

Environmental Protection Act 1994**Environmental authority EPPG00935413**

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

Environmental authority number: EPPG00935413

Environmental authority takes effect on 14 August 2025. This is the take effect date.

The anniversary date of this environmental authority is 01 October each year.

An annual return will be due each year on 01 April.

Transfers of this environmental authority are not authorised.

Environmental authority holder(s)

Name(s)	Registered address
QPM ENERGY (MGP UPSTREAM) PTY LTD	Level 10 307 Queen Street BRISBANE QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 06 - A petroleum activity carried out on a site containing a high hazard dam or a significant hazard dam	PL191; PL1149/PL196; PL224; PPL115
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	
Ancillary 08 - Chemical Storage - 1 - Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	
Ancillary 09 - Hydrocarbon gas refining - 1(c) - Hydrocarbon gas refining (the relevant activity) consists of refining natural gas or coal seam methane gas - coal seam gas	



Environmentally relevant activity/activities	Location(s)
Ancillary 15 - Fuel burning - Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	
Ancillary 60 - Waste disposal - 1(d) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - more than 200,000t	
Ancillary 62 - Resource recovery and transfer facility operation - 1(c) - Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste	
ERA 63 - Sewage Treatment - 1(b-ii) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP - otherwise	

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).

Mobile and temporary activities

If you operate a mobile and temporary environmentally relevant activity (ERA), other than regulated waste transport, you are required to maintain a work diary. You must:

- use the approved form for a work diary (ESR/2015/1696);
- keep the work diary records for 2 years after the last entry;
- inform the administering authority within 7 days of the work diary being lost or stolen;
- record the information required in the work diary for each location within 1 day of leaving the location.

Contaminated land

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

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or

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

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

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

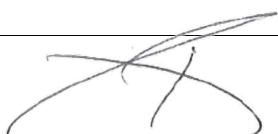
- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority - on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day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

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this environmental authority is the same day each year as the effective date. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 01 April.

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



Signature

14 August 2025

Date

Tristan Roberts

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

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Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Legislative Requirements and Conditions of Environmental Authority

SCHEDULE A GENERAL ENVIRONMENTAL PROTECTION

AUTHORISED ACTIVITIES

A1 The petroleum activities carried out under this environmental authority must be authorised petroleum activities for the purposes for the *Petroleum and Gas (Production and Safety) Act 2004* and the *Petroleum Act 1923*.

NOTE: Advice statements for the environmental authority:

- a) It is an offence under section 426 of the Act for a person to carry out an environmentally relevant activity unless the person holds, or is acting under, an environmental authority for the activity.
- b) The environmental authority does not authorise a relevant act to occur in carrying out an authorised relevant activity unless a condition of this environmental authority expressly authorises the relevant act to occur.
- c) The environmental authority does not authorise environmental harm unless a condition contained within the authority explicitly authorises that harm. Where there is no condition, the absence of a condition shall not be construed as authorising harm.

A1a Activities that would be prescribed ERAs but for being carried out as petroleum activities are not authorised under this environmental authority unless specifically listed in Schedule A, Table 1 — Authorised Petroleum Activities.

A1b In the carrying out of the petroleum activity(ies), the holder of this environmental authority must not exceed the numbers and maximum size(s) for each of the specified petroleum activities listed in Schedule A General Environmental Protection - Table 1 — Authorised Petroleum Activities for each petroleum tenure.

Schedule A General Environmental Protection, Table 1 — Authorised Petroleum Activities

Tenure No.	Petroleum Activity	Number	Maximum size where applicable)
PL191 PL1149/PL196 PL224 PPL115	Seismic(km)	N/A	N/A
	Gas Well(s)	909	N/A
	Compressor Station(s)	4	N/A
	Regulated Structures	17	Up to 400ML
	Water Treatment (Reverse Osmosis Plant)	2	N/A
	Chemical Storage	N/A	10m ³ to 500m ³
	Hydrocarbon gas refining	N/A	N/A
	Fuel burning	N/A	N/A
	Waste disposal	N/A	More than 200,000t
	Sewage Treatment	N/A	1,500 EP per facility, with a total of

- A2 Conditions (E7), (E8) (Protecting Land Values) and (F1) to (F13) inclusive (Protecting Biodiversity Values), relating to disturbance, and conditions (G9) to (G13) inclusive (Protecting Water Values) relating to infrastructure in or within buffers around wetlands, lakes or springs or watercourses do not apply to petroleum activity(ies) (including associated operation and maintenance activities) undertaken directly in relation to infrastructure which was either: (1) Established in PL191, PL1149/PL196 or PPL115 prior to 9 August 2010 as identified in Figure 2 Existing Infrastructure on 9 August 2010, or (2) Established in PL224 prior to 18 May 2015.

MONITORING STANDARDS

- A3 All monitoring must be undertaken by a suitably qualified person.

NOTE: Advice statements for the environmental authority:

- a) It is an offence under section 426 of the Act for a person to carry out an environmentally relevant activity unless the person holds, or is acting under, an environmental authority for the activity.
 - b) The environmental authority does not authorise a relevant act to occur in carrying out an authorised relevant activity unless a condition of this environmental authority expressly authorises the relevant act to occur.
 - c) The environmental authority does not authorise environmental harm unless a condition contained within the authority explicitly authorises that harm. Where there is no condition, the absence of a condition shall not be construed as authorising harm.
- A4 If requested by the administering authority in relation to investigating a complaint, monitoring must be commenced within 10 business days, and monitoring must be done for the duration specified by the administering authority, but the duration must not exceed 14 days.
- A5 All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests.
- A6 Notwithstanding condition (A5), 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.
- A7 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 2009 — Environmental Protection (Water) Policy 2009;
 - (b) for groundwater, Groundwater Sampling and Analysis — A Field Guide (2009:27 GeoCat #6890.1);
 - (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); and
 - (f) for dust, Australian Standard AS3580.

- A8 Notwithstanding condition A7, when sampling a water quality limit in Schedule G, Table 3 — Contaminant Release Limits for Release Point RP1 records a test result of "no result" or "laboratory error", a supplementary sample must be collected and tested as soon as practicable after the initial sampling event.

NOTIFICATION

- A9 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) potential or actual loss of well integrity
 - (f) when the seepage trigger action response procedure required under condition (G20)(g)) is or should be implemented; or
 - (g) unauthorised releases of any volume of prescribed contaminants to waters including any exceedance of (G1) and (G2).
 - (h) unauthorised releases of volumes of contaminants, in any mixture, to land greater than:
 - i. 200L of hydrocarbons
 - ii. 200L of stimulation additives
 - iii. 500L of stimulation fluids
 - iv. 1,000L of brine
 - v. 5,000L of untreated coal seam gas water
 - vi. 5,000L of raw sewage; or
 - vii. 10,000L of treated sewage effluent.
 - (i) the use of restricted stimulation fluids
 - (j) groundwater monitoring results from a landholder's active groundwater bore monitored under the stimulation impact monitoring program which is a 10% or greater increase from a previous baseline value for that bore and which renders the water unfit for its intended use
 - (k) monitoring results where 2 out of any 5 consecutive samples do not comply with the relevant limits in the environmental authority.

- A10 Notwithstanding conditions (A9), the holder of this environmental authority must telephone the local Public Health Unit (<http://www.health.qld.gov.au/cho/default.asp>) as soon as reasonably practicable, but within 24 hours after becoming aware of any release of contaminants not in accordance with conditions (G1) and (G2).

FINANCIAL ASSURANCE

- A11 Petroleum activities that cause significant disturbance to land must not be carried out until financial assurance has been given to the administering authority as security for compliance with the

environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the *Environmental Protection Act 1994*.

- A12 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.
- A13 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

- A14 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

- A15 All plant and equipment must be maintained and operated in their proper and effective condition.
- A16 The following infrastructure must be signed with a unique reference name or number in such a way that it is clearly observable:
- (a) regulated dams and low consequence dams
 - (b) exploration, appraisal and development wells
 - (c) water treatment facilities
 - (d) brine encapsulation facilities
 - (e) landfill cells

- (f) sewage treatment facilities
- (g) specifically authorised discharge points to air and waters
- (h) any chemical storage facility associated with the environmentally relevant activity of chemical storage
- (i) field compressor stations
- (j) central compressor stations
- (k) gas processing facilities; and
- (l) pipeline compressor stations.

A17 Measures to prevent fauna being harmed from entrapment must be implemented during the construction and operation of well infrastructure, dams and pipeline trenches.

EROSION AND SEDIMENT CONTROL

A18 For activities involving significant disturbance to land, control measures that are commensurate to the site-specific risk of erosion, and risk of sediment release to waters must be implemented to:

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

COMPLAINTS

A19 Petroleum activities must not cause environmental nuisance at a sensitive place, other than where an alternative arrangement is in place.

DOCUMENTATION

A20 A certification must be prepared by a suitably qualified person 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.

A21 All plans, procedures, programs, reports and methodologies required under this environmental authority must be written and implemented.

A22 All documents required to be developed under this environmental authority must be kept for 5 years.

- A23 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.
- A24 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.

SCHEDULE B — WASTE MANAGEMENT

GENERAL WASTE MANAGEMENT

- B1 Measures must be implemented so that waste is managed in accordance with the waste and resource management hierarchy and the waste and resource management principles
- B2 Waste, including waste fluids, but excluding waste used in closed-loop systems, must be transported off-site for lawful re-use, remediation, recycling or disposal, unless the waste is specifically authorised by conditions (B3), (B4), (B5), (B6), (B7), (B8), (B9), (B16), (B18), (B21) or (B23) to be disposed of or used on site.
- B3 Waste fluids, other than flare precipitant stored in flare pits, or residual drilling material or drilling fluids stored in sumps, must be contained in either:
- (a) an above ground container; or
 - (b) a structure which contains the wetting front.
- B4 Green waste may be used on-site for either rehabilitation or sediment and erosion control, or both.
- B5 Vegetation waste may be burned if it relates to a state forest, timber reserve or forest entitlement area administered by the *Forestry Act 1959* and a permit has been obtained under the *Fire and Rescue Service Act 1990*.

PIPELINE WASTEWATER

- B6 Pipeline waste water, may be released to land provided that it:
- (a) can be demonstrated it meets the acceptable standards for release to land; 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.

AUTHORISED USES OF PRODUCED WATER FOR PETROLEUM ACTIVITIES

- B7 Produced water may be used in:
- (a) drilling and well hole activities; or
 - (b) stimulation activities.
- B8 Produced water may be used for dust suppression provided the following criteria are met:
- (a) the amount applied does not exceed the amount required to effectively suppress dust; and
 - (b) the application:
 - i. does not cause on site ponding or runoff;
 - ii. is directly applied to the area being dust suppressed
 - iii. does not harm vegetation surrounding the area being dust suppressed; and

viii.does not cause visible salting.

B9 Produced water may be used for construction purposes provided the use:

- (a) does not result in negative impacts on the composition and structure of soil or subsoils;
- (b) is not directly or indirectly released to waters;
- (c) is not directly or indirectly released to waters
- (d) does not harm vegetation surrounding the construction site.

B10 If there is any indication that any of the circumstances in condition (B8)(b)(i) to (iv) or (B9)(a) to (d) is occurring the use must cease immediately and the affected area must be remediated without delay.

SUPPLY OF COAL SEAM GAS WATER TO A THIRD PARTY

B11 Coal seam gas water may be transferred to a third party to be used for the following purposes subject to compliance with (B11) and (B13):

- (a) dust suppression if the coal seam gas water quality complies with the limits specified in Schedule B Waste Management, Table 2 - Water Contaminant Release Limits
- (b) construction and operational purposes if the coal seam gas water quality complies with the limits specified in Schedule B – Waste Management, Table 2 – Water Contaminant Release Limits
- (c) the following industrial purposes:
 - i. coal washing
 - ii. power stations; and
 - iii. water treatment facilities.

B12 Notwithstanding condition (B11) coal seam gas water may be transferred to Anglo American's Grosvenor Mine Infrastructure Area (MIA) dam at the location specified in Schedule B Waste Management, Table 1 Coal seam gas water release point for a use authorised by the environmental authorities EPML00987013 and EPML00738813.

Schedule B Waste Management, Table 1 Coal seam gas water release point

Release Point	Source Dam Latitude (decimal degree, GDA94)	Source Dam Longitude (decimal degree, GDA94)	CSG Water Source and Location	Receiving Dam Description	Receiving Dam Latitude (decimal degree, GDA94)	Receiving Dam Longitude (decimal degree, GDA94)	Quantity of Coal Seam Gas Water Transferred
RP#1	-21.9680	148.0187	Arrow Dam 10	Grosvenor Mine Infrastructure Area	-21.9677	148.0139	Must not exceed 365ML per annum

B13 Any coal seam gas water supplied to a third party for irrigation and/or livestock watering purposes in accordance with condition (B11)(c) must comply with the relevant trigger values contained in ANZECC and ARMCANZ Water Quality Guidelines 2000, or subsequent versions thereof.

B14 If the responsibility of coal seam gas water is given or transferred to a third party in accordance with condition (B11) the holder of environmental authority must ensure that:

- (a) the responsibility of the coal seam gas water is given or transferred in accordance with a written agreement (the third party agreement); and
- (b) the third party is made aware of the General Environmental Duty under section 319 of the *Environmental Protection Act 1994*.

Schedule B Waste Management, Table 2 - Water Contaminant Release Limits

Water Quality Characteristics	Unit	Limit	Limit Type
pH	pH units	6.0 to 9.0	Range
Sodium Adsorption Ratio	Ratio	8	80 th Percentile
		14	Maximum
Total Dissolved Solids	mg/L	2,000	Maximum
Total Petroleum Hydrocarbons	mg/L	10	Maximum

B15 The holder must, at the same time as providing the annual return, supply the quantity of coal seam gas water transferred to Anglo American in accordance with condition (B12) within the annual return period.

SEWAGE TREATMENT

B16 Treated sewage effluent or greywater can be released to land provided it:

- (a) meets or exceeds secondary treated class B standards for a treatment system with a daily peak design capacity of between 150EP and 1,500EP; or
- (b) meets or exceeds secondary treated class C standards for a treatment system with a daily peak design capacity of less than 150EP.

B17 The release of treated sewage effluent or greywater authorised in condition (B16) must:

- (a) be to a fenced and signed contaminant release area(s)
- (b) not result in pooling or run-off or aerosols or spray drift or vegetation die-off
- (c) be to a contaminant release area(s) that is kept vegetated with groundcover, that is:
 - I. not a declared restricted invasive plant or prohibited invasive plant species
 - II. kept in a viable state for transpiration and nutrient uptake; and
 - III. grazed or harvested and removed from the contaminant release area as needed.

B18 Notwithstanding condition (B16), treated sewage effluent that meets or exceeds secondary treated class A standards may be used for dust suppression or construction activities, provided the use meets the criteria in condition (B8) or (B9), as relevant to the use.

B19 Sewage pump stations must be fitted with a:

- (a) stand-by pump; and

- (b) high level alarm to warn of imminent pump station overflow that operates without mains power or with a back-up power source that starts automatically in the event of a power failure.

RESIDUAL DRILLING MATERIAL

- B20 If sumps are used to store residual drilling material or drilling fluids, they must only be used for the duration of drilling activities.
- B21 Residual drilling material can only be disposed of on-site:
- (a) by mix-bury-cover method if the residual drilling material meets the approved quality criteria; or
 - (b) if it is certified by a suitably qualified third party as being of acceptable quality for disposal to land by the proposed method and that environmental harm will not result from the proposed disposal.
- B22 Records must be kept to demonstrate compliance with condition (B20) and (B21).

ONSITE WASTE DISPOSAL — GENERAL WASTE

- B23 General waste may be disposed of onsite at a dedicated landfill facility provided that the general waste:
- (a) is not a liquid
 - (b) does not contain, or is not comingled with regulated waste
 - (c) does not contain an organic fraction of more than 5% of the general waste stream
 - (d) was generated from activities permitted under this environmental authority; and
 - (e) does not exceed 10,000 tonnes in any year.
- B24 The landfill used for the disposal of general waste must be:
- (a) on land owned by the holder of the relevant resource authority(ies)
 - (b) designed by a suitably qualified person and certified as being suitable for the containment of the waste
 - (c) designed and located so that the landfill is protected from any potential adverse consequences of regional or local flooding to the probable maximum flood level
 - (d) designed and operated to exclude stormwater runoff from entering the landfill; and
 - (e) capped upon closure with capping methodology certified by a suitably qualified person as being suitable for containing the waste.
- B25 Waste disposal activities must not result in any negative effect on public health particularly in relation to propagation of diseases and the breeding and harbourage of flies, mosquitoes, rats and other pest organisms.
- B26 Waste disposal must not result in litter escaping the boundary of the landfill facility.

SCHEDULE C — PROTECTING ACOUSTIC VALUES

C1 Notwithstanding condition (A19), emission of noise from the petroleum activity(ies) at levels less than those specified in Schedule C Protecting acoustic values, Table 1 — Noise nuisance limits at sensitive receptors are not considered to be environmental nuisance.

Schedule C Protecting acoustic values. Table 1 — Noise nuisance limits at sensitive receptors

Time Period	Metric	Short Term Noise Event	Medium Term Noise Event	Long Term Noise Event
Day 7:00am-6:00pm	LAeq,adj,15min	45dBA	43dBA	40dBA
Evening 6:00pm-10:00pm	LAeq,adj,15min	40dBA	38dBA	35dBA
Night 10:00pm-6:00am	LAeq,adj,15min	28dBA	28dBA	28dBA
	Max LpA, 15mins	55dBA	55dBA	55dBA
Early Morning 6:00am-7:00am	LAeq,adj,15min	40dBA	38dBA	35dBA
Drilling activities undertaken from 10:00 pm – 7:00 am	LAeq,adj,15min	28dBA (measured indoors)		
		33dBA (measured outdoors)		

1 NOTE: The noise limits in Table 1 have been set based on the following deemed background noise levels (LABS):

7:00am-6:00pm: 35dBA

6:00pm-10:00pm: 30dBA

10:00pm-6:00am: 25dBA

6:00am-7:00am: 30dBA

2 Drilling activities undertaken from 10:00 pm – 7:00 am must be temporary and mobile in nature, and must not contribute to long-term background noise creep. Drilling activities refers to general well rig activities such as drilling, workovers, and completions.

C2 If the noise subject to a valid complaint is tonal or impulsive, the adjustments detailed in Schedule C 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 LAeq, adj, 15min.

Schedule C 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	+ 2dBA
Tonal characteristic is clearly audible	+ 5dBA
Impulsive characteristic is detectable	+ 2dBA + 5dBA

C3	Notwithstanding condition (C1), emission of any low frequency noise must not exceed either (C3a) and (C3b), or (C3c) and (C3d) in the event of a valid complaint about low frequency noise being made to the administering authority: (a) 60dB(C) measured outside the sensitive receptor; and (b) the difference between the external A-weighted and C-weighted noise levels is no greater than 20dB; or (c) 50dB(Z) measured inside the sensitive receptor; and (d) the difference between the internal A-weighted and Z-weighted (Max $L_{pz, 15min}$) noise levels is no greater than 15dB.
C4	A Blast Management Plan must be developed for each blasting activity in accordance with Australian Standard 2187
C5	Blasting operations must be designed to not exceed an airblast overpressure level of 120dB (linear peak) at any time, when measured at or extrapolated to any sensitive place.
C6	Blasting operations must be designed to not exceed a ground-borne vibration peak particle velocity of 10mm/s at any time, when measured at or extrapolated to any sensitive place.

SCHEDULE D — PROTECTING AIR VALUES

VENTING AND FLARING

D1 Unless venting is authorised under the *Petroleum and Gas (Production and Safety) Act 2004* or the *Petroleum Act 1923*, waste gas must be flared in a manner that complies with all of (D1a) and (D1b) and (D1c), or with (D1d):

- (a) an automatic ignition system is used, and
- (b) a flame is visible at all times while the waste gas is being flared, and
- (c) there are no visible smoke emissions other than for a total period of no more than five minutes in any two hours, or
- (d) it uses an enclosed flare.

FUEL BURNING AND COMBUSTION FACILITIES — AUTHORISED POINT SOURCES

D2a A fuel burning or combustion facility must not be operated unless it is listed in Protecting air values, Table 1 — Authorised point sources.

D2b If a fuel burning or combustion facility is listed in Protecting air values, Table 1 — Authorised point sources, the fuel burning or combustion facility must be operated so that the releases to air do not exceed the limits specified in Schedule D Protecting Air Values, Table 1 — Authorised point sources at the specified release point reference.

Schedule D Protecting air values, Table 1 — Authorised point sources

Resource Authority	Facility	Release Point Reference	Equipment Description	Minimum Release Height (m)	NOx as Nitrogen		Nitrogen Dioxide	Carbon Monoxide	
					Minimum Efflux Velocity (m/sec)	Maximum concentration (mg/Nm ³)	Maximum Mass emission rate (g/sec)	Maximum concentration (mg/Nm ³)	Maximum Mass emission rate (g/sec)
PL191	Node3	A5*	compressor stack	Nil	Nil	Nil	Nil	Nil	Nil
PL191	Node3	A6*	compressor stack	Nil	Nil	Nil	Nil	Nil	Nil
PL191	Node3	A7*	compressor stack	Nil	Nil	Nil	Nil	Nil	Nil
PL191	MGPF	A10	compressor stack	8	25	500	0.8	1,150	3.0
PL191	MGPF	A11	compressor stack	8	25	500	0.8	1,150	3.0
PL191	MGPF	A12	compressor stack	8	25	500	0.8	1,150	3.0
PL191	MGPF	A13	compressor stack	8	25	500	0.8	1,150	3.0

* The NO_x and CO limits are applicable at all times except start-up, shut down and calibration of emission monitoring devices. The maximum start-up period allowed is 30 minutes

POINT SOURCE AIR MONITORING

- D3 Point source air monitoring for each fuel burning or combustion facility listed in Schedule D Protecting air values, Table 1 — Authorised point sources must:
- (a) be undertaken once:
 - i. in the first three months after each facility is first commissioned, and then
 - ii. every year thereafter
 - (b) be carried out when the facility the subject of the sampling is operating under maximum operating conditions for the annual period; and
 - (c) demonstrate compliance with the limits listed in Schedule D Protecting air values, Table 1 Authorised point sources at each release point reference.

SCHEDULE E — PROTECTING LAND VALUES

GENERAL

- E1 Contaminants must not be directly or indirectly released to land except for those releases authorised by conditions (B4), (B6), (B7), (B8), (B9), (B16), (B18), (B21) or (B23).

TOP SOIL MANAGEMENT

- E2 Top soil must be managed in a manner that preserves its biological and chemical properties.

LAND MANAGEMENT

- E3 Land that has been significantly disturbed 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

- E4 Acid sulfate soils must be treated and managed in accordance with the latest edition of the Queensland Acid Sulfate Soil Technical Manual.

CHEMICAL STORAGE

- E5 Chemicals and fuels stored, must be effectively contained and where relevant, meet Australian Standards, where such a standard is applicable

PIPELINE OPERATION AND MAINTENANCE

- E6 Pipeline trenches must be backfilled and topsoils reinstated within three months after pipe laying.

PIPELINE REINSTATEMENT AND REVEGETATION

- E7 Pipeline trenches must be backfilled and topsoils reinstated within three months after pipe laying.
- E8 Reinstatement and revegetation of the pipeline right of way must commence within six months after cessation of petroleum activities for the purpose of pipeline construction.
- E9 Backfilled, reinstated and revegetated pipeline trenches and right of ways must be:
- (a) a stable landform
 - (b) re-profiled to a level consistent with surrounding soils
 - (c) re-profiled to original contours and established drainage lines; and
 - (d) vegetated with groundcover which is not a declared restricted invasive plant species or prohibited invasive plant species, and which is established and growing.

SCHEDULE F — PROTECTING BIODIVERSITY VALUES**CONFIRMING BIODIVERSITY VALUES**

- F1 Prior to undertaking activities that result in significant disturbance to land in areas of native vegetation, confirmation of on-the-ground biodiversity values of the native vegetation communities at that location must be undertaken by a suitably qualified person.
- F2 A suitably qualified person must develop and certify a methodology so that condition (F1) can be complied with and which is appropriate to confirm on-the-ground biodiversity values.
- F3 Where mapped biodiversity values differ from those confirmed under conditions (F1) and (F2), petroleum activities may proceed in accordance with the conditions of the environmental authority based on the confirmed on-the-ground biodiversity value.

PLANNING FOR LAND DISTURBANCE

- F4 The location of the petroleum activity(ies) must be selected in accordance with the following site planning principles:
- (a) maximise the use of areas of pre-existing disturbance
 - (b) in order of preference, avoid, minimise or mitigate any impacts, including cumulative impacts, on areas of native vegetation or other areas of ecological value
 - (c) minimise disturbance to land that may result in land degradation
 - (d) in order of preference, avoid then minimise isolation, fragmentation, edge effects or dissection of tracts of native vegetation; and
 - (e) in order of preference, avoid then minimise clearing of native mature trees.

PLANNING FOR LAND DISTURBANCE - LINEAR INFRASTRUCTURE

Linear infrastructure construction corridors must:

- F5
- (a) maximise co-location
 - (b) be minimised in width to the greatest practicable extent; and
 - (c) for linear infrastructure that is an essential petroleum activity authorised in an environmentally sensitive area or its protection zone, be no greater than 40m in total width.

AUTHORISED DISTURBANCE TO ENVIRONMENTALLY SENSITIVE AREAS

- F6a Where petroleum activities are to be carried out in environmentally sensitive areas or their protection zones, the petroleum activities must be carried out in accordance with Protection of Biodiversity Values, Table 1 — Authorised petroleum activities in environmentally sensitive areas and their protection zones.

Schedule F Protection of Biodiversity Values, Table 1 — Authorised petroleum activities in environmentally sensitive areas and their protection zones

Environmentally sensitive area	Within the environmentally sensitive area	Primary protection zone of the environmentally sensitive area	Secondary protection zone of the environmentally sensitive area
Category A environmentally sensitive areas	No petroleum activities permitted.	Only low impact petroleum activities	Only essential petroleum activities permitted.
Category B environmentally sensitive areas that are other than 'endangered' regional ecosystems	Only low impact petroleum activities	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', or 'of concern'	Only low impact petroleum activities	Only essential petroleum activities permitted.	
Category C environmentally sensitive areas that are '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.	

F6b Despite condition F6a, essential petroleum activities may be carried out in the following areas with State significant biodiversity values, subject to environmental offset conditions F15 to F18:

- (a) Category B environmentally sensitive areas that are 'endangered' regional ecosystems
- (b) Category C environmentally sensitive areas that are 'essential habitat' or 'of concern' regional ecosystems (excluding grassland regional ecosystems); and

(c) Regional ecosystems listed in the Vegetation Management Act (VMA) as either endangered or of concern.

- F7 Despite condition (E7) and (E8), (F1) to (F6b) inclusive, (F15) to (F18) inclusive and (G9) to (G13) inclusive of this environmental authority, the following infrastructure (and associated necessary construction, operational and maintenance activities) listed in Schedule F Protecting Biodiversity Values, Table 2 is authorised within the specified locations as described in Schedule F Protecting Biodiversity Values, Table 2 - Approved infrastructure locations.

Schedule F Protecting Biodiversity Values, Table 2 - Approved infrastructure locations

Well	Associated infrastructure	Infrastructure Coordinates (GDA 94)	
		Latitude	Longitude
M141GMV	Track, gathering network, powerline, carriageway, skid (including well head drive), fence.	-21.899924	148.050537
		-21.899739	148.050561
		-21.899825	148.051330
		-21.900542	148.051238
		-21.900456	148.050469
		-21.900283	148.050492
		-21.900087	148.048466
		-21.899726	148.048496
M140GMA	Track, well head, fence.	-21.902190	148.041160
		-21.901825	148.041421
		-21.902226	148.042065
		-21.902509	148.041863
		-21.902594	148.041999
		-21.902631	148.041972
		-21.902546	148.041836
		-21.902827	148.041635
		-21.902551	148.041192
		-21.902622	148.040522
		-21.902259	148.040522
M140GMV	Track, gathering network, powerline, carriageway, skid (including well head drive), fence.	-21.906584	148.049003
		-21.906958	148.049666
		-21.907580	148.049271
		-21.907206	148.048608
		-21.907099	148.048676
		-21.907671	148.047512
		-21.907350	148.047333
		-21.906864	148.048323
		-21.906627	148.047900
		-21.906246	148.047972
M140GMB	Track, well head, fence.	-21.906771	148.048885
		-21.912316	148.039942
		-21.912598	148.040133
		-21.912511	148.040275
		-21.912549	148.040302
		-21.912636	148.040159
		-21.912926	148.040357

		-21.913315	148.039704
		-21.912705	148.039289
		-21.912667	148.039353
		-21.912421	148.039630
		-21.912468	148.039687

- F8 Despite condition (E7) and (E8), (F1) to (F6b) inclusive, (F15) to (F18) inclusive and (G9) to (G13) inclusive of this environmental authority, the groundwater monitoring bores (and associated necessary construction, operational and maintenance activities) listed in Schedule F Protecting Biodiversity Values, Table 3 - Approved Infrastructure Locations of Groundwater Monitoring Bores are authorised.

Schedule F Protecting Biodiversity Values, Table 3 - Approved Infrastructure Locations of Groundwater Monitoring Bores

Groundwater Monitoring Bores	Environmentally Sensitive Area (ESA)	Infrastructure Central	
		Latitude	Longitude
M231W	Within 200m Referrable Wetland buffer	-21.974383	148.034018
M236W	Within 200m Referrable Wetland buffer	-21.961478	148.038602
M237W	Within 200m Referrable Wetland buffer	-21.961355	148.037922
M238W	Within 200m Referrable Wetland buffer	-21.962811	148.033705
M239W	Within 200m Referrable Wetland buffer	-21.961986	148.033984
M240W	Within 200m Referrable Wetland buffer	-21.961861	148.033172
M241W	Within 200m Referrable Wetland buffer	-21.963475	148.041696
M242W	Within Referrable Wetland area	-21.962016	148.042027
M243W	Within Referrable Wetland area	-21.962507	148.042913
M245W	Within 200m Referrable Wetland buffer	-21.952931	148.026301
M246W	Within 200m Referrable Wetland buffer	-21.952281	148.025977
M247W	Within 200m Referrable Wetland buffer	-21.964706	148.047307

- F9 Despite conditions (E7) and (E8), (F1) to (F6b) inclusive, (F15) to (F18) inclusive and (G9) to (G13) inclusive the infrastructure (and associated activities necessary for construction, operational and maintenance purposes) specified in Schedule D Protecting Biodiversity Values, Table 4 Authorised Facilities Corridor is permitted in the locations specified in Schedule F Protecting Biodiversity Values, Table 4 - Authorised Facilities Corridor.

Schedule F Protecting Biodiversity Values, Table 4 - Authorised Facilities Corridor

Tenure	Description of Activities and Associated infrastructure	Environmentally Sensitive Area (ESA)	Infrastructure coordinates (GDA 94)			Area of Disturbance (ha)
			Vertex/Control	Latitude	Longitude	
PL191	Node 3 Facilities Corridor	Category B ESA associated buffer zone	1	-21.916894	148.07521	0.3434
			2	-21.916857	148.076108	
			3	-21.917003	148.076172	
			4	-21.917142	148.076219	
			5	-21.917150	148.076022	
			6	-21.917461	148.075908	

F10 Despite conditions (E7) and (E8), (F1) to (F6b) inclusive, (F15) to (F18) inclusive and (G9) to (G13) inclusive the infrastructure (and associated activities necessary for construction, operational and maintenance purposes) specified in Schedule D Protecting Biodiversity Values, Table 5 - Approved Node 3 Transport Pipeline is permitted in the locations specified in Schedule F Protecting Biodiversity Values, Table 5 - Approved Node 3 Transport Pipeline and at the widths specified in Schedule D, Table 5 - Approved Node 3 Transport Pipeline Right of Way Widths.

Schedule F Protecting Biodiversity Values, Table 5 - Approved Node 3 Transport Pipeline

Tenure	Description of Activities and Associated infrastructure	Centre Line Coordinates of Node 3 Infrastructure (GDA 94)			Area of Disturbance (ha)
		Kilometre Point (KP)	Latitude	Longitude	
			-21.913296	148.087532	
			-21.915834	148.086147	
			-21.917792	148.085184	
			-21.918897	148.084641	
		1	-21.919244	148.08419	
			-21.919892	148.083099	
			-21.920462	148.083026	
			-21.923089	148.083337	
			-21.926474	148.083730	
		2	-21.927562	148.084426	
			-21.929829	148.085876	
			-21.929964	148.085906	
			-21.930172	148.085907	
			-21.930308	148.085879	
			-21.930924	148.085613	
			-21.931060	148.085556	
			-21.931195	148.085538	
		3	-21.936156	148.085353	

PL191	Pipeline, Tracks and Power		-21.945047	148.085023	43.22
			-21.945146	148.085024	
		4	-21.945182	148.085024	
			-21.945255	148.085025	
			-21.945390	148.085064	
			-21.946201	148.085400	
			-21.946408	148.085421	
		5	-21.954151	148.085237	
			-21.960521	148.085073	
			-21.9606561	148.08574	
			-21.960792	148.085036	
			-21.960919	148.084969	
		6	-21.963003	148.084075	
			-21.964896	148.083256	
			-21.965041	148.083170	
			-21.965159	148.083035	
		7	-21.969558	148.077684	
			-21.972180	148.074479	
			-21.972253	148.074373	
			-21.972299	148.074267	
			-21.972327	148.074141	
			-21.972346	148.074025	
			-21.972421	148.072253	
			-21.972430	148.072156	
			-21.972458	148.072060	
			-21.972486	148.071982	
			-21.972541	148.071886	
			-21.972586	148.071828	
			-21.972614	148.071761	
			-21.972632	148.071674	
			-21.972624	148.071606	
			-21.972624	148.071577	
			-21.972407	148.070210	
			-21.972390	148.070103	
			-21.972363	148.070025	
			-21.972345	148.069957	
			-21.972211	148.069724	
			-21.972185	148.069636	
			-21.972167	148.069549	
			-21.972168	148.069472	
		8	-21.972160	148.069230	
			-21.972154	148.067409	

	-21.972164	148.067312
	-21.972192	148.067206
	-21.972238	148.067099
	-21.972292	148.067013
	-21.972356	148.066926
	-21.972829	148.066455
	-21.973441	148.065472
	-21.973495	148.065375
	-21.973532	148.065288
9	-21.976621	148.061224
	-21.978889	148.058239
	-21.979154	148.057892
10	-21.979161	148.052507
	-21.979164	148.052110
	-21.979174	148.049069
	-21.979174	148.046260
11	-21.979178	148.042822
	-21.979181	148.042337
	-21.979184	148.041785
	-21.979185	148.041611
	-21.979211	148.040430
	-21.979225	148.039597
	-21.979250	148.038561
	-21.979280	148.036692
	-21.979333	148.033922
12	-21.979347	148.033137
	-21.979363	148.032130
	-21.979376	148.031443
	-21.979456	148.027269
13	-21.979525	148.023453
	-21.979527	148.023221
	-21.979341	148.022551
	-21.979129	148.021794
	-21.977665	148.020554
	-21.977188	148.020153
	-21.976380	148.019460
	-21.976164	148.019284
	-21.976047	148.019186
	-21.975382	148.018620
	-21.976220	148.017522

	-21.976530	148.017117
	-21.976794	148.016770
	-21.976894	148.016635
	-21.977003	148.016510
14	-21.977076	148.016453
	-21.977312	148.016241
	-21.978429	148.015339
	-21.979881	148.014148
	-21.981080	148.013188
	-21.982750	148.011834
	-21.982805	148.011796
	-21.982814	148.011777
	-21.982823	148.011748
	-21.982823	148.011719
	-21.982814	148.011709
	-21.982805	148.011689
15	-21.981758	148.010200
	-21.981005	148.009139
	-21.979295	148.006706
	-21.979241	148.006618
	-21.979152	148.006482
	-21.979089	148.006375
	-21.978518	148.005170
	-21.978367	148.004868
	-21.978313	148.004752
	-21.978268	148.004684
	-21.978063	148.004343
15.76	-21.978262	148.004199

Schedule F Protecting Biodiversity Values, Table 6 - Approved Node 3 Transport Pipeline Right of Way Widths

KP Location (approximate)	Maximum width allowed (m)	segment length (m) approximate
0.0 - 0.8	25	800
0.8 - 1.49	18	685
1.49 - 7.75	25	6267
7.75 - 11.10	18	3352
11.10 - 11.92	25	811

- F11 Despite condition (E7) and (E8), (F1) to (F6b) inclusive, (F15) to (F18) inclusive and (G9) to (G13) inclusive the activity specified in Schedule F Protecting Biodiversity Values, Table 7 — Approved MGP General Laydown Area is permitted in the locations specified in Schedule F Protecting Biodiversity Values, Table 7 — Approved Node 3 Laydown Area.

Schedule F Protecting Biodiversity Values, Table 7 - Approved MGP General Laydown Area

Description	Associated infrastructure	Bounding coordinates of lay down area		Area of Disturbance (ha)
		Latitude	Longitude	
Node 3 Pipe Line	Lay Down Area	148.039722	-21.968429	3
		148.041213	-21.969793	
Construction Lay Down Area		148.03845	-21.970911	
		148.038154	-21.969921	
		148.038605	-21.969322	

- F12 Despite condition (F6b), the activity specified in Schedule F Protecting Biodiversity Values, Table 8 — Approved Control Points for Dam 11, is permitted at the locations specified in Schedule F Protecting Biodiversity Values, Table 8 — Approved Control Points for Dam 11.

Schedule F Protecting Biodiversity Values, Table 8 — Approved Control Points for Dam 11

Description	Associated Infrastructure	Environmentally sensitive Area (ESA)	Coordinates of Dam 11 (GDA 94)		Area of Disturbance (ha)
			Latitude	Longitude	
Control Point	Dam 11	Primary protection zone of a Category B ESA	-21.9433	148.0067	25.15
Control Point			-21.9436	148.0104	
Control Point			-21.9485	148.00066	
Control Point			-21.9484	148.0105	

- F13 Despite conditions (E7), (E8), (F1) to (F6b) inclusive, (F15) to (F18) inclusive and (G9) to (G13) inclusive, the infrastructure (and associated water activities necessary for construction, operation and maintenance purposes) specified in Schedule F Protecting Biodiversity Values, Table 9 – Approved Moranbah 90V Power Line is permitted in the locations specified in Schedule F Protecting Biodiversity Values, Table 9 – Approved Moranbah Power Line.

Schedule F Protecting Biodiversity Values, Table 9 – Approved Moranbah 90V Power Line

Tenure	Description of Activities and Associated infrastructure	Bounding coordinates of			Area of Disturbance (ha)
		Point ID	Latitude	Longitude	
PL191	Power Line	1	-21.934933	148.02016	0.381
		2	-21.935215	148.021088	
		3	-21.935019	148.021441	
		4	-21.934969	148.02168	
		5	-21.934835	148.021783	
		6	-21.934894	148.021991	
		7	-21.934941	148.021923	
		8	-21.934987	148.021823	
		9	-21.935048	148.021734	
		10	-21.935194	148.0221455	
		11	-21.935408	148.021252	
		12	-21.935426	148.021163	
		13	-21.93544	148.021081	
		14	-21.935487	148.020977	
		15	-21.935465	148.020949	
		16	-21.93533	148.020902	
		17	-21.935073	148.020128	

F14 A report must be prepared for each annual return period for all petroleum activities that involved clearing of any environmentally sensitive area or protection zone which includes:

- (a) Records able to demonstrate compliance with condition (F4), (F5), (F6a) and (F6b)
- (b) a description of the works
- (c) description of the area and its pre-disturbance values (which may include maps or photographs, but must include GPS coordinates for the works); and
- (d) based on the extent of environmentally sensitive areas and primary protection zones on the relevant resource authority(ies), the proportion of native vegetation cleared per environmentally sensitive area and primary protection zone, including regional ecosystem type, over the annual return period.

IMPACTS TO STATE SIGNIFICANT BIODIVERSITY VALUES

F15 Impacts to State significant biodiversity values are not authorised, except as permitted by condition (F6b) and subject to conditions (F16) to (F18), inclusive.

F16 Impacts to State significant biodiversity values can only occur if an offset is available that meets the relevant offset rules for that State significant biodiversity value.

F17 The offset required by condition (F16) must:

- (a) for land-based offsets:
 - i. meet the relevant offset rules for the State significant biodiversity value being impacted
 - ii. be legally secured within 12 months of the impact occurring; and

- iii. remain in force until the relevant offset objectives have been met.
 - (b) for offset payments:
 - i. meet the relevant offset rules for the State significant biodiversity value being impacted
 - ii. not be made for a critically limited regional ecosystem; and
 - iii. be made within four months of the impact occurring.
- F18 If conditions (F15) to (F17) inclusive, have been triggered during an annual return period, the annual return must include the following details:
- (a) the type of State significant biodiversity value that was impacted
 - (b) the date the impact to each State significant biodiversity value commenced
 - (c) a GIS shape-file that shows the location and spatial extent of the residual impact to the State significant biodiversity value
 - (d) the type of offset being provided for the State significant biodiversity value
 - (e) how each offset meets the relevant offset rules
 - (f) an offset area management plan that demonstrates how the relevant offset objectives will be met; and
 - (g) the date the offset was either legally-secured or the offset payment was made.

SCHEDULE G— PROTECTING WATER VALUES**AUTHORISED IMPACTS TO WATERS**

- G1 The release of contaminants to waters must only occur from the release points specified in Schedule G Protecting Water Values, Table 1 — Contaminant Release Point, Sources and Receiving Waters.

Schedule G Protecting Water Values, Table 1 — Contaminant Release Point, Sources and Receiving Waters

Release Point (RP)	Latitude or northing (GDA94)	Longitude or easting (GDA94)	Contaminant Source and Location	Monitoring Point	Receiving waters description
RP 1	-21° 57' 29"	148° 1' 35"	Treated CSG water from the reverse osmosis plant located on PL191	End of pipe for temperature and dissolved oxygen For all parameters in Schedule G, Table 2, at Dam 14 excluding temperature and dissolved oxygen; RO Facility Location -21° 58' 20" 148° 1' 0"	Isaac River — Dam 14 Discharge Point

- G2 The release of contaminants to waters must not exceed the release limits stated in Schedule G Protecting Water Values, Table 2 — Contaminant Release Limits for Release Point RP1 and Schedule G Protecting Water Values, Table 3 - Contaminant Release Limits for Release Point RP1 when measured at the monitoring points specified in Schedule G Protecting Water Values, Table 1 — Contaminant Release Point, Sources and Receiving Waters for each quality characteristic.

Schedule G Protecting Water Values, Table 2 — Contaminant Release Limits for Release Point RP1

Physiochemical Parameters	Release Limits	Limit Type	Monitoring frequency
Electrical conductivity (µS/cm)	500	Maximum	Daily during release events
pH (pH Unit)	6 - 9	Range	
Calcium (µg/L)	2,000	Minimum	
Ammonia(µg/L)	900	Maximum	
Boron (µg/L)	370	Maximum	Fortnightly during release
Temperature (°C)	For interpretation purposes only		Daily

- G3 If the monitoring required by condition (G4) indicates that any of the quality characteristic release limits specified in Schedule G Protecting Water Values, Table 3 — Contaminant Release Limits for Release Point RP1 have been exceeded at any time during any release of treated CSG water, the environmental authority holder must, within five business days of notifying the administering authority of the exceedance, unless a longer time is agreed to by the administering authority:
- (a) complete an investigation into the exceedance, which includes an analysis of the (potential and actual) causes for the exceedance;
 - (b) provide a written report to the administering authority on completion of the investigation that includes:
 - i. details of the investigation carried out;
 - ii. any actions taken to prevent impacts to waters that may be used for drinking water;
 - iii. the cause for the exceedance;
 - iv. all water quality monitoring results pertaining to the investigation;
 - v. any general observations;
 - vi. methodology(ies) and any relevant calculations used; and
 - vii. corrective actions to rectify the cause of the exceedance.
- G4 The release of contaminants to waters from the release point must be monitored at the locations specified in Schedule G Protecting Water Values, Table 1 — Contaminant Release Point, Sources and Receiving Waters for each quality characteristic and at the frequency specified in Schedule G Protecting Water Values, Table 3 — Contaminant Release Limits for Release Point RP1.

Schedule G Protecting Water Values, Table 3 — Contaminant Release Limits for Release Point RP1

Quality characteristic	Unit	Maximum Release limit	Monitoring frequency
Aluminium	mg/L	0.2	The first release day of each quarter
Antimony	mg/L	0.003	
Arsenic	mg/L	0.007	
Barium	mg/L	0.7	
Bisphenol A	mg/L	0.2	
Boron	mg/L	4	
Bromide	mg/L	7	
BTEX	mg/L	0.001	
Benzene		0.8	
Toluene		0.3	
Ethylbenzene		0.6	
Xylene (m & p)			
Cadmium	mg/L	0.002	

Chromium	mg/L	0.05
Copper	mg/L	2
Cyanide	mg/L	0.08
Fluoride	mg/L	1.5
Iodide	mg/L	0.5
Iron	mg/L	0.3
Lead	mg/L	0.01
Manganese	mg/L	0.5
Mercury	mg/L	0.001
Molybdenum	mg/L	0.05
Nickel	mg/L	0.02
Nonylphenol	mg/L	0.5
PAH (as B(a)P TEF) Species:	TEF:	
benz[a]anthracene	0.1	
benzo[b+j]fluoranthene	0.1	
benzo[k]fluoranthene	0.1	
benzo[a]pyrene	1.0	
chrysene	0.1	
dibenz[a,h]anthracene	1.0	
indeno[1,2,3-cd]pyrene	0.1	
	µg/L	0.01
Selenium	mg/L	0.01
Silver	mg/L	0.1
Strontium	mg/L	4
Total Petroleum Hydrocarbons (TPH)	mg/L	0.2
Vanadium	mg/L	0.05
Zinc	mg/L	3
Radium-226 Lead-210 Polonium-210 Radium-228	mSv/year	The dose for each parameter is summed to give the total dose which must be less

FLOW MONITORING

- G5 The holder must install, operate and maintain a stream flow gauging station as specified in Schedule G Protecting Water Values, Table 4 - Contaminant Release during Flow Events to determine and record

stream flows at the locations upstream of each Release Point as shown in Schedule G Protecting Water Values, Table 1 — Contaminant Release Point, Sources and Receiving Waters, for any receiving water into which a release occurs.

- G6 Notwithstanding any other condition of this environmental authority, the release of contaminants to waters must only take place during periods of natural flow events specified in Schedule G Protecting Water Values, Table 4 — Contaminant Release during Flow Events for the contaminant release point specified in Schedule G Protecting Water Values, Table 1 — Contaminant Release Points, Sources and Receiving Waters.

Schedule G Protecting Water Values, Table 4 —Contaminant Release during Flow Events

Receiving water description	Isaac River		
Gauging station number	1		
Gauging Station Location	Latitude or northing (GDA94)	-21° 57' 9"	
	Longitude or easting (GDA94)	148° 1' 21	
Receiving water trigger flow criteria for release (Natural Flow Event)	Low Flow When a natural Isaac River flow event exceeds 10ML/day and two days after the peak flow has passed	Medium flow When a natural flow event exceeds 5ML/day a maximum release of 5ML/day is permitted. The release must cease if the natural flow is less than 5ML/day	High Flow When a natural flow event exceeds 10ML/day a maximum release of 10ML/day is permitted. The release must cease if the natural flow is less than 10ML/day.
Maximum permitted release volume (ML/day)	A maximum release of: 1) 5.0ML/day for up to 7 days after the peak flow is permitted; 2) 2.0ML/day for up to 14 days after the peak flow is permitted; 3) 5ML/day for up to 21 days after the peak flow is permitted;	5	10

Maximum permitted release rate (litres per second)	116		
Flow recording frequency	Continuous (minimum daily)		
Water quality monitoring frequency	1) Prior to any release on the day of the release. 2) Daily during release. 3) Daily for three days after cessation of the release.	1) Prior to any release on the day of the release. 2) Daily during release.	1) Prior to any release on the day of the release. 2) Daily during release.

G7 The holder of this environmental authority must keep written records of all discharge events to the Isaac River. The records must include, but not be limited to:

- (a) The volume of water released through the release point(s)
- (b) The release rate
- (c) date and time of discharge
- (d) flow rate at Gauging Station 1 during the discharge event
- (e) water quality characteristics monitoring results; and
- (f) details of any observed impacts.

AUTHORISED IMPACTS TO WETLANDS

G8 The extraction of groundwater as part of the petroleum activity(ies) from underground aquifers must not directly or indirectly cause environmental harm to a wetland.

AUTHORISED ACTIVITIES IN WATERS

G9 Petroleum activities must not occur in or within 200m of a:

- (a) wetland of high ecological significance
- (b) Great Artesian Basin Spring; or
- (c) subterranean cave.

G10 Only construction or maintenance of linear infrastructure is permitted in or within any wetland of other environmental value or in a watercourse.

G11 The construction or maintenance of linear infrastructure in a wetland of other environmental value must not result in:

- (a) The clearing of riparian vegetation outside of the minimum area practicable to carry out the works

- (b) The ingress of saline water into freshwater aquifers; or
- (c) The draining or filling of the wetland beyond the minimum area practicable to carry out the works.

G12 After the construction or maintenance works for linear infrastructure in a wetland of other environmental value are completed, the linear infrastructure must not:

- (a) Drain or fill the wetland
- (b) Prohibit the flow of surface water in or out of the wetland
- (c) Lower or raise the water table and hydrostatic pressure outside the bounds of natural variability that existed before the activities commenced
- (d) Result in ongoing negative impacts to water quality
- (e) Result in bank instability; or
- (f) Result in fauna ceasing to use adjacent areas for habitat, feeding, roosting or nesting.

G13 The construction or maintenance of linear infrastructure activities in a watercourse must be conducted in the following preferential order:

- (a) Firstly, in times where there is no water present.
- (b) Secondly, in times of no flow.
- (c) Thirdly, in times of flow, providing a bankfull situation is not expected and that flow is maintained.

- G14 The construction or maintenance of linear infrastructure authorised under condition (G10) must comply with the water quality limits as specified in Schedule G Protecting Water Values, Table 5 — Release Limits for Construction or Maintenance of Linear Infrastructure.

**Schedule G Protecting Water Values, Table 5 — Release Limits for
Construction or Maintenance of Linear
Infrastructure**

Water Quality Parameters	Units	Water Quality Limits
Turbidity	Nephelometric Turbidity Units (NTU)	For a wetland of other environmental value, if background water turbidity is above 45NTU, no greater than 25% above background water turbidity measured within a 50m radius of the construction or maintenance activity. For a watercourse, if background water turbidity is above 45NTU, no greater than 25% above background water turbidity measured within 50m downstream of the construction or maintenance activity.
		For a wetland of other environmental value, if background water turbidity is equal to, or below 45NTU, a turbidity limit of no greater than 55NTU applies, measured within a 50m radius of the construction or maintenance activity. For a watercourse, if background water turbidity is equal to, or below 45NTU, a turbidity limit of no greater than 55NTU applies, measured within 50m downstream of the construction or maintenance activity.
Hydrocarbons	-	For a wetland of other environmental value, or watercourse, no visible sheen or slick

- G15 Monitoring must be undertaken at a frequency that is appropriate to demonstrate compliance with condition (G14).

REGISTER OF ACTIVITIES IN WETLANDS AND WATERCOURSES

- G16 A register must be kept of all linear infrastructure construction and maintenance activities in a wetland of other environmental value and watercourses, which must include:
- (a) the location of the activity (e.g. GPS coordinates (GDA94) and watercourse name)
 - (b) the estimated flow rate of surface water at the time of the activity
 - (c) duration of works; and
 - (d) the results of impact monitoring carried out under condition (G15).

ACTIVITIES IN RIVER IMPROVEMENT AREAS

- G17 Measures must be taken to minimise negative impacts to, or reversal of, any river improvement works carried out in River Improvement Areas by Queensland's River Improvement Trusts.

ACTIVITIES IN FLOODPLAINS

- G18 Petroleum activity(ies) on floodplains 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
 - (b) divert flood flows from natural drainage paths and alter flow distribution
 - (c) increase the local duration of floods; or
 - (d) increase the risk of detaining flood flows.

SEEPAGE MONITORING PROGRAM

- G19 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 by 30 January 2015
- G20 The seepage monitoring program required by condition (G19) 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) Installation of background monitoring bores monitoring sites 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
 - (e) 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 groundwater dependent ecosystems, or landholder's groundwater 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 must be undertaken as often as necessary, but not less frequently than biannually (every six months) for the first year of carrying out the petroleum activity(ies) and annually thereafter for the trigger parameters identified in condition (G20(b))
 - (g) Seepage trigger action response procedures for when trigger parameters and trigger levels identified in conditions (G20(b)) and (G20(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 annual return period.

SCHEDULE H — REHABILITATION

REHABILITATION PLANNING

H1 A Rehabilitation Plan must be developed by a suitably qualified person and must include the:

- (a) rehabilitation goals; and
- (b) procedures to be undertaken for rehabilitation that will:
 - i. achieve the requirements of conditions (H2) to (H8), inclusive; and
 - ii. provide for appropriate monitoring and maintenance.

TRANSITIONAL REHABILITATION

H2 Significantly disturbed areas that are no longer required for the on-going petroleum activities, must be rehabilitated within 12 months (unless an exceptional circumstance in the area to be rehabilitated (e.g. a flood event) prevents this timeframe being met) and be maintained to meet the following acceptance criteria:

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

FINAL REHABILITATION ACCEPTANCE CRITERIA

H3 All significantly disturbed areas caused by petroleum activities which are not being or intended to be utilised by the landholder or overlapping tenure holder, must be rehabilitated to meet the following final acceptance criteria measured either against the highest ecological value adjacent land use or the pre-disturbed land use:

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

FINAL REHABILITATION ACCEPTANCE CRITERIA IN ENVIRONMENTALLY SENSITIVE AREAS

- H4 Where significant disturbance to land has occurred in an environmentally sensitive area, the following final rehabilitation criteria as measured against the pre-disturbance biodiversity values assessment (required by conditions (F1) and (F2)) must be met:
- (a) greater than or equal to 70% of native ground cover species richness;
 - (b) greater than or equal to the total per cent ground cover;
 - (c) less than or equal to the per cent species richness of declared restricted invasive plant or prohibited invasive plant species;
 - (d) greater than or equal to 50% of organic litter cover;
 - (e) greater than or equal to 50% of total density of coarse woody material; and
 - (f) all predominant species in the ecologically dominant layer, that define the pre-disturbance regional ecosystem(s) are present.

CONTINUING CONDITIONS

- H5 Conditions (H2), (H3) and (H4) continue to apply after this environmental authority has ended or ceased to have effect.

REHABILITATION REPORTING FOR RELINQUISHMENT OF PART OF AN AUTHORITY TO PROSPECT AREA UNDER THE *PETROLEUM AND GAS (PRODUCTION AND SAFETY) ACT 2004*

- H6 Prior to relinquishing all or part of an authority to prospect area, a rehabilitation report must be prepared which specifically relates to the area to be relinquished and demonstrates condition (H2), (H3) and (H4) has been met.
- H7 The report required under condition (H6) must be submitted to the administering authority at least 40 business days prior to the relinquishment notice being lodged with the administering authority for the *Petroleum and Gas (Production and Safety) Act 2004*.

REMAINING DAMS

- H8 Where there is a regulated 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.

SCHEDULE I — WELL CONSTRUCTION, MAINTENANCE AND STIMULATION**WELL DRILLING, COMPLETION AND STIMULATION**

- I1 Hydraulic fracturing fluids must not contain benzene, ethylbenzene, toluene, xylene, naphthalene, phenanthrene or diesel.
- I2 A hydraulic fracturing chemical risk assessment is required to be carried out and submitted to the administering authority prior to hydraulic fracturing on PL 19 1, PL1149/PL196 and PL224.
- I3 The hydraulic fracturing chemical risk assessment required by condition (12) must be reviewed:
 - (a) when new or additional toxicological information becomes available for the chemicals used; and
 - (b) when new chemicals, chemical concentrations or mixtures are used in hydraulic fracturing fluids.
- I4 The updated risk assessment required by Condition (I3)(a) must be submitted to the administering authority upon request.
- I5 The updated risk assessment required by Condition (16)(b) must be submitted to the administering authority prior to the use of the new chemicals, chemical concentrations or mixtures for hydraulic fracturing on PL 191, PL1149/PL196 and PL224.
- I6 The holder of this environmental authority must monitor for the chemicals used in hydraulic fracturing fluids used on PL 191, PL1149/PL196 and PL224 and keep a record of the groundwater quality in any landholder's bore, subject to access being permitted by the landholder that is located within a 1km radius of a well subject to hydraulic fracturing.
- I7 The monitoring required under Condition (16) must be undertaken at least:
 - (a) within two months of hydraulic fracturing being undertaken
 - (b) weekly for the first month subsequent to hydraulic fracturing being undertaken
 - (c) monthly for the first six months subsequent to hydraulic fracturing being undertaken; and
 - (d) annually for the first five years subsequent to hydraulic fracturing.
- I8 The results of the monitoring required by Conditions (16) and (17) must be made available upon request to:
 - (a) the administering authority; and
 - (b) the landholder.
- I9 If the results of the monitoring required by Conditions (16) and (17) indicate that there has been a material impact caused by petroleum activities on groundwater quality, the holder of this environmental authority must notify:
 - (a) the administering authority within 24 hours; and
 - (b) the any affected landholders within 24 hours or as per written agreement between the holder of this environmental authority and the landholder.
- I10 The holder of this environmental authority must ensure that the hydraulic fracturing process is carried out in such a manner that hydraulic fractures are only contained within the target coal seam.

SCHEDULE J – DAMS**ASSESSMENT OF CONSEQUENCE CATEGORY**

- J1 The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933) at the following times:
- (a) prior to the design and construction of the structure, if it is not an existing structure
 - (b) if it is an existing structure, prior to the adoption of this schedule; or
 - (c) prior to any change in its purpose or the nature of its stored contents.
- J2 A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
- J3 Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933).

DESIGN AND CONSTRUCTION OF A REGULATED STRUCTURE

- J4 Conditions (J5) to (J9) inclusive do not apply to existing structures.
- NOTE: Construction of a dam includes modification of an existing dam—refers to the definitions.
- J5 All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933).
- NOTE: Certification of design and construction may be undertaken by different persons.
- J6 Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
- J7 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 *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933), and must be recorded in the Regulated Dams/Levees register.
- J8 Regulated structures must:
- (a) be designed and constructed in accordance with and conform to the requirements of 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.

J9 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.

OPERATION OF A REGULATED STRUCTURE

J10 Operation of a regulated structure, except for an existing structure, is prohibited unless:

- (a) the holder has submitted to the administering authority:
- I. one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition (J6)
 - II. a set of 'as constructed' drawings and specifications
 - III. certification of those 'as constructed drawings and specifications' in accordance with condition (J9)
 - IV. 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
 - V. the requirements of this authority relating to the construction of the regulated structure have been met
 - VI. the holder has entered the details required under this authority, into a Register of Regulated Dams; and
 - VII. there is a current operational plan for the regulated structures.

J11 For existing structures that are regulated structures:

- (a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and
- (b) There must be a current operational plan for the existing structures.

J12 Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.

MANDATORY REPORTING LEVEL

- J13 Conditions (J14) to (J17) inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain — overtopping'.
- J14 The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
- J15 The holder must, as soon as practical and within 48 hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
- J16 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.
- J17 The holder must record any changes to the MRL in the Register of Regulated Structures.

DESIGN STORAGE ALLOWANCE

- J18 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.
- J19 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 Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
- J20 The holder must, as soon as possible and within 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.
- J21 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

- J22 Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
- J23 At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.
- J24 The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).
- J25 The holder must:
- (a) Within 20 business days of receipt of the annual inspection report, provide to the administering authority:
 - I. The recommendations section of the annual inspection report; and
 - II. If applicable, any actions being taken in response to those recommendations.

- (b) If, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full 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

- J26 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.

REGISTER OF REGULATED DAMS

- J27 A Register of Regulated Dams must be established and maintained by the holder for each regulated dam.
- J28 The holder must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the administering authority.
- NOTE: Please note that for some model conditions, such as model conditions for dams associated with a resource activity - non mining activity, the notification requirements may be located in a separate part of the conditions of an environmental authority (e.g. under notification requirement conditions).
- J29 The holder must make a final entry of the required information in the Register of Regulated Dams once compliance with condition (J10) and (J11) has been achieved.
- J30 The holder must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.
- J31 All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
- J32 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 Dams, in the electronic format required by the administering authority.

TRANSITIONAL ARRANGEMENTS

- J33 All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the Manual within six months of amendment of the authority adopting this schedule.
- J34 All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Schedule J Table 1 (Transitional requirements for existing structures), depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
- J35 Schedule J Table 1 ceases to apply for a structure once any of the following events has occurred:
- (a) It has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual;
 - (b) It has been decommissioned; or
 - (c) It has been certified as no longer being assessed as a regulated structure.

J36 Certification of the transitional assessment required by J33 and J34 (as applicable) must be provided to the administering authority within six months of amendment of the authority adopting this schedule.

Schedule J — Table 1 (Transitional hydraulic performance requirements for existing structures)

Transition period required for existing structures to achieve the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams</i>			
Compliance with Criteria	High	Significant	Low
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years.
>70%-≤90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorized releases.	Within 10 years, unless otherwise agreed with The administering authority, based on no history of unauthorized releases.	No transitional conditions apply. Review consequence assessment every 7 years.
>50-≤70%	Within 5 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.
≤50%	Within 5 years or as per compliance requirements (e.g. TEP timing)	Within 5 years or as per compliance requirements (e.g. TEP timing)	Review consequence assessment every 5 years.

SCHEDULE K - DEFINITIONS	
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 3,000Ms/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; and e) does not contain biocides.
acid sulfate soil(s)	means a soil or soil horizon which contains sulphides or an acid soil horizon affected by oxidation of sulphides.
adjacent land use(s)	means the ecosystem function 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 affect.
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 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.
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); and g) for evidence of conformance with the current operational plan.																																												
Annual return period	Means the most current 12 month period between two anniversary dates.																																												
Approved quality criteria	For the purposes of residual drilling materials, means the residual drilling material meet the following quality standards. Part A In all classes: <table border="1"> <thead> <tr> <th>Parameter</th><th>Maximum concentration</th></tr> </thead> <tbody> <tr> <td>pH</td><td>6-10.5 (range)</td></tr> <tr> <td>Electrical Conductivity</td><td>20dS/m (20,000µS/cm)</td></tr> <tr> <td>Chloride</td><td>8,000mg/L</td></tr> </tbody> </table> *Chloride analysis is only required if an additive containing chloride was used in the drilling process. The limits in Part A must be measured in the clarified filtrate of oversaturated solids prior to mixing. Part B if any of the following metals are a component of the drilling fluids, then for that metal: <table border="1"> <thead> <tr> <th>Parameter</th><th>Maximum concentration</th></tr> </thead> <tbody> <tr> <td>Arsenic</td><td>20mg/kg</td></tr> <tr> <td>Selenium</td><td>5mg/kg</td></tr> <tr> <td>Boron</td><td>100mg/kg</td></tr> <tr> <td>Cadmium</td><td>3mg/kg</td></tr> <tr> <td>Chromium (total)</td><td>400mg/kg</td></tr> <tr> <td>Copper</td><td>100mg/kg</td></tr> <tr> <td>Lead</td><td>600mg/kg</td></tr> </tbody> </table> The limits in Part B and Part C refer to the post soil/by-product mix. Part C if a hydrocarbon sheen is visible, the following hydrocarbon fractions: <table border="1"> <thead> <tr> <th>TPH</th><th>Maximum concentrations</th></tr> </thead> <tbody> <tr> <td>C6-C10</td><td>170mg/kg</td></tr> <tr> <td>C10-C16</td><td>150mg/kg</td></tr> <tr> <td>C16-C34</td><td>1300mg/kg</td></tr> <tr> <td>C34-C40</td><td>5,600mg/kg</td></tr> <tr> <td>Total Polycyclic Aromatic Hydrocarbons</td><td>20mg/kg</td></tr> <tr> <td>Phenols (halogenated)</td><td>1mg/kg</td></tr> <tr> <td>Phenols (non-halogenated)</td><td>60mg/kg</td></tr> <tr> <td>Monocyclic aromatic hydrocarbons</td><td>7mg/kg</td></tr> <tr> <td>Benzene</td><td>1mg/kg</td></tr> </tbody> </table>	Parameter	Maximum concentration	pH	6-10.5 (range)	Electrical Conductivity	20dS/m (20,000µS/cm)	Chloride	8,000mg/L	Parameter	Maximum concentration	Arsenic	20mg/kg	Selenium	5mg/kg	Boron	100mg/kg	Cadmium	3mg/kg	Chromium (total)	400mg/kg	Copper	100mg/kg	Lead	600mg/kg	TPH	Maximum concentrations	C6-C10	170mg/kg	C10-C16	150mg/kg	C16-C34	1300mg/kg	C34-C40	5,600mg/kg	Total Polycyclic Aromatic Hydrocarbons	20mg/kg	Phenols (halogenated)	1mg/kg	Phenols (non-halogenated)	60mg/kg	Monocyclic aromatic hydrocarbons	7mg/kg	Benzene	1mg/kg
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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 authorized 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 water	Means underground water taken or interfered with, if the taking or interference happens during the course of, or results from, the carrying out of another authorized activity under a petroleum authority, such as a petroleum well, and includes water also known as produced formation water. The term includes all contaminants suspended or dissolved within the water.
associated works	in relation to a dam, means: a) operations of any kind and all things constructed, erected or installed for that dam; and b) any land used for those operations.
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_{A90T} being the A-weighted sound pressure level exceeded for 90 percent of the measurement time period T of not less than 15 minutes (or $L_{A90, adj, 15 mins}$), using Fast response.
bankfull	means the channel flow rate that exists when the water is at the elevation of the channel bank above which water begins to spill out onto the floodplain. The term describes the condition of the channel relative to its banks (e.g. overbank, in-bank, bankfull, low banks, high bank).
bed(a)	of any waters, has the meaning in Schedule 12 of the Environmental Protection Regulation 2008 and— a) includes an area covered, permanently or intermittently, by tidal or non-tidal waters; but b) does not include land adjoining or adjacent to the bed that is from time to time covered by floodwater.
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. work program, development plan and/or 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. work program, development plan and/or 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, areas of State significant biodiversity value 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 <i>Nature Conservation Act 1992</i> • koala habitat areas as defined under the Nature Conservation (Koala) Conservation Plan 2006 • state forests or timber reserves as defined under the <i>Forestry Act 1959</i> • resource reserves under the <i>Nature Conservation Act 1992</i> • an area validated as 'essential habitat' or 'essential regrowth habitat' from ground-truthing surveys in accordance with the <i>Vegetation Management Act 1999</i> for a species of wildlife listed as endangered or vulnerable under the <i>Nature Conservation Act 1992</i>; and • 'of concern regional ecosystems' that are remnant vegetation and identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions.
certification	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)).
certifying, certify or certified	have a corresponding meaning as 'certification'.
clearing	has the meaning in the dictionary of the <i>Vegetation Management Act 2000</i> and for vegetation— - means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining; but - 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,
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.

construction purposes	in relation to the use of coal seam gas water means the construction, use, modification, maintenance, replacement, operation and decommissioning of industrial sites.
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 <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933).
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.
coal seam gas water	means groundwater that is necessarily or unavoidably brought to the surface of the earth, or moved underground in connection with exploring for, or producing coal seam gas. CSG water is a waste as defined under section 13 of the <i>Environmental Protection Act 1994</i> .
daily peak design capacity	for sewage treatment works, has the meaning in Schedule 2, section 63(4) of the Environmental Protection Regulation 2008 as the higher equivalent person (EP) for the works calculated using each of the formulae found in the definition for EP.
dam	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.
dam crest volume	means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).
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 <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933), published by the administering authority, as amended from time to time, that must be provided in a dam to an annual exceedance probability specified in that Manual.
development wells	means a petroleum well which produces or stores petroleum. For clarity, a development well does not include an appraisal well.
document	has the meaning in the <i>Acts Interpretation Act 1954</i> and means: - any paper or other material on which there is writing - any paper or other material on which there are marks - 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).
ecologically dominant layer	has the meaning in the <i>Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland</i> (Version 3.2 August 2012) and means the layer making the greatest contribution to the overall biomass of the site and the vegetation community (NLWRA 2001). This is also referred to as the ecologically dominant stratum or the predominant canopy in woody ecosystems.
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.

emergency action plan	means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to downstream communities and the implementation of protection measures. The plan must require dam owners to annually update contact.
enclosed flare	means a device where the residual gas is burned in a cylindrical or rectilinear enclosure that includes a burning system and a damper where air for the combustion reaction is admitted.
environmental harm	has the meaning in section 14 of the <i>Environmental Protection Act 1994</i> 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 <i>Environmental Protection Act 1994</i> and means unreasonable interference or likely interference with an environmental value caused by— (a) aerosols, fumes, light, noise, odour, particles or smoke (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)
equivalent person or EP	has the meaning under section 3 of the Planning Guidelines For Water Supply and Sewerage, 2005, published by the Queensland Government. It is calculated in accordance with Schedule 2, Section 63(4) of the Environmental Protection Regulation 2008 where: • $EP = V/200$ where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day; or • $EP = M/2.5$ where M is the mass, in grams, of phosphorus in the influent that the works are designed to treat as the inlet load in a day.
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 slope considerations (>2% slope) for cut and fill earthworks and drainage: ○ for single well sites, not exceeding 1.5 hectares disturbance ○ for multi-well sites, not exceeding 2.5 hectares of disturbance

	• well sites with monitoring equipment (including monitoring bores) and tanks (minimum 1ML) 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 • communications towers • gathering/flow pipelines from a well head to, or between, any one or more of the following: ○ initial compression facility ○ water storage facility ○ the initial compression facility and/or to, or between, water storage facilities • 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) • on-site disposal of residual drilling material.
existing structure	means a structure that was in existence or whose design plan has substantially commenced, prior to the adoption of this schedule of conditions under the authority (date TBC).
exploration well	means a petroleum well that is drilled to: • explore for the presence of petroleum or natural underground reservoirs suitable for storing petroleum; or • obtain stratigraphic information for the purpose of exploring for petroleum. For clarity, an exploration well does not include an appraisal or development well.
flare pit	has the meaning in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933), and means containment area where any hydrocarbon that is discovered in an over-pressured reservoir during a drilling operation is diverted to, and combusted, The flare pit is only used during the drilling and work over process on a petroleum well.
flare precipitant	means waste fluids which result from the operation of a flare.

floodplains	has the meaning in the <i>Water Act 2000</i> 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 • 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.
fuel burning or combustion facility	means a permanent <i>fuel burning or combustion equipment which in isolation, or combined in operation, or which are interconnected, is, or are capable of burning more than 500 kg of fuel in an hour.</i>
GDA	means Geocentric Datum of Australia.
Great Artesian Basin (GAB) spring	means a spring identified as a GAB spring in the Queensland Government WetlandInfo dataset. A GAB spring can include 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.
green waste	means waste that is grass cuttings, trees, bushes, shrubs, material lopped from trees, untreated timber or other waste that is similar in nature but does not include declared restricted invasive plant or prohibited invasive plant species.
greywater	means wastewater generated from domestic activities such as laundry, dishwashing, and bathing. Greywater does not include sewage.
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.
impacts to state significant biodiversity values	means to have a negative effect on a state significant biodiversity value as identified by the Queensland Biodiversity Offset Policy (Department of Environment and Heritage Protection, 2014). Examples may include, but are not necessarily limited to: • clearing, removal or fragmentation of vegetation • interference or disturbance of fauna habitat
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.
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.

L _{Aeq} , 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.
land degradation	has the meaning in the <i>Vegetation Management Act 1999</i> and means the following: • soil erosion • rising water tables • the expression of salinity • mass movement by gravity of soil or rock • stream bank instability; and • a process that results in declining water quality.
land-based offset	means direct offsets, indirect offsets, or offset transfers.
landholder's active groundwater bore	means bores that are able to continue to provide a reasonable yield of water in terms of quantity for the bores authorised purpose or use. This term does not include monitoring bores owned by the administering authority of the <i>Water Act 2000</i> .
legally secured	in relation to land-based offsets means any of the following legally binding mechanisms: • gazettal as a protected area (e.g., a nature refuge) under the <i>Nature Conservation Act 1992</i> • declaration of an area of high nature conservation values under the <i>Vegetation Management Act 1999</i> • use of a covenant under the <i>Land Title Act 1994</i> or <i>Land Act 1994</i>; and • other mechanism administered and approved by the State.
levee	means a dyke or bund that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or flowable substances at any other times.
linear infrastructure	means powerlines, pipelines, flowlines, roads and access tracks.
liquid	means a substance which is flowing and offers no permanent resistance to changes of shape.
long term noise event	Means a noise exposure, when perceived at a sensitive receptor, persists for a period of greater than five days, even when there are respite periods when the noise is inaudible within those five 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.

manual	means the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (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 L _{Pa} , 15 min	means the absolute maximum instantaneous A-weighted sound pressure level, measured over 15 minutes.
max L _{pz} , 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 days and does not re-occur for a period of at least four 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 difference 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.
mix-bury-cover method	means the stabilisation of residual drilling solids in the bottom of a sump by mixing with subsoil and which occurs in accordance with the following methodology: - the base of the subsoil and residual solid mixture must be separated from the groundwater table by at least one metre of a continuous layer of impermeable subsoil material (kw=10-8m/s) or subsoil with a clay content of >20% - the residual solids is mixed with subsoil in the sump and cover - the subsoil and residual solids is mixed at least three parts subsoil to one part waste (v/v) - a minimum of one metre of clean subsoil must be placed over the subsoil and residual solids mixture; and - topsoil is replaced.
modification or modifying	(see definition of 'construction').
month	has the meaning in the <i>Acts Interpretation Act 1954</i> and means a calendar month and is a period starting at the beginning of any day of one 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.
operational plan	includes a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance); b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.
pipeline waste water	means hydrostatic testing water, flush water or water from low point drains.
pre-disturbed land use	means the function or use of the land as documented prior to significant disturbance occurring at that location.

predominant species	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 species that contributes most to the overall above-ground biomass of a particular stratum.
prescribed contaminants	has the meaning in section 440ZD of the <i>Environmental Protection Act 1994</i> and means: a) earth; or b) a contaminant prescribed under section 440ZF.
primary protection zone	means an area within 200m from the boundary of any Category A, B or C ESA.
produced water	has the meaning in Section 15A of the <i>Petroleum and Gas (Production and Safety) Act 2004</i> and means CSG water or associated water for a petroleum tenure.
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.
quarter	means the following periods of a calendar year: • 1 January to 31 March inclusive • 1 April to 30 June inclusive • 1 July to 30 September inclusive; and • 1 October to 31 December inclusive.
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 2012) is maintained by Queensland Herbarium and contains the current descriptions of regional ecosystems.
Register of Regulated Dams	includes: a) Date of entry in the register b) Name of the dam, 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 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 (m) and surface area (ha) 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); and 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; and 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 (ESR/2016/1933), published by the administering authority, as amended from time to time.
regulated structure	Includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.
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	for pipelines, 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 Australian Pipeline Industry Association (APIA) Code of Environmental Practice: Onshore Pipelines (2013).
relevant offset objectives	means the relevant criteria listed under the heading 'When an offset ceases to have effect' in Criteria A2 — Legally securing biodiversity offsets of the Queensland Biodiversity Offset Policy (Department of Environment and Heritage Protection, 2014).
relevant offset rules	means the relevant criteria included in the Queensland Biodiversity Offset Policy (Department of Environment and Heritage Protection, 2014) including but not necessarily limited to: • for all offsets, the relevant criteria of Criteria B1 — Offset Rules; and • for land-based offsets, the relevant criteria of Criteria B1 — Offset Rules as well as Criteria A1 — Obtaining Ecological Equivalence.
residual drilling material	means waste drilling materials including muds and cuttings or cement returns from well holes and which have been left behind after the drilling fluids are pumped out.
restoration	means the replacement of structural habitat complexity, ecosystem processes, services and function from a disturbed or degraded site to that of a predetermined or analogue site. For the purposes of pipelines, restoration applies to final rehabilitation after pipeline decommissioning.
restricted stimulation fluids	has the meaning in section 206 of the <i>Environmental Protection Act 1994</i> and means fluids used for the purpose of stimulation, including fracturing, that contain the following chemicals in more than the maximum amount prescribed under a regulation— a) petroleum hydrocarbons containing benzene, ethylbenzene, toluene or xylene; and

	b) chemicals that produce, or are likely to produce, benzene, ethylbenzene, toluene or xylene as the chemical breaks down in the environment.
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.
secondary treated class A standards	means treated sewage effluent or greywater which meets the following standards: • total phosphorous as P, maximum 20mg/L • total nitrogen as N, maximum 30mg/L • 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0-8.5; and • e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 100cfu per 100mL, maximum 1,000cfu per 100mL.
secondary treated class B standards	means treated sewage effluent or greywater which meets the following standards: • total phosphorous as P, maximum 20mg/L • total nitrogen as N, maximum 30mg/L • 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0-8.5; and • e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 1,000cfu per 100mL, maximum 10,000cfu per 100mL
secondary treated class C standards	means treated sewage effluent or greywater which meets the following standards: • total phosphorous as P, maximum 20mg/L • total nitrogen as N, maximum 30mg/L • 5-day biochemical oxygen demand (inhibited) (e.g. Release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0 to 8.5; and • e-Coli, 80th percentile based on at least five samples with not less than 30 minutes between samples, 10,000cfu per 100mL, maximum 100,000cfu per 100mL.
sensitive place	means: • a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel) • a library, childcare centre, kindergarten, school, university or other educational institution • a medical centre, surgery or hospital • a protected area • a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment • a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads; and

	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.
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— - it is contaminated land; or - it has been disturbed and human intervention is needed to rehabilitate it— - to a condition required under the relevant environmental authority; or - 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.
spillway	means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.
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.
state significant biodiversity values	means those regional ecosystems, essential habitat, wetlands, watercourses, legally secured offset areas and connectivity areas provided in Appendix 1 of the Queensland Biodiversity Offsets Policy (Department of Environment and Heritage Protection, 2014).
statement of compliance	for a condition in an environmental authority has the meaning in section 208 of the <i>Environmental Protection Act 1994</i> and is a condition that requires the holder to give the administering authority a statement of compliance about a document or work relating to a relevant activity. The condition must also state— - the criteria (the compliance criteria) the document or work must comply with - that the statement of compliance must state whether the document or work complies with the compliance criteria - the information (the supporting information) that must be provided to the administering authority to demonstrate compliance with the compliance criteria; and - when the statement of compliance and supporting information must be given to the administering authority.
stimulation	means a technique used to increase the permeability of natural underground reservoir that is undertaken above the formation pressure and involves the addition of chemicals. It includes hydraulic fracturing/hydrofracturing, fracture acidizing and the use of proppant treatments. Explanatory note: This definition is restricted from that in the <i>Petroleum and Gas (Production and Safety) Act 2004</i> in order to only capture the types of stimulation activities that pose a risk to environmental values of water quality in aquifers.
stimulation fluid	means the fluid injected underground to increase permeability. For clarity, the term stimulation fluid only applies to fluid injected down well post-perforation.
structure	means a dam or levee.

subterranean cave GDE	Means a subterranean GDE (cave) identified as a subterranean cave in the Subterranean GDE (caves) dataset <i>GDE ST Areas Caves Qld v01</i> available from the Queensland Government Information System, or the most current version, as amended from time to time. Note: the Subterranean GDE (caves) dataset can be displayed through the Queensland Government WetlandInfo mapping program.
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 <i>Professional Engineers Act 2002</i> , 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; and • 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: i. a bachelor's degree in science or engineering; and ii. 3 years' experience in undertaking soil contamination assessments; and (b) is a member of at least one organisation prescribed in Schedule 8 of the Environmental Protection Regulation 2008; and (c) not be an employee of, nor have a financial interest or any involvement which would lead to a conflict of interest with the holder(s) of the environmental authority.
sump	means a pit in which waste residual drilling material or drilling fluids are stored only for the duration of drilling activities.
system design plan	means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.
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.
total density of coarse woody material	means the total length of logs on the ground greater than or equal to 10cm diameter per hectare and number of logs on the ground greater than or equal to 10 cm diameter per hectare.
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	has the meaning provided in section 9 of the <i>Waste Reduction and Recycling Act 2011</i> and is the following precepts, listed in the preferred order in which waste and resource management options should be considered—

management hierarchy	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; and 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 <i>Waste Reduction and Recycling Act 2011</i> and means a) the polluter pays principle b) the user pays principle c) the proximity principle; and d) the product stewardship principle.
waste fluids	has the meaning in section 13 of the <i>Environmental Protection Act 1994</i> 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.
watercourse	has the meaning in Schedule 4 of the <i>Environmental Protection Act 1994</i> 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. 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 runoff, and underground water.
well integrity	the ability of a well to contain the substances flowing through it.
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 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 ○ 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 value	means a wetland that is shown as a wetland of 'high ecological significance' or wetland of 'high ecological value' on the Map of Referable Wetlands.
wetland of other environmental value	means a wetland that meets the definition of a wetland and that is shown as a wetland of 'general environmental significance' or wetland of 'other environmental value' on the Map of referable wetlands.

END OF ENVIRONMENTAL AUTHORITY