

Permit

Environmental Protection Act 1994

Environmental authority EA0001540

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

Environmental authority number: EA0001540

Environmental authority takes effect on 09 April 2020

Environmental authority holder(s)

Name(s)	Registered address
ARROW CSG (AUSTRALIA) PTY LTD	Level 39 111 Eagle Street BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 08: A petroleum or GHG storage activity, other than items 1 to 7, that includes an activity from Schedule 2 with an AES	PPL2034
Ancillary 62 - Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (c) category 2 regulated waste	PPL2034
Schedule 3 06: A petroleum activity carried out on a site containing a high hazard dam or a significant hazard dam	PPL2034

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
- 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.

Environmental authority EA0001540

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

Date issued: 09 April 2020

Enquiries:
Energy and Extractive Resource Assessment
Department of Environment and Science

Phone: 3330 5715
Email: EnergyandExtractive@des.qld.gov.au

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)

CONDITIONS OF ENVIRONMENTAL AUTHORITY

General conditions																			
Condition number	Condition																		
Authorised activities																			
General 1	This environmental authority authorises the carrying out of the following resource activities: (a) The petroleum activities¹ and specified relevant activities listed in <i>General, Table 1 - Authorised Petroleum Activities</i> to the extent they are carried out in accordance with the activity’s corresponding scale and intensity (or both, where applicable); and (b) <u>Incidental activities</u>² that are not otherwise specified relevant activities. General, Table 1 – Authorised Petroleum Activities <table><tr><th rowspan="2">Petroleum activities and infrastructure</th><th colspan="2">Scale</th></tr><tr><th>Total scale of petroleum activities / infrastructure</th><th>Intensity/Maximum</th></tr><tr><td>Brine Pond 1</td><td>1 dam (1,700ML)</td><td>36 ha</td></tr><tr><td>Brine Pond 2</td><td>1 dam (1,500ML)</td><td>22 ha</td></tr><tr><td>Brine Pipeline</td><td>0.61 km (0.16km + 0.45 km)</td><td>2 ha</td></tr><tr><td>Additional areas (e.g. laydown and borrow pits)</td><td>N/A</td><td>20 ha</td></tr></table>		Petroleum activities and infrastructure	Scale		Total scale of petroleum activities / infrastructure	Intensity/Maximum	Brine Pond 1	1 dam (1,700ML)	36 ha	Brine Pond 2	1 dam (1,500ML)	22 ha	Brine Pipeline	0.61 km (0.16km + 0.45 km)	2 ha	Additional areas (e.g. laydown and borrow pits)	N/A	20 ha
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Additional areas (e.g. laydown and borrow pits)	N/A	20 ha																	
General 2	This environmental authority does not authorise <u>environmental harm</u> unless a condition contained in this environmental authority explicitly authorises that harm. Where there is no condition, the lack of a condition shall not be construed as authorising harm.																		
Monitoring standards																			
General 7 (PESCD3) ³	All monitoring must be undertaken by a <u>suitably qualified person</u>.																		
General 8	If requested by the administering authority in relation to investigating a complaint, monitoring must be commenced within 10 business days.																		
General 9	All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests.																		

¹ The petroleum activities are authorised petroleum activities for the purposes of the *Petroleum and Gas (Production and Safety) Act 2004* and the *Petroleum Act 1923*.

² Words underlined are currently defined in **Schedule K – Definitions** or the *Environmental Protection Act 1994* and/or its subordinate legislation.

³ Conditions that include 'SC' are an existed approved and published standard condition.

General 10	Notwithstanding condition (General 9), where there are no NATA accredited laboratories for a specific analyte or substance, then duplicate samples must be sent to at least two separate laboratories for independent testing or evaluation.
General 11	Monitoring and sampling must be carried out in accordance with the requirements of the following documents (as relevant to the sampling being undertaken), as amended from time to time: (a) for waters and aquatic environments, the Queensland Government's Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009 (b) for groundwater, Groundwater Sampling and Analysis – A Field Guide (2009/27 GeoCat #68901) (c) for noise, the Environmental Protection Regulation 2008 (d) for air, the Queensland Air Quality Sampling Manual and/or Australian Standard 4323.1:1995 Stationary source emissions method 1: Selection of sampling positions, as appropriate for the relevant measurement (e) for soil, the Guidelines for Surveying Soil and Land Resources, 2nd edition (McKenzie et al. 2008), and/or the Australian Soil and Land Survey Handbook, 3rd edition (National Committee on Soil and Terrain, 2009) (f) for dust, Australian Standard AS3580.
Notification	
General 12	In addition to the requirements under Chapter 7, Part 1, Division 2 of the Environmental Protection Act 1994, the administering authority must be notified through the Pollution Hotline and in writing, as soon as possible, but within 48 hours of becoming aware of any of the following events: (a) any unauthorised significant disturbance to land (b) potential or actual loss of structural or hydraulic integrity of a dam (c) when the level of the contents of any regulated dam reaches the mandatory reporting level (d) when a regulated dam will not have available storage to meet the design storage allowance on 1 November of any year (e) when the seepage trigger action response procedure required under condition (Water 13(g)) is or should be implemented (f) unauthorised releases of any volume of prescribed contaminants to waters (g) unauthorised releases of volumes of contaminants, in any mixture, to land greater than: I. 200 L of hydrocarbons; or II. 1 000 L of brine; or III. 5 000 L of untreated coal seam gas water; or (h) monitoring results where two out of any five consecutive samples do not comply with the relevant limits in the environmental authority.

Financial assurance	
General 13 (PESCB 1)	Petroleum activities that cause significant disturbance to land must not be carried out until financial assurance has been given to the administering authority as security for compliance with the environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the <i>Environmental Protection Act 1994</i> .
General 14	Prior to any changes in petroleum activities which would result in an increase to the maximum significant disturbance since financial assurance was last given to the administering authority, the holder of the environmental authority must amend the financial assurance and give the administering authority the increased amount of financial assurance.
General 15	If the amount of financial assurance held by the administering authority has been discounted and either the nominated period of financial assurance has ended, or an event or change in circumstance has resulted in the holder of the environmental authority no longer being able to meet one or more of the mandatory pre-requisites or applicable discount criteria, the holder of the environmental authority must amend the financial assurance and give the administering authority the increased amount of financial assurance as soon as practicable.
Contingency procedures for emergency environmental incidents	
General 16	Petroleum activities involving significant disturbance to land cannot commence until the development of written contingency procedures for emergency environmental incidents which include, but are not necessarily limited to: (a) a clear definition of what constitutes an environmental emergency incident or near miss for the petroleum activity. (b) consideration of the risks caused by the petroleum activity including the impact of flooding and other natural events on the petroleum activity. (c) response procedures to be implemented to prevent or minimise the risks of environmental harm occurring. (d) the practices and procedures to be employed to restore the environment or mitigate any environmental harm caused. (e) procedures to investigate causes and impacts including impact monitoring programs for releases to waters and/or land. (f) training of staff to enable them to effectively respond. (g) procedures to notify the administering authority, local government and any potentially impacted landholder.

Maintenance of plant and equipment	
General 17	All plant and equipment reasonably necessary to ensure compliance with the conditions of this environmental authority must be installed and maintained and operated in their proper and effective condition.
General 18	The regulated dams must be signed with a unique reference name or number in such a way that it is clearly observable.
General 19	Measures to prevent fauna being harmed from entrapment must be implemented during the construction and operation of dams and pipeline trenches.
Erosion and sediment control	
General 20	For activities involving significant disturbance to land, <u>control measures</u> that are commensurate to the site-specific risk of erosion, and risk of sediment release to waters must be implemented to: (a) allow stormwater to pass through the site in a controlled manner and at non-erosive flow velocities (b) minimise soil erosion resulting from wind, rain, and flowing water (c) minimise the duration that disturbed soils are exposed to the erosive forces of wind, rain, and flowing water (d) minimise work-related soil erosion and sediment runoff; and (e) minimise negative impacts to land or properties adjacent to the activities (including roads).
Complaints	
General 21	Petroleum activities must not cause <u>environmental nuisance</u> at a <u>sensitive place</u> , other than where an <u>alternative arrangement</u> is in place.
Documentation	
General 22	A <u>certification</u> must be prepared by a <u>suitably qualified person</u> within 30 business days of completing every plan, procedure, program and report required to be developed under this environmental authority, which demonstrates that: (a) relevant material, including current published guidelines (where available) have been considered in the written document (b) the content of the written document is accurate and true; and (c) the document meets the requirements of the relevant conditions of the environmental authority.

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General 23	All plans, procedures, programs, reports and methodologies required under this environmental authority must be written and implemented.
General 24	All documents required to be developed under this environmental authority must be kept for five years.
General 25	All documents required to be prepared, held or kept under this environmental authority must be provided to the administering authority upon written request within the requested timeframe.
General 26	A record of all complaints must be kept including the date, complainant's details, source, reason for the complaint, description of investigations and actions undertaken in resolving the complaint.
Environmental harm	
PPSCB 2	Petroleum activities must not cause <u>environmental nuisance</u> from dust, odour, light, smoke or noise at a <u>sensitive place</u> , other than where an <u>alternative arrangement</u> is in place.
Variation 1	Contaminants must not be directly or indirectly released to land, air or waters except for those releases authorised by this environmental authority.
Waste conditions	
Condition number	Condition
General waste management	
Waste 1 (PESCC 24)	Measures must be implemented so that waste is managed in accordance with the <u>waste and resource management hierarchy</u> and the <u>waste and resource management principles</u> .
Waste 2	Waste, including <u>waste fluids</u> , but excluding waste used in <u>closed-loop systems</u> , must be transported off-site for lawful re-use, remediation, recycling or disposal, unless the waste is specifically authorised to be disposed of or used on site under this environmental authority.
Waste 3	<u>Waste fluids</u> must be contained in either: (a) an above ground container; or (b) a <u>structure</u> which contains the wetting front.
Waste 4	<u>Green waste</u> may be used on-site for either rehabilitation or sediment and erosion control, or both.

Waste 5	Vegetation waste may be burned if it relates to a state forest, timber reserve or forest entitlement area administered by the <i>Forestry Act 1959</i> and a permit has been obtained under the <i>Fire and Rescue Service Act 1990</i> .																													
Pipeline wastewater																														
Waste 6	<u>Pipeline waste water</u>, may be released to land provided that it: (a) can be demonstrated it meets the <u>acceptable standards for release to land</u>; and (b) is released in a way that does not result in visible scouring or erosion or pooling or run-off or vegetation die-off.																													
Variation 2	If pipeline waste water quality does not or cannot be treated to meet the requirements of condition (Waste 6), it must be managed in accordance with conditions Waste 2 and Waste 3.																													
Noise conditions																														
Condition number	Condition																													
Noise 1	Notwithstanding condition (General 21), emission of noise from the petroleum activity(ies) at levels less than those specified in Protecting acoustic values, Table 1—Noise nuisance limits are not considered to be environmental nuisance. Protecting acoustic values, Table 1—Noise nuisance limits <table><tr><th>Time period</th><th>Metric</th><th>Short term noise event</th><th>Medium term noise event</th><th>Long term noise event</th></tr><tr><td>7:00am—6:00pm</td><td><u>L_{Aeq,adj,15 min}</u></td><td>45 dBA</td><td>43 dBA</td><td>40 dBA</td></tr><tr><td>6:00pm—10:00pm</td><td>L_{Aeq,adj,15 min}</td><td>40 dBA</td><td>38 dBA</td><td>35 dBA</td></tr><tr><td rowspan="2">10:00pm—6:00am</td><td>L_{Aeq,adj,15 min}</td><td>28 dBA</td><td>28 dBA</td><td>28 dBA</td></tr><tr><td><u>Max L_{pA, 15 mins}</u></td><td>55 dBA</td><td>55 dBA</td><td>55 dBA</td></tr><tr><td>6:00am—7:00am</td><td>L_{Aeq,adj,15 min}</td><td>40 dBA</td><td>38 dBA</td><td>35 dBA</td></tr></table> 1. The noise limits in Table 1 have been set based on the following deemed <u>background noise levels</u> (L_{ABG}): 7:00am—6:00 pm: 35 dBA 6:00pm—10:00 pm: 30 dBA 10:00pm—6:00 am: 25 dBA 6:00am—7:00 am: 30 dBA	Time period	Metric	Short term noise event	Medium term noise event	Long term noise event	7:00am—6:00pm	<u>L_{Aeq,adj,15 min}</u>	45 dBA	43 dBA	40 dBA	6:00pm—10:00pm	L _{Aeq,adj,15 min}	40 dBA	38 dBA	35 dBA	10:00pm—6:00am	L _{Aeq,adj,15 min}	28 dBA	28 dBA	28 dBA	<u>Max L_{pA, 15 mins}</u>	55 dBA	55 dBA	55 dBA	6:00am—7:00am	L _{Aeq,adj,15 min}	40 dBA	38 dBA	35 dBA
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6:00am—7:00am	L _{Aeq,adj,15 min}	40 dBA	38 dBA	35 dBA																										
Noise 2	If the noise subject to a valid complaint is tonal or impulsive, the adjustments detailed in Protecting acoustic values, Table 2—Adjustments to be added to noise levels at sensitive receptors are to be added to the measured noise level(s) to derive L_{Aeq, adj, 15 min}. Protecting acoustic values, Table 2—Adjustments to be added to noise levels at sensitive receptors																													

		Noise characteristic	Adjustment to noise
		Tonal characteristic is just audible	+ 2 dBA
		Tonal characteristic is clearly audible	+ 5 dBA
		Impulsive characteristic is just audible	+ 2 dBA
		Impulsive characteristic is clearly audible	+ 5 dBA
Noise 3	Notwithstanding condition (Noise 1), emission of any low frequency noise must not exceed either (Noise 3(a)) and (Noise 3(b)), or (Noise 3(c)) and (Noise 3(d)) in the event of a valid complaint about low frequency noise being made to the administering authority: (a) 60 dB(C) measured outside the sensitive receptor; and (b) the difference between the external A-weighted and C-weighted noise levels is no greater than 20 dB; or (c) 50 dB(Z) measured inside the sensitive receptor; and (d) the difference between the internal A-weighted and Z-weighted (Max LpZ, 15 min) noise levels is no greater than 15 dB.		
Land conditions			
Condition number	Condition		
Top soil management			
Land 2	Top soil must be managed in a manner that preserves its biological and chemical properties.		
Land management			
Land 3	Land that has been <u>significantly disturbed</u> by the petroleum activities must be managed to ensure that mass movement, gully erosion, rill erosion, sheet erosion and tunnel erosion do not occur on that land.		
Acid sulfate soils			
Land 4	<u>Acid sulfate soils</u> must be treated and managed in accordance with the latest edition of the <i>Queensland Acid Sulfate Soil Technical Manual</i> .		
Chemical storage			
Land 5	Chemicals and fuels stored, must be effectively contained and where relevant, meet Australian Standards, where such a standard is applicable.		

Pipeline operation and maintenance	
Land 6	Pipeline operation and maintenance must be in accordance, to the greatest practicable extent, with the relevant section of the <i>APIA Code of Environmental Practice: Onshore Pipelines</i> (2013 or more recent editions).
Pipeline reinstatement and revegetation	
Land 7 (PPSCE 17)	Pipeline trenches must be backfilled and topsoils <u>reinstated</u> within three <u>months</u> after pipe laying.
Land 8	<u>Reinstatement</u> and <u>revegetation</u> of the pipeline right of way must commence within 6 months after cessation of petroleum activities for the purpose of pipeline construction.
Land 9	Backfilled, reinstated and revegetated pipeline trenches and right of ways must be: (a) a <u>stable</u> landform (b) re-profiled to a level consistent with surrounding soils (c) re-profiled to original contours and established drainage lines; and (a) vegetated with groundcover which includes suitable native species of vegetation for the location and not a pest species, and which is established and <u>growing</u>.
Biodiversity conditions	
Condition number	Condition
Confirming biodiversity values	
Biodiversity 1	Prior to undertaking activities that result in significant disturbance to land in areas of native vegetation, confirmation of on-the-ground <u>biodiversity values</u> of the native vegetation communities at that location must be undertaken by a suitably qualified person.
Biodiversity 2	A suitably qualified person must develop and certify a <u>methodology</u> so that condition (Biodiversity 1) can be complied with and which is appropriate to confirm on-the-ground biodiversity values.
Biodiversity 3	For conditions (Biodiversity 6) to (Biodiversity 8), where mapped biodiversity values differ from those confirmed under conditions (Biodiversity 1) and (Biodiversity 2), petroleum activities may proceed in accordance with the conditions of the environmental authority based on the confirmed on-the-ground biodiversity value.

Authorised disturbance to Environmentally Sensitive Areas																										
Biodiversity 6	Petroleum activities are not permitted in Category A, B or C <u>environmentally sensitive areas</u> .																									
Biodiversity 7	<u>Essential petroleum activities</u> may be undertaken in <u>areas of pre-existing disturbance</u> in the <u>primary protection zones</u> of Category B environmentally sensitive areas that are 'endangered' <u>regional ecosystems</u> and Category C environmentally sensitive areas other than 'nature refuges' or 'koala habitat' areas, providing those activities do not have a measurable negative impact on the adjacent environmentally sensitive area.																									
Biodiversity 8	Where petroleum activities are to be carried out in environmentally sensitive areas or their <u>protection zones</u>, the petroleum activities must be carried out in accordance with Protection of Biodiversity Values, Table 1—Authorised petroleum activities in environmentally sensitive areas and their protection zones. Protecting biodiversity values, Table 1—Authorised petroleum activities in environmentally sensitive areas and their protection zones <table> <tr> <th>Environmentally sensitive area</th><th>Within the environmentally sensitive area</th><th><u>Primary protection zone</u> of the environmentally sensitive area</th><th><u>Secondary protection zone</u> of the environmentally sensitive area</th></tr> <tr> <td>Category A environmentally sensitive areas</td><td>No petroleum activities permitted.</td><td>Only <u>low impact petroleum activities</u> permitted.</td><td>Only essential petroleum activities permitted.</td></tr> <tr> <td>Category B environmentally sensitive areas that are other than 'endangered' regional ecosystems</td><td>Only low impact petroleum activities permitted.</td><td>Only low impact petroleum activities permitted.</td><td>Only essential petroleum activities permitted.</td></tr> <tr> <td>Category B environmentally sensitive areas that are 'endangered' regional ecosystems</td><td>Only low impact petroleum activities permitted.</td><td>Only essential petroleum activities permitted.</td><td>Only essential petroleum activities permitted.</td></tr> <tr> <td>Category C environmentally sensitive areas that are 'nature refuges' or 'koala habitat'</td><td>Only low impact petroleum activities permitted.</td><td>Only low impact petroleum activities permitted.</td><td rowspan="2"></td></tr> <tr> <td>Category C environmentally sensitive areas that are 'essential habitat', 'essential regrowth habitat', or 'of concern' regional ecosystems</td><td>Only low impact petroleum activities permitted.</td><td>Only essential petroleum activities permitted.</td></tr> </table>			Environmentally sensitive area	Within the environmentally sensitive area	<u>Primary protection zone</u> of the environmentally sensitive area	<u>Secondary protection zone</u> of the environmentally sensitive area	Category A environmentally sensitive areas	No petroleum activities permitted.	Only <u>low impact petroleum activities</u> 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.
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Category A environmentally sensitive areas	No petroleum activities permitted.	Only <u>low impact petroleum activities</u> permitted.	Only essential petroleum activities permitted.																							
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	Environmentally sensitive area (continued)	Within the environmentally sensitive area (continued)	Primary protection zone of the environmentally sensitive area (continued)	Secondary protection zone of the environmentally sensitive area (continued)
	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.	
Biodiversity 8a	Despite condition (Biodiversity 8), the brine pipelines, brine ponds and associated laydown areas necessary for construction, operation, maintenance and monitoring of the facilities are permitted within the protection zones of Category B and C Environmentally Significant Areas.			
Impacts to prescribed environmental matters				
Biodiversity 10	Significant residual impacts to <u>prescribed environmental matters</u> are not authorised under this environmental authority or the <i>Environmental Offsets Act 2014</i> .			
Biodiversity 11	Records demonstrating that each impact to a prescribed environmental matter did not, or is not likely to, result in a <u>significant residual impact</u> to that matter must be: (a) completed by an appropriately qualified person; and (b) kept for the life of the environmental authority.			
Water conditions				
Condition number	Condition			
Authorised impacts to waters				
Water 1	Contaminants must not be directly or indirectly released to any waters.			
Authorised activities in waters				

Water 3	Petroleum activities must not occur in or within 200m of a: (a) <u>wetland of high ecological significance</u> (b) <u>Great Artesian Basin Spring</u> (c) <u>subterranean cave GDE</u>.
Activities in floodplains	
Water 11	Petroleum activity(ies) on <u>floodplains</u> must be carried out in a way that does not: (a) concentrate flood flows in a way that will or may cause or threaten a negative environmental impact; or (b) divert flood flows from natural drainage paths and alter flow distribution; or (c) increase the local duration of floods; or (d) increase the risk of detaining flood flows.
Seepage monitoring program	
Water 12	A seepage monitoring program must be developed by a suitably qualified person which is commensurate with the site-specific risks of contaminant seepage from containment facilities, and which requires and plans for detection of any seepage of contaminants to groundwater as a result of storing contaminants within three months of the environmental authority taking effect.
Water 13	The seepage monitoring program required by condition (Water 12) must include but not necessarily be limited to: (a) identification of the containment facilities for which seepage will be monitored (b) identification of trigger parameters that are associated with the potential or actual contaminants held in the containment facilities (c) identification of trigger concentration levels that are suitable for early detection of contaminant releases at the containment facilities (d) if deemed necessary by the site-specific risk assessment of contaminant seepage from containment facilities identified in condition (Water 12), installation of background seepage monitoring bores where groundwater quality will not have been affected by the petroleum activities authorised under this environmental authority to use as reference sites for determining impacts

Water 13 (continued)	(e) if deemed necessary by the site-specific risk assessment of contaminant seepage from containment facilities identified in condition (Water 12), installation of seepage monitoring bores that: i. are within formations potentially affected by the containment facilities authorised under this environmental authority (i.e. within the potential area of impact) ii. provide for the early detection of negative impacts prior to reaching <u>groundwater dependent ecosystems</u>, landholder's active groundwater bores, or water supply bores iii. provide for the early detection of negative impacts prior to reaching migration pathways to other formations (i.e. faults, areas of unconformities known to connect two or more formations) (f) monitoring of groundwater at each background and seepage monitoring bore at least biannually for the trigger parameters identified in condition (Water 13(b)) (g) seepage trigger action response procedures for when trigger parameters and trigger levels identified in conditions (Water 13(b)) and (Water 13(c)) trigger the early detection of seepage, or upon becoming aware of any monitoring results that indicate potential groundwater contamination (h) a rationale detailing the program conceptualisation including assumptions, determinations, monitoring equipment, sampling methods and data analysis; and (i) provides for annual updates to the program for new containment facilities constructed in each <u>annual return period</u>.
Seepage monitoring bore drill logs	
Water 14	A bore drill log must be completed for each seepage monitoring bore in condition (Water 13) which must include: (a) bore identification reference and geographical coordinate location (b) specific construction information including but not limited to depth of bore, depth and length of casing, depth and length of screening and bore sealing details (c) standing groundwater level and water quality parameters including physical parameter and results of laboratory analysis for the possible trigger parameters (d) lithological data, preferably a stratigraphic interpretation to identify the important features including the identification of any aquifers; and (e) target formation of the bore.
Rehabilitation conditions	
Condition number	Condition
Rehabilitation planning	

Rehabilitation 1	A Rehabilitation Plan must be developed by a suitably qualified person and must include the: (a) <u>rehabilitation</u> goals; and (b) procedures to be undertaken for rehabilitation that will: i. achieve the requirements of conditions (Rehabilitation 2) to (Rehabilitation 8), inclusive; and ii. provide for appropriate monitoring and maintenance.
Transitional rehabilitation	
Rehabilitation 2	<u>Significantly disturbed areas</u> 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 <u>stable</u> 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 includes suitable native species of vegetation for the location and not pest species, is growing; or ii. an alternative soil stabilisation methodology that achieves effective stabilisation is implemented and maintained.
<u>Final rehabilitation acceptance criteria</u>	
Rehabilitation 3	All significantly disturbed areas caused by petroleum activities which are not <u>being or intended to be utilised by the landholder or overlapping tenure holder</u>, must be rehabilitated to meet the following final acceptance criteria measured either against the highest ecological value <u>adjacent land use</u> or the <u>pre-disturbed land use</u>: (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 plant pest species; and (d) where the adjacent land use contains, or the pre-clearing land use contained, one or more <u>regional ecosystem(s)</u>, 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.
Continuing conditions	
Rehabilitation 5	Conditions (Rehabilitation 2) and (Rehabilitation 3) continue to apply after this environmental authority has ended or ceased to have effect.
Remaining dams	
Rehabilitation 8	Where there is a dam (including a low consequence dam) that is being or intended to be utilised by the landholder or overlapping tenure holder, the dam must be decommissioned to no longer accept inflow from the petroleum activity(ies) and the contained water must be of a quality suitable for the intended on-going uses(s) by the landholder or overlapping tenure holder.
Dams Conditions	
Condition number	Condition
Assessment of consequence category	
Dam 1	The <u>consequence category</u> of any structure must be <u>assessed</u> by a <u>suitably qualified and experienced person</u> in accordance with <i>the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933⁴)</i> at the following times: a) prior to the design and <u>construction</u> of the <u>structure</u>; or b) prior to any change in its purpose or the nature of its stored contents.
Dam 2	A <u>consequence assessment</u> report and <u>certification</u> must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
Dam 3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> .
Design and construction of a regulated structure	

Dam 4	All <u>regulated structures</u> must be designed by, and <u>constructed</u> under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> .
Dam 5	Construction of a regulated structure is prohibited unless: (a) the <u>holder</u> has submitted a <u>consequence category assessment</u> report and certification to the administering authority; and (b) certification for the design, <u>design plan</u> and the associated operating procedures has been <u>certified</u> by a suitably qualified and experienced person in compliance with the relevant condition of this <u>authority</u>.
Dam 6	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> , and must be recorded in the Register of Regulated Structures.
Dam 7	Regulated structures must: (a) be designed and constructed in compliance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933); (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: i) floodwaters from entering the regulated dam from any watercourse or drainage line; and ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. (c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
Dam 8	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and (b) construction of the regulated structure is in accordance with the design plan.
Notification of affected persons	

Dam 9	All <u>affected persons</u> must be provided with a copy of the emergency action plan in place for each regulated structure: (a) prior to the operation of the new regulated structure; and (b) if the emergency action plan is amended, within 5 business days of it being amended.
Operation of a regulated structure	
Dam 10	Operation of a regulated structure, is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following: (a) one electronic copy of the design plan and certification of the 'design plan' in accordance with condition Dam5; (b) a set of 'as constructed' drawings and specifications; (c) certification of the 'as constructed drawings and specifications' in accordance with condition Dam8; (d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; (e) the requirements of this authority relating to the <u>construction</u> of the regulated structure have been met; (f) the holder has entered the details required under this <u>authority</u>, into a Register of Regulated Structures; and (g) there is a current operational plan for the regulated structure.
Dam 11	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
Mandatory reporting level	
Dam 12	Conditions Dam13 to Dam16 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
Dam 13	The <u>Mandatory Reporting Level</u> (the <u>MRL</u>) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.

Dam 14	The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
Dam 15	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
Dam 16	The holder must record any changes to the MRL in the Register of Regulated Structures.
Design storage allowance	
Dam 17	The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.
Dam 18	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the <u>Design Storage Allowance (DSA)</u> volume for the <u>dam</u> (or network of linked containment systems).
Dam 19	The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
Dam 20	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
Annual inspection report	
Dam 21	Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
Dam 22	At each annual inspection, the condition and adequacy of all components of the <u>regulated structure</u> must be assessed and a suitably qualified and experienced person must prepare an <u>annual inspection report</u> containing details of the assessment and include a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.

Dam 23	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> .
Dam 24	The holder must within 20 business days of receipt of the annual inspection report, provide to the administering authority: (a) The recommendations section of the annual inspection report; and (b) If applicable, any actions being taken in response to those recommendations; and (c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.
Transfer arrangements	
Dam 25	The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.
Decommissioning and rehabilitation	
Dam 26	Regulated structures must not be abandoned but be either: (a) decommissioned and rehabilitated to achieve compliance with Rehabilitation conditions of this environmental authority; or (b) be left in-situ for a use by the landholder provided that: i) it no longer contains contaminants that will migrate into the environment; and ii) it contains water of a quality that is demonstrated to be suitable for its intended use(s); and (c) the holder of the environmental authority and the landholder agree in writing that the; i) dam will be used by the landholder following the cessation of the environmentally relevant activity(ies); and ii) landholder is responsible for the dam, on and from an agreed date.
Register of Regulated Structures	
Dam 27	A <u>Register of Regulated Structures</u> must be established and maintained by the <u>holder</u> for each <u>regulated structure</u> .

Dam 28	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
Dam 29	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition (Dam 10) has been achieved.
Dam 30	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
Dam 31	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
Dam 32	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

Schedule K - Definitions

Key terms and/or phrases underlined in this environmental authority are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

Term	Definition
acceptable standards for release to land	means wastewater of the following quality as determined by monitoring results or by characterisation: (a) electrical conductivity (EC) not exceeding 3000µS/cm (b) sodium adsorption ratio (SAR) not exceeding 8 (c) pH between 6.0 and 9.0 (d) heavy metals (measured as total) meets the respective short term trigger value in section 4.2.6, Table 4.2.10—Heavy metals and metalloids in Australian and New Zealand Guidelines for Fresh and Marine Water Quality (e) does not contain biocides.
acid sulfate soil(s)	means a soil or soil horizon which contains sulfides or an acid soil horizon affected by oxidation of sulfides.
adjacent land use(s)	means the <u>ecosystem function</u> adjacent to an area of significant disturbance, or where there is no ecosystem function, the use of the land. An adjacent land use does not include an adjacent area that shows evidence of edge effect.
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 <i>Environmental Protection Act 1994</i>—the local government; or (b) for all other matters—the Chief Executive of the Department of Environment and Heritage Protection; or (c) another State Government Department, Authority, Storage Operator, Board or Trust, whose role is to administer provisions under other enacted legislation.
affected person	is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life or property can be put at risk due to dwellings or workplaces being in the path of a dam break flood.
alternative arrangement	means a written agreement about the way in which a particular environmental nuisance impact will be dealt with at a sensitive place, and may include an agreed period of time for which the arrangement is in place. An alternative arrangement may include, but is not limited to, a range of nuisance abatement measures to be installed at the sensitive place, or provision of alternative accommodation for the duration of the relevant nuisance impact.
analogue site(s)	means an area of land which contains values and characteristics representative of an area to be rehabilitated prior to disturbance. Such values must encompass land use, topographic, soil, vegetation, vegetation community attributes and other ecological characteristics. Analogue sites can be the pre-disturbed site of interest where significant surveying effort has been undertaken to establish benchmark parameters.
annual inspection report	means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan); (a) against recommendations contained in previous annual inspections reports; (b) against recognised dam safety deficiency indicators; (c) for changes in circumstances potentially leading to a change in consequence category; (d) for conformance with the conditions of this authority; (e) for conformance with the 'as constructed' drawings; (f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems); (g) for evidence of conformance with the current operational plan.
annual return period	means the most current 12-month period between two anniversary dates.
assessed or assessment	by a suitably qualified and experienced person in relation to a consequence 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 of the assessment: (a) exactly what has been assessed and the precise nature of that determination;

	(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.
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.
associated works	in relation to a dam, means: (a) operations of any kind and all things constructed, erected or installed for that dam; and (b) any land used for those operations.
Australian Standard 3580	means any of the following publications: - AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter—Gravimetric method. - AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 high volume sampler with size-selective inlet—Gravimetric method - AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter— PM10 low volume sampler—Gravimetric sampler.
authority	means an environmental authority or a development approval.
background noise level	means the sound pressure level, measured in the absence of the noise under investigation, as the L A90,T being the A-weighted sound pressure level exceeded for 90% of the measurement time period T of not less than 15 minutes (or LA 90, adj, 15 mins), using Fast response.
being or intended to be utilised by the landholder or overlapping tenure holder	for significantly disturbed land, means there is a written agreement (e.g. land and compensation agreement) between the landholder or the overlapping tenure holder and the holder of the environmental authority identifying that the landholder or the overlapping tenure holder has a preferred use of the land such that rehabilitation standards for revegetation by the holder of the environmental authority are not required. For dams, means there is a written agreement (e.g. land and compensation agreement) between the landholder or the overlapping tenure holder and the holder of the

	environmental authority identifying that the landholder or the overlapping tenure holder has a preferred use for the dam such that rehabilitation standards for revegetation by the holder of the environmental authority are not required.
biodiversity values	for the purposes of this environmental authority, means environmentally sensitive areas, prescribed environmental matters and wetlands.
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: • 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 • Regional Parks 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
certification or certified (In Dam Conditions)	means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this Manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).
certified or certification (In Conditions other than Dam Conditions)	in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams means, a Statutory Declaration by a suitably qualified person or suitably qualified third party accompanying the written document stating: • the person's qualifications and experience relevant to the function • that the person has not knowingly included false, misleading or incomplete information in the document • that the person has not knowingly failed to reveal any relevant information or document to the administering authority

	- that the document addresses the relevant matters for the function and is factually correct; and - that the opinions expressed in the document are honestly and reasonably held.
clearing	has the meaning in the dictionary of the Vegetation Management Act 2000 and for vegetation— (a) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining; but (b) does not include destroying standing vegetation by stock, or lopping a tree.
closed-loop systems	means using waste on site in a way that does not release waste or contaminants in the waste to the environment.
consequence	in relation to a structure as defined, means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purpose of containing, diverting or controlling flowable substances.
consequence category	means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).
construction or constructed	in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for the purpose of preparing a design plan.
control measure	has the meaning in section 47 of the Environmental Protection Regulation 2008 and means a device, equipment, structure, or management strategy used to prevent or control the release of a contaminant or waste to the environment.
dam(s)	means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.

design plan	is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.
design storage allowance or DSA	means an available volume, estimated in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.
document	has the meaning in the Acts Interpretation Act 1954 and means: • any paper or other material on which there is writing; and • any paper or other material on which there are marks; and • figures, symbols or perforations having a meaning for a person qualified to interpret them; and • any disc, tape or other article or any material from which sounds, images, writings or messages are capable of being produced or reproduced (with or without the aid of another article or device).
ecosystem function	means the interactions between and within living and nonliving components of an ecosystem and generally correlates with the size, shape and location of the vegetation community.
environmental harm	has the meaning in section 14 of the Environmental Protection Act 1994 and means any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance. Environmental harm may be caused by an activity— (a) whether the harm is a direct or indirect result of the activity; or (b) whether the harm results from the activity alone or from the combined effects of the activity and other activities or factors.
environmental nuisance	has the meaning in section 15 of the Environmental Protection Act 1994 and means unreasonable interference or likely interference with an environmental value caused by— (a) aerosols, fumes, light, noise, odour, particles or smoke; or (b) an unhealthy, offensive or unsightly condition because of contamination; or (c) another way prescribed by regulation.

environmentally sensitive area	means Category A, B or C environmentally sensitive areas (ESAs)
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).
floodplains	has the meaning in the Water Act 2000 and means an area of reasonably flat land adjacent to a watercourse that— - is covered from time to time by floodwater overflowing from the watercourse; and - does not, other than in an upper valley reach, confine floodwater to generally follow the path of the watercourse; and - has finer sediment deposits than the sediment deposits of any bench, bar or in-stream island of the watercourse.
flowable substance	means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.
Great Artesian Basin (GAB) spring	means an area protected under the Environment Protection and Biodiversity Conservation Act 1999 because it is considered to be a Matter of National Environmental Significance and identified as a: - community of native species dependent on natural discharge of groundwater from the Great Artesian Basin; or - Great Artesian Basin spring; or - Great Artesian Basin discharge spring wetland. A GAB spring includes a spring vent, spring complex or watercourse spring and includes the land to which water rises naturally from below the ground and the land over which the water then flows. Note: The Australian Government's Protected Matters Search Tool should be used to get an indication of whether the area of interest may contain an MNES spring. Note: The GAB springs dataset can be requested from the Queensland Government Herbarium
green waste	means waste that is grass cuttings, trees, bushes, shrubs, material lopped from trees, untreated timber or other waste that is similar in nature but does not include pest species.
groundwater dependent ecosystem (GDE)	means ecosystems which require access to groundwater on a permanent or intermittent basis to meet all or some of their water requirements so as to maintain their communities of plants and animals, ecological processes and ecosystem services. For the purposes of the environmental authority, groundwater dependent ecosystems do not include those mapped as "unknown".

growing	means to increase by natural development, as any living organism or part thereof by assimilation of nutriment; increase in size or substance.
holder	means: (a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or (b) where this document is a development approval, any person who is the registered operator for that development approval.
hydraulic integrity	refers to the capacity of a dam to contain or safely pass flowable substances based on its design.
impulsive (for noise)	means sound characterised by brief excursions of sound pressure (acoustic impulses) that significantly exceed the background sound pressure. The duration of a single impulsive sound is usually less than one second.
incidental activity	for this environmental authority means an activity that is not a specified relevant activity and is necessary to carry out the activities listed in General, Table 1 – Authorised Petroleum Activities.
LA 90, adj, 15 mins	means the A-weighted sound pressure level, adjusted for tonal character that is equal to or exceeded for 90% of any 15 minutes sample period equal, using Fast response.
LAeq, adj, 15 mins	means the A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within any 15 minute period has the same square sound pressure as a sound level that varies with time.
landholder's active groundwater bore	means bores that are able to continue to provide a reasonable yield of water in terms of quantity for the bores authorised purpose or use. This term does not include monitoring bores owned by the administering authority of the Water Act 2000.

long term noise event	means a noise exposure, when perceived at a sensitive receptor, persists for a period of greater than five (5) days, even when there are respite periods when the noise is inaudible within those five (5) days.
low consequence dam	means any dam that is not classified as high or significant as assessed using the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures, published by the administering authority, as amended from time to time.
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.
Mandatory Reporting Level or MRL	means a warning and reporting level determined in accordance with the criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority.
Map of referable wetlands	has the meaning in Schedule 12 of the Environmental Protection Regulation 2008 and means the 'Map of referable wetlands', a document approved by the chief executive on 4 November 2011 and published by the department, as amended from time to time by the chief executive under section 144D.
Max LpA, 15 min	means the absolute maximum instantaneous A-weighted sound pressure level, measured over 15 minutes.
Max LpZ, 15 min	means the maximum value of the Z-weighted sound pressure level measured over 15 minutes.
medium term noise event	is a noise exposure, when perceived at a sensitive receptor, persists for an aggregate period not greater than five (5) days and does not re-occur for a period of at least four (4) weeks. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a different source or source location.

methodology	means the science of method, especially dealing with the logical principles underlying the organisation of the various special sciences, and the conduct of scientific inquiry.
month	has the meaning in the Acts Interpretation Act 1954 and means a calendar month and is a period starting at the beginning of any day of one (1) of the 12 named months and ending— - immediately before the beginning of the corresponding day of the next named month; or - if there is no such corresponding day—at the end of the next named month.
NATA accreditation	means accreditation by the National Association of Testing Authorities Australia.
pipeline waste water	means hydrostatic testing water, flush water or water from low point drains.
prescribed environmental matters	has the meaning in section 10 of the Environmental Offsets Act 2014, limited to the matters of State environmental significant listed in schedule 2 of the Environmental Offsets Regulation 2014.
pre-disturbed land use	means the function or use of the land as documented prior to significant disturbance occurring at that location.
prescribed contaminants	has the meaning in section 440ZD of the Environmental Protection Act 1994 and means:
primary protection zone	means an area within 200m from the boundary of any Category A, B or C ESA.

protection zone	means the primary protection zone of any Category A, B or C ESA or the secondary protection zone of any Category A or B ESA.
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.
Register of Regulated Structures	includes: (a) Date of entry in the register; (b) Name of the structure, its purpose and intended/actual contents; (c) The consequence category of the dam as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933); (d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam; (e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings; (f) For the regulated dam, other than in relation to any levees – i. The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam; ii. Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area iii. Dam crest volume (megalitres); iv. Spillway crest level (metres AHD). v. Maximum operating level (metres AHD); vi. Storage rating table of stored volume versus level (metres AHD); vii. Design storage allowance (megalitres) and associated level of the dam (metres AHD); viii. Mandatory reporting level (metres AHD); (g) The design plan title and reference relevant to the dam; (h) The date construction was certified as compliant with the design plan; (i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan; (j) Details of the composition and construction of any liner; (k) The system for the detection of any leakage through the floor and sides of the dam; (l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year; (m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority; (n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.
regulated dam	means any dam in the significant or high consequence category as assessed using the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635), published by the administering authority, as amended from time to time.

regulated structures	means any structure in the significant or high consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority. A regulated structure does not include: • a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container; • a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities; • a flare pit.
rehabilitation or rehabilitated	means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with acceptance criteria and, where relevant, includes remediation of contaminated land. For the purposes of pipeline rehabilitation, rehabilitation includes reinstatement, revegetation and restoration.
reinstate or reinstatement	means the process of bulk earth works and structural replacement of pre-existing conditions of a site (i.e. soil surface topography, watercourses, culverts, fences and gates and other landscape(d) features) and is detailed in the APGA Code of Environmental Practice: Onshore Pipelines Revision 4 (2017).
restoration	means the replacement of structural habitat complexity, ecosystem processes, services and function from a disturbed or degraded site to that of a pre-determined or analogue site. For the purposes of pipelines, restoration applies to final rehabilitation after pipeline decommissioning.
revegetation or revegetating or revegetate	means to actively re-establish vegetation through seeding or planting techniques in accordance with site specific management plans.
secondary protection zone	in relation to a Category A or Category B ESA means an area within 100 metres from the boundary of the primary protection zone.
sensitive place	means: • a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel) • a library, childcare centre, kindergarten, school, university or other educational institution • a medical centre, surgery or hospital

sensitive place (continued)	• a protected area • a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment • a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads • for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.
sensitive receptor	is defined in Schedule 2 of the Environmental Protection (Noise) Policy 2008, and means an area or place where noise is measured.
short term noise event	is a noise exposure, when perceived at a sensitive receptor, persists for an aggregate period not greater than eight hours and does not re-occur for a period of at least seven (7) days. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a different source or source location.
significant residual impact	has the meaning in section 8 Environmental Offsets Act 2014.
significantly disturbed or significant disturbance or significant disturbance to land or areas	has the meaning in Schedule 12, section 4 of the Environmental Protection Regulation 2008. Land is significantly disturbed if— (i) to a condition required under the relevant environmental authority; or (ii) if the environmental authority does not require the land to be rehabilitated to a particular condition—to the condition it was in immediately before the disturbance.
species richness	means the number of different species in a given area.
stable	has the meaning in Schedule 5 of the Environmental Protection Regulation 2008 and, for a site, means the rehabilitation and restoration of the site is enduring or permanent so that the site is unlikely to collapse, erode or subside.

structure	means a dam or levee.
subterranean cave GDE	- means an area identified as a subterranean cave in the mapping produced by the Queensland Government and identified in the Queensland Government Information System, as amended from time to time; and - means a cave ecosystem which requires access to groundwater on a permanent or intermittent basis to meet all or some of their water requirements so as to maintain its communities of plants and animals, ecological processes and ecosystem services. Subterranean cave GDEs are caves dependent on the subterranean presence of groundwater. Subterranean cave GDEs have some degree of groundwater connectivity and are indicated by either high moisture levels or the presence of stygofauna, or both, referred to in the Queensland Government WetlandsInfo mapping program, as amended from time to time. Note: the Subterranean GDE (caves) dataset can be displayed through the Queensland Government WetlandsInfo mapping program. Note: the Subterranean GDE (caves) dataset can be obtained from the Queensland Government Information System.
suitably qualified and experienced person	in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Engineers Act 2002, and has demonstrated competency and relevant experience: - for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design - for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments. Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.
suitably qualified person	means a person who has professional qualifications, training or skills or experience relevant to the nominated subject matters and can give authoritative assessment, advice and analysis about performance relevant to the subject matters using relevant protocols, standards, methods or literature.
suitably qualified third party	means a person who: (a) has qualifications and experience relevant to performing the function including but not limited to: - a bachelor's degree in science or engineering; and 3 years' experience in undertaking soil contamination assessments; and (b) is a member of at least one organisation prescribed in Schedule 8 of the Environmental Protection Regulation 2008; and (c) not be an employee of, nor have a financial interest or any involvement which would lead to a conflict of interest with the holder(s) of the environmental authority.

sump	means a pit in which waste residual drilling material or drilling fluids are stored only for the duration of drilling activities.
top soil	means the surface (top) layer of a soil profile, which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.
valid complaint	means all complaints unless considered by the administering authority to be frivolous, vexatious or based on mistaken belief.
void	means any constructed, open excavation in the ground.
waste and resource management hierarchy	has the meaning provided in section 9 of the Waste Reduction and Recycling Act 2011 and is the following precepts, listed in the preferred order in which waste and resource management options should be considered— (a) AVOID unnecessary resource consumption (b) REDUCE waste generation and disposal (c) RE-USE waste resources without further manufacturing (d) RECYCLE waste resources to make the same or different products (e) RECOVER waste resources, including the recovery of energy (f) TREAT waste before disposal, including reducing the hazardous nature of waste (g) DISPOSE of waste only if there is no viable alternative.
waste and resource management principles	has the meaning provided in section 4(2)(b) of the Waste Reduction and Recycling Act 2011 and means the: (a) polluter pays principle (b) user pays principle (c) proximity principle (d) product stewardship principle.
waste fluids	has the meaning in section 13 of the Environmental Protection Act 1994 in conjunction with the common meaning of “fluid” which is “a substance which is capable of flowing and offers no permanent resistance to changes of shape”. Accordingly, to be a waste fluid, the waste must be a substance which is capable of flowing and offers no permanent resistance to changes of shape.

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watercourse	has the meaning in Schedule 4 of the Environmental Protection Act 1994 and means: 1) a river, creek or stream in which water flows permanently or intermittently— (a) in a natural channel, whether artificially improved or not; or (b) in an artificial channel that has changed the course of the watercourse. 2) Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.
waters	includes all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.
wetland	for the purpose of this environmental authority, wetland means: • areas shown on the Map of referable wetlands which is a document approved by the chief executive on 4 November 2011 and published by the department, as amended from time to time by the chief executive under section 144D of the Environmental Protection Regulation 2008; and • areas defined under the Queensland Wetlands Program as permanent or periodic / intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six (6) metres, and possess one or more of the following attributes: ○ at least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle, or ○ the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers, or ○ the substratum is not soil and is saturated with water, or covered by water at some time. The term wetland includes riverine, lacustrine, estuarine, marine and palustrine wetlands; and it does not include a Great Artesian Basin Spring or a subterranean wetland that is a cave or aquifer.
wetland of high ecological significance	means a wetland that meets the definition of a wetland and that is shown as a wetland of 'high ecological significance' or wetland of 'high ecological value' on the Map of referable wetlands.

END OF ENVIRONMENTAL AUTHORITY