
- 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**.

CSG water means groundwater that is necessarily or unavoidably brought to the surface in the process of coal seam gas exploration or production. **CSG water** typically contains significant concentrations of salts, has a high sodium adsorption ratio (SAR) and may contain other contaminants that have the potential to cause environmental harm if released to land or **waters** through inappropriate management. **CSG water** is a waste, as defined under section 13 of the *Environmental Protection Act 1994*.

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:

- the place is important in demonstrating the evolution or pattern of Queensland's history;
- the place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage;
- the place has potential to yield information that will contribute to an understanding of Queensland's history;
- the place is important in demonstrating the principal characteristics of a particular class of cultural places;
- the place is important because of its aesthetic significance;
- the place is important in demonstrating a high degree of creative or technical achievement at a particular period;
- the place has a strong or special association with the life or work of a particular community or cultural group for social, cultural or spiritual reasons;
- 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(s) 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.

DES means Department of Environment and Science

Design plan is the documentation required to describe the physical dimensions of the **dam**, the materials and standards to be used for **construction** of the **dam**, and the criteria to be used for operating the **dam**. The documents must include design and investigation reports, specifications and **certifications**, together with the planned decommissioning and rehabilitation works and outcomes. A **design plan** may include 'as constructed' drawings.

Dispersible soils are structurally unstable soils that readily break down 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
- 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
- supporting access tracks

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

Financial assurance means a security deposit, wither cash or a bank guarantee, held by the **administering authority** to cover the potential costs of preventing or minimising environmental harm from, or rehabilitating areas significantly disturbed by, the petroleum activities.

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 latest version of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* published by **administering authority**.

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**.

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 on **Administering Authority's** website under www.des.qld.gov.au.

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

L_{A90, 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.

L_{A10, 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.

L_{A1, 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.

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.

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 Science called 'Regional ecosystem description database' containing **regional ecosystem** numbers and descriptions. The database is available for inspection on the Department of Environment and Science's website at <http://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/>

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

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

Overland flow water means water, including floodwater, flowing over land, other 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 resource 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 200 metres from the boundary of any **Category A, B or C** environmentally sensitive area.

Regional ecosystem has the meaning in the Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 3.2 August 2012) and means a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil. Regional ecosystems of Queensland were originally described in Sattler and Williams (1999). The Regional Ecosystem Description Database (Queensland Herbarium 2013) is maintained by Queensland Herbarium and contains the current descriptions of regional ecosystems.

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 **administering authority** on its website under www.des.qld.gov.au

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.

River Improvement Trust Asset Area means an area within a River Improvement Area declared under the *River Improvement Trust Act 1940* that is or has been subject to restoration or flood mitigation works. The locations and details of these areas can be obtained from the relevant River Improvement Trust.

Secondary protection zone in relation to a **Category A** or **Category B environmentally sensitive area** 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 environmental authority; or
 - ii. if this environmental authority or **administering authority** does not require the land to be rehabilitated to a particular state — to its state immediately before the disturbance.

Examples of a significant disturbance to land:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion;
- (c) areas where land use suitability or capability has been diminished;
- (d) areas within a **watercourse**, **wetland**, or **spring** where petroleum activities have occurred causing the loss of habitat or a decline in ecological processes and requiring human intervention to restore or stabilise the disturbed area and/or protect the quality of the water downstream of the disturbance;
- (e) areas submerged by waste or water;
- (f) areas under temporary infrastructure. Temporary **infrastructure** includes any infrastructure
- (g) (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
- (h) areas where land has become contaminated land and a suitability statement has not been issued.

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

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

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

Spring means the land to which water rises naturally from below the ground and the land over which the water then flows. Replace with: an issue of water from the earth, flowing away as a small stream or standing as a pool or small lake, or the place of such an issue (Macquarie def.)

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

Suitably qualified and experienced person in relation to dams means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, or at the relevant time holds a 'deemed registration' within the meaning of the *Mutual Recognition (Queensland) Act 1992*; and 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 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 years of suitable experience and demonstrated expertise each, in three of the following categories:
 - investigation and design of **dams**.
 - **Construction**, operation and maintenance of **dams**.
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology.
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes.
 - hydrogeology with particular reference to seepage, groundwater.
 - solute transport processes and monitoring thereof.
 - a **dam** safety.

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

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.

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.edp.qld.gov.au

END OF ENVIRONMENTAL AUTHORITY