

Permit

Environmental Protection Act 1994

Environmental authority P-EA-100511614

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

Environmental authority number: P-EA-100511614

Environmental authority takes effect on the date that your related tenure is granted. This is the take effect date.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the take effect date. The payment of the annual fee will be due each year on this day.

Environmental authority holder

Name	Registered address
Senex Assets Pty Ltd	Level 30, 180 Ann Street, BRISBANE QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity	Locations
Non-Scheduled Petroleum Activity – Petroleum Lease	'Project Tetris' PL 1127

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 land give written notice to the administering authority if they become aware of the following:

- the presence of, or happening of an event involving, a hazardous contaminant on the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- if the land is contaminated land – a change in the condition of the land that is causing, or is reasonably likely to cause, serious or material environmental harm (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 land (notice must be given within 20 business days).

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:

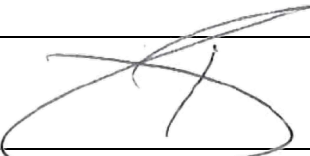
- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority – on the nominated day; or
- b) if the authority states a day or an event for it to take effect – on the stated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

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

20 May 2024

Date

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

Enquiries:
Energy and Extractive Resources
GPO Box 2454, Brisbane QLD 4001
Phone: (07) 3330 5715
Email: EnergyandExtractive@des.qld.gov.au

Obligations under the *Environmental Protection Act 1994*

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

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

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).

Conditions of environmental authority

Agency interest: General																					
Condition Number	Condition																				
A1	This environmental authority authorises the carrying out of the following resource activities: a) the petroleum activities and specified relevant activities listed in <i>Table – Authorised Petroleum Activities</i> and specified relevant activities to the extent they are carried out in accordance with the activity's corresponding scale or intensity or both (where applicable); b) petroleum activities, including but not limited to: i. linear infrastructure; ii. borrow pits / extracting, other than by dredging; iii. laydown areas; and c) the specified relevant activities prescribed by this environmental authority at the locations specified on the cover pages of this environmental authority; and d) incidental activities that are not otherwise specified relevant activities.																				
A2	The authorised resource activities are authorised subject to <i>Table – Authorised Petroleum Activities</i>. <i>Table – Authorised Petroleum Activities</i> <table><tr><th rowspan="2">Authorised Petroleum Activity</th><th colspan="2">Scale</th><th rowspan="2">Intensity</th></tr><tr><th>Maximum Size</th><th>Location</th></tr><tr><td colspan="4">Petroleum activities</td></tr><tr><td>Production Wells</td><td>26</td><td>PL1127</td><td>26 ha</td></tr><tr><td>Existing appraisal wells</td><td>5</td><td>PL1127</td><td>5 ha</td></tr></table> Associated requirements 1. the existing appraisal wells are depicted in <i>Appendix 1: Existing Infrastructure</i>.			Authorised Petroleum Activity	Scale		Intensity	Maximum Size	Location	Petroleum activities				Production Wells	26	PL1127	26 ha	Existing appraisal wells	5	PL1127	5 ha
Authorised Petroleum Activity	Scale		Intensity																		
	Maximum Size	Location																			
Petroleum activities																					
Production Wells	26	PL1127	26 ha																		
Existing appraisal wells	5	PL1127	5 ha																		
A3	This environmental authority does not authorise environmental harm unless a condition contained in this environmental authority explicitly authorises that harm. Where there is no condition, the lack of a condition shall not be construed as authorising harm.																				
A4	The following types of petroleum activities are not authorised: a) processing or storing petroleum or petroleum by-products that are not associated with well operations; b) extracting earthen materials (other than drilling waste rock and construction of borrow pits); c) drilling wells with fluids that are oil-based or synthetic oil-based; d) carrying out stimulation activities e) construction or installation of regulated structures.																				
Monitoring standards																					
A5	All monitoring must be undertaken by a suitably qualified person.																				
A6	If requested by the administering authority in relation to investigating a complaint, monitoring must be commenced within 10 business days.																				
A7	All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests.																				
A8	Notwithstanding condition A7, 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.																				
A9	Monitoring and sampling must be carried out in accordance with the requirements of the																				

	following documents (as relevant to the sampling being undertaken), as amended from time to time: a) for waters and aquatic environments, the Queensland Government's Monitoring and Sampling Manual 2018 and the Australian and New Zealand guidelines for fresh and marine water quality, published in 2018 – <i>Environmental Protection (Water and Wetland Biodiversity) Policy 2019</i>; b) for groundwater, <i>Groundwater Sampling and Analysis – A Field Guide</i> (2009:27 GeoCat #6890.1); c) for noise, the Environmental Protection Regulation 2019; d) for air, the <i>Queensland Air Quality Sampling Manual</i> and/or Australian Standard 4323.1:1995 <i>Stationary source emissions method 1: Selection of sampling positions</i>, as appropriate for the relevant measurement; e) for soil, the <i>Guidelines for Surveying Soil and Land Resources, 2nd edition</i> (McKenzie et al. 2008), and/or the <i>Australian Soil and Land Survey Handbook, 3rd edition</i> (National Committee on Soil and Terrain, 2009); f) for dust, Australian Standard AS3580.
Notification	
A10	In addition to the requirements under Chapter 7, Part 1, Division 2 of the <i>Environmental Protection Act 1994</i>, the administering authority must be notified 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) actual or suspected loss of well integrity; c) unauthorised releases of any volume of prescribed contaminants to waters; d) unauthorised releases of volumes of contaminants, in any mixture, to land greater than: i. 200 L of hydrocarbons; and ii. 5,000 L of untreated coal seam gas water. e) monitoring results where two out of any five consecutive samples do not comply with the relevant limits in the environmental authority.
Contingency procedures for emergency environmental incidents	
A11	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	
A12	All plant and equipment must be maintained and operated in their proper and effective condition.
A13	The following infrastructure must be signed with a unique reference name or number in such a

	way that it is clearly observable: a) exploration wells, appraisal wells and development wells; b) any chemical storage facility.
A14	Measures to prevent fauna being harmed from entrapment must be implemented during the construction and operation of well infrastructure, dams and pipelines trenches.
Erosion and sediment control	
A15	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	
A16	Petroleum activities must not cause environmental nuisance at a sensitive place, other than where an alternative arrangement is in place.
Documentation	
A17	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.
A18	All plans, procedures, programs, reports and methodologies required under this environmental authority must be written and implemented.
A19	All documents required to be developed under this environmental authority must be kept for five (5) years.
A20	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.
A21	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.
A22	The annual return must include an Update Report detailing activities during the annual return period, demonstrating: a) significant disturbance during the period; b) rehabilitation undertaken; c) a list of all valid complaints relating to environmental issues.
Agency interest: Waste	
Condition Number	Condition
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 to be disposed of or used on-site under this environmental authority.
B3	Waste fluids, other than flare precipitant stored in flare pits, 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 <i>Forestry Act 1959</i> and a permit has been obtained under the <i>Fire and Rescue Service Act 1990</i> .
Pipeline wastewater	
B6	Pipeline wastewater must not be directly or indirectly released to waters.
B7	Pipeline wastewater, 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.
B8	Despite condition B7, where the acceptable standards for release to land cannot be met, release of pipeline wastewater must not occur until: a) a suitably qualified person has prepared a written Receiving Environment Report; b) does not result in visible scouring or erosion; c) does not cause pooling or ponding; d) does not cause vegetation die off; e) does not cause visible salting.
Authorised uses of produced water for petroleum activities	
B9	Produced water may be re-used in drilling, well hole and construction activities.
B10	The holder of this environmental authority may re-use produced water 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) can be demonstrated to meet the following standards: i. pH between 6–9; ii. electrical conductivity (EC) not exceeding 3000µS/cm; iii. sodium adsorption ratio (SAR) not exceeding 8; iv. bicarbonate ion concentration not exceeding 100mg/L. c) 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 iv. does not cause visible salting.
B11	The holder of this environmental authority may re-use produced water for irrigation in accordance with the <i>Waste Reduction and Recycling Act 2011</i> .
Residual drilling material	
B12	If sumps are used to store residual drilling material or drilling fluids, they must only be used for the duration of drilling activities.
B13	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.																																		
Agency interest: Noise																																			
Condition Number	Condition																																		
C1	Notwithstanding condition A16 emission of noise from the petroleum activity(ies) at levels less than those specified in <i>Table – Noise nuisance limits</i> are not considered to be environmental nuisance. <i>Table – Noise nuisance limits</i> <table><tr><th>Time period</th><th>Metric</th><th>Short term noise event</th><th>Medium term noise event</th><th>Long term noise event¹</th></tr><tr><td>7:00am – 6:00pm</td><td>L_{Aeq,adj,15min}</td><td>45 dBA</td><td>43 dBA</td><td>40 dBA</td></tr><tr><td>6:00pm – 10:00pm</td><td>L_{Aeq,adj,15 min}</td><td>40 dBA</td><td>38 dBA</td><td>35 dBA</td></tr><tr><td rowspan="2">10:00pm – 6:00am</td><td>L_{Aeq,adj,15min}</td><td>28 dBA</td><td>28 dBA</td><td>28 dBA</td></tr><tr><td>Max L_{pA,15min}</td><td>55 dBA</td><td>55 dBA</td><td>55 dBA</td></tr><tr><td>6:00am – 7:00am</td><td>L_{Aeq,adj,15min}</td><td>40 dBA</td><td>38 dBA</td><td>35 dBA</td></tr><tr><td>Drilling activities² occurring from 10:00pm – 6:00am</td><td>L_{Aeq,adj,1hr}</td><td colspan="3">30 dBA³ (measures indoors at any sensitive receptor, 35 dBA outdoors)</td></tr></table> ¹ The noise limits in <i>Table – Noise nuisance limits</i> have been set based on the following deemed background noise levels (L_{ABG}): 7:00am – 6:00pm: 35 dBA 6:00pm – 10:00pm: 30 dBA 10:00pm – 6:00am: 25 dBA 6:00am – 7:00am: 30 dBA. ² Drilling activities undertaken from 10:00pm – 6:00am must be temporary and mobile in nature and must not contribute to long-term background noise creep. ³ Measured indoors at any sensitive receptor, or 35 dBA externally allowing for a conservative 5 dB attenuation of the external noise level by means of façade reduction.	Time period	Metric	Short term noise event	Medium term noise event	Long term noise event ¹	7:00am – 6:00pm	L _{Aeq,adj,15min}	45 dBA	43 dBA	40 dBA	6:00pm – 10:00pm	L _{Aeq,adj,15 min}	40 dBA	38 dBA	35 dBA	10:00pm – 6:00am	L _{Aeq,adj,15min}	28 dBA	28 dBA	28 dBA	Max L _{pA,15min}	55 dBA	55 dBA	55 dBA	6:00am – 7:00am	L _{Aeq,adj,15min}	40 dBA	38 dBA	35 dBA	Drilling activities ² occurring from 10:00pm – 6:00am	L _{Aeq,adj,1hr}	30 dBA ³ (measures indoors at any sensitive receptor, 35 dBA outdoors)		
Time period	Metric	Short term noise event	Medium term noise event	Long term noise event ¹																															
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Drilling activities ² occurring from 10:00pm – 6:00am	L _{Aeq,adj,1hr}	30 dBA ³ (measures indoors at any sensitive receptor, 35 dBA outdoors)																																	
C2	If the noise subject to a valid complaint is tonal or impulsive, the adjustments detailed in <i>Table – Adjustments to be added to noise levels at sensitive receptors</i> are to be added to the measured noise level(s) to derive L_{Aeq,adj,15min}. <i>Table – Adjustments to be added to noise levels at sensitive receptors</i> <table><tr><th>Noise characteristic</th><th>Adjustment to noise</th></tr><tr><td>Tonal characteristic is just audible</td><td>+ 2 dBA</td></tr><tr><td>Tonal characteristic is clearly audible</td><td>+ 5 dBA</td></tr><tr><td>Impulsive characteristic is detectable</td><td>+ 2 to + 5 dBA</td></tr></table>	Noise characteristic	Adjustment to noise	Tonal characteristic is just audible	+ 2 dBA	Tonal characteristic is clearly audible	+ 5 dBA	Impulsive characteristic is detectable	+ 2 to + 5 dBA																										
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C3	Notwithstanding condition C1, emission of any low frequency noise must not exceed either condition C3(a) and condition C3(b), or condition C3(c) and condition C3(d) in the event of a valid complaint about low frequency noise being made to the administering authority: a) 60 dB(C) measured outside the sensitive receptor; and b) the difference between the external A-weighted and C-weighted noise levels is no greater than 20 dB; or c) 50 dB(Z) measured inside the sensitive receptor; and																																		

	d) the difference between the internal A-weighted and Z-weighted (Max $L_{pZ,15min}$) noise levels is no greater than 15 dB.
Agency interest: Air	
Condition Number	Condition
General	
D1	Odours or airborne contaminants must not cause environmental nuisance to any sensitive place or commercial place.
D2	Unless venting is authorised under the <i>Petroleum and Gas (Production and Safety) Act 2004</i> or the <i>Petroleum Act 1923</i> , waste gas must be flared in a manner that complies with all of (D2(a)) and (D2(b)) and D3(c)), or with D4(d)): 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 5 minutes in any 2 hours; or d) it uses an enclosed flare.
Agency interest: Land	
Condition Number	Condition
General	
E1	Contaminants must not be directly or indirectly released to land except as permitted under this environmental authority.
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 operation and maintenance must be in accordance, to the greatest practicable extent, with the relevant section of the APIA Code of Environmental Practice: Onshore Pipelines (2009).
Pipeline reinstatement and revegetation	
E7	Pipeline trenches must be backfilled and topsoils reinstated within three (3) months after pipe laying.
E8	Reinstatement and revegetation of the pipeline right of way must commence within six (6) 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 prohibited or restricted pest species, and which is established and growing.
Agency interest: Biodiversity	

Condition Number	Condition								
General									
F1	Fauna must not be harmed from entrapment during the construction, operation and decommissioning of well infrastructure, dams, pipeline trenches and pipelines.								
Confirming biodiversity values									
F2	Prior to clearing of native vegetation, confirmation of on-the-ground biodiversity values of the native vegetation communities to be cleared must be undertaken by an appropriately qualified person using a methodology which the appropriately qualified person has certified in writing as being appropriate for the confirmation.								
F3	For condition F4 to condition F10, where mapped biodiversity values differ from those confirmed under condition F1 and condition 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.								
F5	All native vegetation clearing activities are to be undertaken under the direction of a qualified spotter-catcher. Reports detailing the area cleared, the methodology used, any wildlife relocated, injured or killed, and the number and nature of habitat trees cleared are to be retained and provided to the administering authority upon request.								
Planning for land disturbance – linear infrastructure									
F6	Linear infrastructure construction corridors must: a) maximise co-location; b) be minimised in width to the greatest practicable extent; and c) for linear infrastructure that is an essential petroleum activity authorised in an environmentally sensitive area or its protection zone, be no greater than 40m in total width.								
Authorised disturbance to Environmentally Sensitive Areas									
F7	Where petroleum activities are to be carried out in ESAs or their protection zones, the petroleum activities must be carried out in accordance with <i>Table – Authorised petroleum activities in ESAs and their protection zones</i> .								
	<i>Table – Authorised petroleum activities in ESAs and their protection zones</i>								
	<table><tr><th>Environmentally sensitive area</th><th>Within the environmentally sensitive area</th><th>Primary protection zone of the environmentally sensitive area</th><th>Secondary protection zone of the environmentally sensitive area</th></tr><tr><td>Category A environmentally sensitive areas</td><td>No activities permitted.</td><td>Only low impact activities permitted.</td><td>Only essential activities permitted.</td></tr></table>	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 activities permitted.	Only low impact activities permitted.	Only essential activities permitted.
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 activities permitted.	Only low impact activities permitted.	Only essential activities permitted.						

	Category B environmentally sensitive areas that are other than 'endangered' regional ecosystems.	Only low impact activities permitted.	Only low impact activities permitted.	Only essential activities permitted.
	Category B environmentally sensitive areas that are 'endangered' regional ecosystems.	Only low impact activities permitted.	Only essential activities permitted; and Only in areas of pre-existing disturbance; and Only providing the activities do not have a measurable negative impact on the adjacent environmentally sensitive area.	Only essential activities permitted.
	Category C environmentally sensitive areas that are 'nature refuges' or 'koala habitat area'.	Only low impact activities permitted.	Only low impact activities permitted.	
	Category C environmentally sensitive areas that are 'essential habitat' or 'of concern' regional ecosystems	Only low impact activities permitted.	Only essential activities permitted; and Only in areas of pre-existing disturbance; and Only providing the activities do not have a measurable negative impact on the adjacent environmentally sensitive area.	
	Category C environmentally sensitive areas that are 'resource reserves'.	Only essential activities permitted.	Only essential activities permitted; and Only in areas of pre-existing disturbance; and Only providing the activities do not have a measurable negative impact on the adjacent environmentally sensitive area.	
	Category C environmentally sensitive areas that are 'state forests' or 'timber reserves'.	Only essential activities permitted.	Activities permitted.	

F8	Despite condition F7 of this environmental authority, activities specified in <i>Table – Authorised petroleum activities in ESAs and protection zones</i> are authorised under this approval.																				
	<i>Table – Authorised petroleum activities in ESAs and protection zones</i> <table><tr><th>Tenure</th><th>Description of Infrastructure</th><th>ESA and ESA Protection Zone</th><th>Maximum Disturbance Footprint (ha)</th><th>Location</th></tr><tr><td>PL1127</td><td>Only essential petroleum activities permitted.</td><td>Category C environmentally sensitive areas that are mapped as ‘essential habitat’</td><td>69.71</td><td>Category C environmentally sensitive areas that are mapped as ‘essential habitat’</td></tr></table>	Tenure	Description of Infrastructure	ESA and ESA Protection Zone	Maximum Disturbance Footprint (ha)	Location	PL1127	Only essential petroleum activities permitted.	Category C environmentally sensitive areas that are mapped as ‘essential habitat’	69.71	Category C environmentally sensitive areas that are mapped as ‘essential habitat’										
Tenure	Description of Infrastructure	ESA and ESA Protection Zone	Maximum Disturbance Footprint (ha)	Location																	
PL1127	Only essential petroleum activities permitted.	Category C environmentally sensitive areas that are mapped as ‘essential habitat’	69.71	Category C environmentally sensitive areas that are mapped as ‘essential habitat’																	
F9	A report must be prepared for each annual return period for all petroleum activities that involved clearing of any ESA or protection zone which includes: a) records able to demonstrate compliance with condition F4 to condition F8; b) a description of the works; c) a description of the area and its pre-disturbance values (which may include maps or photographs, but must include GPS coordinates for the works); and d) based on the extent of environmentally sensitive areas and primary protection zones on the relevant resource authority(ies), the proportion of native vegetation cleared per environmentally sensitive area and primary protection zone, including regional ecosystem type, over the annual return period.																				
Impacts to prescribed environmental matters																					
F10	Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the <i>Environmental Offsets Act 2014</i> .																				
F11	Records demonstrating that each impact to a prescribed environmental matter did not, or is not likely to, result in a significant residual impact to that matter must be: a) completed by an appropriately qualified person; and b) kept for the life of the environmental authority.																				
F12	Impacts to prescribed environmental matters (PEMs), are not authorised under this environmental authority unless the impact is specified in <i>Table – Impacts to Matters of State Environmental Significance (MSES)</i> .																				
	<i>Table –Impacts to Matters of State Environmental Significance</i> <table><tr><th>Matters of State Environmental Significance</th><th>Location of impact</th><th>Maximum extent of impact</th><th>Significant residual impact And Offset Required</th></tr><tr><td colspan="4">PROTECTED WILDLIFE HABITAT</td></tr><tr><td colspan="4">Habitat for an animal that is critically endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal – insert area and species name</td></tr><tr><td>Koala (<i>Phascolarctos cinereus</i>)</td><td>PL 1127</td><td>69.71</td><td>No</td></tr><tr><td>Short-beaked Echidna (<i>Tachyglossus aculeatus</i>)</td><td>PL 1127</td><td>69.71</td><td>No</td></tr></table>	Matters of State Environmental Significance	Location of impact	Maximum extent of impact	Significant residual impact And Offset Required	PROTECTED WILDLIFE HABITAT				Habitat for an animal that is critically endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal – insert area and species name				Koala (<i>Phascolarctos cinereus</i>)	PL 1127	69.71	No	Short-beaked Echidna (<i>Tachyglossus aculeatus</i>)	PL 1127	69.71	No
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F13	Records demonstrating that each impact to a prescribed environmental matter not listed in <i>Table – Significant residual impacts to prescribed environmental matters</i> , did not, or is not likely to, result in a significant residual impact to that matter must be:																				

	a) completed by a suitably qualified person; and b) kept for the life of the environmental authority.
F14	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in <i>Table — Significant residual impacts to prescribed environmental matters</i> , unless a lesser extent of the impact has been approved in accordance with condition F15.
F15	Prior to the commencement of any impacts to a prescribed environmental matter for which an environmental offset is required by condition F14, a report completed by an appropriately qualified person that contains an analysis of the estimated maximum extent of impact to each prescribed environmental matter must be provided to the administering authority.
F16	The report required by condition F15 must be approved by the administering authority before the notice of election, if applicable, is given to the administering authority.
F17	The notice of election for the environmental offset required by condition F16, if applicable, must be provided to the administering authority no less than three months before the proposed commencement of the significant residual impacts for which the environmental offset is required.
Agency interest: Water	
Condition Number	Condition
General impacts to waters	
G1	Contaminants must not be directly or indirectly released to any waters.
Activities in waters	
G2	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.
G3	Only construction or maintenance of linear infrastructure is permitted in or within any wetland of other environmental value or in a watercourse.
G4	The construction or maintenance of linear infrastructure in a wetland of other environmental values must not result in the: a) clearing of riparian vegetation outside of the minimum area practicable to carry out the works; or b) ingress of saline water into freshwater aquifers; or c) draining or filling of the wetland beyond the minimum area practicable to carry out the works.
G5	After the construction or maintenance works for linear infrastructure in a wetland of other 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.
G6	The construction and/or maintenance of linear infrastructure that will result in significant disturbance to a wetland, lake, spring or watercourse must be conducted in accordance with the following order of preference. Conducting works: a) firstly, in times where there is no water present; b) secondly, in times of no flow; c) thirdly, in times of flow, but in a way that does not impede low flow.

G7	The construction or maintenance of linear infrastructure authorised under condition G3 must comply with the water quality limits as specified in <i>Table —Release limits for construction or maintenance of linear infrastructure</i> .		
	<i>Table —Release limits for construction or maintenance of linear infrastructure</i>		
	Water quality parameters	Units	Assessment procedure
	Turbidity	Nephelometric Turbidity Units (NTU)	For a wetland of other environmental value, if background water turbidity is above 45 NTU, 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 45 NTU, 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 45 NTU, a turbidity limit of no greater than 55 NTU applies, measured within a 50m radius of the construction or maintenance activity.
Hydrocarbons	-	For a watercourse, if background water turbidity is equal to, or below 45 NTU, a turbidity limit of no greater than 55 NTU applies, measured within 50m downstream of the construction or maintenance activity.	
		For a wetland of other environmental value, or watercourse, no visible sheen or slick.	
G8	Monitoring must be undertaken at a frequency that is appropriate to demonstrate compliance with condition G7.		
Register of activities in wetlands and watercourses			
G9	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) location of the activity (e.g. GPS coordinates (GDA2020) and watercourse name); b) estimated flow rate of surface water at the time of the activity; c) duration of works; and d) results of impact monitoring carried out under condition G8.		
Activities in Floodplains			
G10	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; or b) divert flood flows from natural drainage paths and alter flow distribution; or c) increase the local duration of floods; or d) increase the risk of detaining flood flows.		
Agency interest: Well Construction, Maintenance and Stimulation			

Condition Number	Condition
Drilling activities	
H1	Oil based or synthetic based drilling muds must not be used in the carrying out of the petroleum activity(ies).
H2	Drilling activities must not result in the connection of the target gas producing formation and another aquifer.
H3	Practices and procedures must be in place to detect, as soon as practicable, any fractures that have or may result in the connection of a target formation and another aquifer as a result of drilling activities.
Agency interest: Rehabilitation	
Condition Number	Condition
Rehabilitation planning	
I1	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 condition I2 to condition I6, inclusive; and ii. provide for appropriate monitoring and maintenance.
Transitional rehabilitation	
I2	Significantly disturbed areas that are no longer required for the on-going petroleum activities, must be rehabilitated within 12 months (unless exceptional circumstance in the area to be rehabilitated (e.g. a flood event) prevents this timeframe being met) and be maintained to meet the following acceptance criteria: a) contaminated land resulting from petroleum activities is remediated and rehabilitated. b) the areas are: i. non-polluting; ii. a stable landform; iii. re-profiled to contours consistent with the surrounding landform; c) surface drainage lines are re-established d) top soil is reinstated; and e) either: i. groundcover, that is not a declared pest species, is growing; or ii. an alternative soil stabilisation methodology that achieves effective stabilisation is implemented and maintained.
Final rehabilitation acceptance criteria	
I3	All significantly disturbed areas caused by petroleum activities which are not being or intended to be utilised by the landholder or overlapping tenure holder, must be rehabilitated to meet the following final acceptance criteria measured either against the highest ecological value adjacent land use or the pre-disturbed land use: a) greater than or equal to 70% of native ground cover species richness; b) greater than or equal to the total per cent of ground cover; c) less than or equal to the per cent species richness of declared plant pest species; and d) where the adjacent land use contains, or the pre-clearing land use contained, one or more regional ecosystem(s), then at least one regional ecosystem(s) from the same broad vegetation group, and with the equivalent biodiversity status or a biodiversity status with a higher conservation value as any of the regional ecosystem(s) in either the adjacent land or pre-disturbed land, must be present.
Final rehabilitation acceptance criteria in environmentally sensitive areas	

I4	Where significant disturbance to land has occurred in an ESA, the following rehabilitation criteria as measured against the pre-disturbance biodiversity values assessment (required by condition I1 and condition I2 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 of ground cover; c) less than or equal to the per cent species richness of declared plant pest species; d) greater than or equal to 50% of organic litter cover; e) greater than or equal to 50% of total density of coarse woody material; and f) all predominant species in the ecologically dominant layer, that define the pre-disturbance regional ecosystem(s) are present.
Continuing conditions	
I5	Condition I2 to condition I4 continue to apply after this environmental authority has ended or ceased to have effect.
I6	Prior to relinquishing all or part of an authority to prospect area, a final rehabilitation report must be prepared which specifically relates to the area to be relinquished and demonstrates condition I1 to condition I4 have been met.
I7	The report required under condition I6 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 <i>Petroleum and Gas (Production and Safety) Act 2004</i> .

Definitions

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

Term	Definition
acceptable standards for release to land	means wastewater of the following quality as determined by monitoring results or by characterisation: a) electrical conductivity (EC) not exceeding 3000µS/cm b) sodium adsorption ratio (SAR) not exceeding 8 c) pH between 6.0 and 9.0 d) heavy metals (measured as total) meets the respective short term trigger value in section 4.2.6, Table 4.2.10—Heavy metals and metalloids in Australian and New Zealand Guidelines for Fresh and Marine Water Quality e) does not contain biocides.
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 effect.
administering authority	means: a) for a matter, the administration and enforcement of which has been devolved to a local government under section 514 of the <i>Environmental Protection Act 1994</i>—the local government; or b) for all other matters—the Chief Executive of the Department of Environment, Science and Innovation; 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.
annual return period	means the most current 12-month period between two anniversary dates.
appraisal well	Means a petroleum well to test the potential of one (1) or more natural underground reservoirs for producing or storing petroleum. For clarity, an appraisal well does not include an exploration well.
appropriately qualified person / 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.
areas of pre-existing disturbance	means areas where environmental values have been negatively impacted as a result of anthropogenic activity and these impacts are still evident. Areas of pre-disturbance may include areas where legal clearing, logging, timber harvesting, or grazing activities have previously occurred, where high densities of weed or pest species are present which have inhibited re-colonisation of native regrowth, or where there is existing infrastructure (regardless of whether the infrastructure is associated with the authorised petroleum activities). The term 'areas of pre-disturbance' does not include areas that have been impacted by wildfire/s, controlled burning, flood or natural vegetation die-back.

Australian Standard 3580	means any of the following publications: a) AS3580.10.1 Methods for sampling and analysis of ambient air— Determination of particulate matter—Deposited matter—Gravimetric method. b) 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 c) AS3580.9.9 Methods for sampling and analysis of ambient air— Determination of suspended particulate matter— PM10 low volume sampler—Gravimetric sampler.
background noise level	means the sound pressure level, measured in the absence of the noise under investigation, as the $L_{A90,T}$ being the A-weighted sound pressure level exceeded for 90% of the measurement time period T of not less than 15 minutes (or $L_{A 90, adj, 15 mins}$), using Fast response.
being or intended to be utilised by the landholder or overlapping tenure holder	for significantly disturbed land, means there is a written agreement (e.g. land and compensation agreement) between the landholder or the overlapping tenure holder and the holder of the environmental authority identifying that the landholder or the overlapping tenure holder has a preferred use of the land such that rehabilitation standards for revegetation by the holder of the environmental authority are not required. For dams, means there is a written agreement (e.g. land and compensation agreement) between the landholder or the overlapping tenure holder and the holder of the environmental authority identifying that the landholder or the overlapping tenure holder has a preferred use for the dam such that rehabilitation standards for revegetation by the holder of the environmental authority are not required.
biodiversity values	for the purposes of this environmental authority, means environmentally sensitive areas, prescribed environmental matters and wetlands.
Category A Environmentally Sensitive Area	means any area listed in Schedule 19, Part 1 of the Environmental Protection Regulation 2019.
Category B Environmentally Sensitive Area	means any area listed in Schedule 19, Part 1 of the Environmental Protection Regulation 2019.
Category C Environmentally Sensitive Area	means any of the following areas: a) nature refuges as defined in the conservation agreement for that refuge under the <i>Nature Conservation Act 1992</i> b) koala habitat areas as defined under the <i>Nature Conservation (Koala) Conservation Plan 2006</i> c) state forests or timber reserves as defined under the <i>Forestry Act 1959</i> d) regional parks (previously known as resource reserves) under the <i>Nature Conservation Act 1992</i> e) an area validated as 'essential 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> f) 'of concern regional ecosystems' that are remnant vegetation and identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions.
certified or certification	in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams means, a Statutory Declaration by a suitably qualified person or suitably qualified third party accompanying the written document stating:

	a) the person's qualifications and experience relevant to the function b) that the person has not knowingly included false, misleading or incomplete information in the document c) that the person has not knowingly failed to reveal any relevant information or document to the administering authority d) that the document addresses the relevant matters for the function and is factually correct; and e) that the opinions expressed in the document are honestly and reasonably held.
clearing	has the meaning in the dictionary of the <i>Vegetation Management Act 2000</i> and for vegetation— a) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining; but b) does not include destroying standing vegetation by stock, or lopping a tree.
closed-loop systems	means using waste on site in a way that does not release waste or contaminants in the waste to the environment.
control measure	has the meaning in section 31 of the <i>Environmental Protection Regulation 2019</i> and means a device, equipment, structure, or management strategy used to prevent or control the release of a contaminant or waste to the environment.
dam(s)	means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.
declared pest species	has the meaning in the <i>Land Protection (Pest and Stock Route Management) Regulation 2003</i> and is a live animal or plant declared to be a declared pest under section 36 (Declaring Pests by Regulation) or section 37(2) (Declaring Pest under Emergency Pest Notice) of that Act and includes reproductive material of the animal or plant.
document	has the meaning in the <i>Acts Interpretation Act 1954</i> and means: a) any paper or other material on which there is writing; and b) any paper or other material on which there are marks; and c) figures, symbols or perforations having a meaning for a person qualified to interpret them; and d) any disc, tape or other article or any material from which sounds, images, writings or messages are capable of being produced or reproduced (with or without the aid of another article or device).
ecosystem function	means the interactions between and within living and nonliving components of an ecosystem and generally correlates with the size, shape and location of the vegetation community.
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; or b) an unhealthy, offensive or unsightly condition because of contamination; or c) another way prescribed by regulation.
environmental offset	has the meaning in section 7 of the <i>Environmental Offsets Act 2014</i> .
environmentally sensitive area	means Category A, B or C environmentally sensitive areas (ESAs).
equivalent person (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 2019 where: • $EP = V/200$ where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day; or • $EP = M/2.5$ where M is the mass, in grams, of phosphorus in the influent that the works are designed to treat as the inlet load in a day.
essential petroleum activities	means activities that are essential to bringing the resource to the surface and are only the following: a) low impact petroleum activities; b) geophysical, geotechnical, geological, topographic and cadastral surveys (including seismic, sample /test / geotechnical pits, core holes); c) single well sites not exceeding 1 hectare disturbance and multi-well sites not exceeding 1.5 hectare disturbance; d) well sites with monitoring equipment (including monitoring bores): i. for single well sites, not exceeding 1.25 hectares disturbance; ii. for multi-well sites, not exceeding 1.75 hectares disturbance. e) well sites with monitoring equipment (including monitoring bores) and tanks (minimum 1 ML) for above ground fluid storage: for single well sites, not exceeding 1.5 hectares disturbance; or multi-well sites, not exceeding 2.0 hectares disturbance. f) associated infrastructure necessary for the construction and operations of wells: i. water pumps and generators; ii. flare pits; iii. chemical / fuel storages; iv. sumps for residual drilling material and drilling fluids; v. tanks, or dams which are not significant or high consequence dams to contain wastewater (e.g. stimulation flow back waters, produced water); vi. pipe laydown areas; vii. soil and vegetation stockpile areas; viii. a temporary camp associated with a drilling rig that may involve sewage treatment works that are no release works; ix. temporary administration sites and warehouses; x. dust suppression activities using water that meets the quality and operational standards approved under the environmental authority. g) monitoring bores and/or equipment required to monitor activities or potential impacts associated with activities authorised under an environmental approval;

	h) 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; i) supporting access tracks; j) gathering / flow pipelines from a well head to, or between, any one or more of the following: i. the initial compression facility; ii. water storage facility; iii. the initiation compression facility and/or to, or between, water storage facilities. k) 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).
exploration well	means a petroleum well that is drilled to: a) explore for the presence of petroleum or natural underground reservoirs suitable for storing petroleum; or b) obtain stratigraphic information for the purpose of exploring for petroleum. For clarity, an exploration well does not include an appraisal well or development well.
flare pit	has the meaning in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/19338), 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— a) is covered from time to time by floodwater overflowing from the watercourse; and b) does not, other than in an upper valley reach, confine floodwater to generally follow the path of the watercourse; and c) 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.
GDA	means Geocentric Datum of Australia.
Great Artesian Basin (GAB) spring	means an area protected under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> because it is considered to be a Matter of National Environmental Significance and identified as a: a) community of native species dependent on natural discharge of groundwater from the Great Artesian Basin; or b) Great Artesian Basin spring; or c) Great Artesian Basin discharge spring wetland. A GAB spring includes a spring vent, spring complex or watercourse spring and includes the land to which water rises naturally from below the ground and the land over which the water then flows.

	<i>Note: The Australian Government's Protected Matters Search Tool should be used to get an indication of whether the area of interest may contain an MNES spring.</i> <i>Note: The GAB springs dataset can be requested from the Queensland Government Herbarium</i>
green waste	means waste that is grass cuttings, trees, bushes, shrubs, material lopped from trees, untreated timber or other waste that is similar in nature but does not include declared pest 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.
impulsive (for noise)	means sound characterised by brief excursions of sound pressure (acoustic impulses) that significantly exceed the background sound pressure. The duration of a single impulsive sound is usually less than one second.
incidental activity/ies	for this environmental authority means an activity that is not a specified relevant activity and is necessary to carry out the activities authorised by this environmental authority.
indirectly	means not direct in action, coming or resulting otherwise than directly or immediately, as effects, consequences.
L _A 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: a) soil erosion; b) rising water tables; c) the expression of salinity; d) mass movement by gravity of soil or rock; e) stream bank instability; f) a process that results in declining water quality.
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> .
linear infrastructure	means powerlines, pipelines, flowlines, roads and access tracks.

long term noise event	means a noise exposure, when perceived at a sensitive receptor, persists for a period of greater than five (5) days, even when there are respite periods when the noise is inaudible within those five (5) days.
low consequence dam	means any dam that is not classified as high or significant as assessed using the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> , 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.
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 (5) days and does not re-occur for a period of at least four (4) weeks. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a 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: a) 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 greater than 20%; and b) the residual solids is mixed with subsoil in the sump and cover; and c) the subsoil and residual solids is mixed at least three parts subsoil to one part waste (v/v); and d) a minimum of one metre of clean subsoil must be placed over the subsoil and residual solids mixture; and e) topsoil is replaced.
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 (1) of the 12 named months and ending— a) immediately before the beginning of the corresponding day of the next named month; or b) 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.
prescribed environmental matters	has the meaning in section 10 of the <i>Environmental Offsets Act 2014</i> , limited to the matters of State environmental significant listed in schedule 2 of the <i>Environmental Offsets Regulation 2014</i> .
pipeline wastewater	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> .
prescribed environmental matters	has the meaning in section 10 of the Environmental Offsets Act 2014, limited to the matters of State environmental significant listed in schedule 2 of the Environmental Offsets Regulation 2014.
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.
prohibited or restricted pest species	means any pest that is: a) a plant or animal, other than a native species of plant or animal, that is i. invasive biosecurity matter under the Biosecurity Act 2014 (Qld); or Notes— 1 See the Biosecurity Act 2014, schedule 1, part 3 or 4 or schedule 2, part 2; and 2 See the note to the Biosecurity Act 2014, schedules 1 and 2. ii. controlled biosecurity matter or regulated biosecurity matter under the Biosecurity Act 2014 (Qld) iii. tramp ants listed in schedule 1 and schedule 2 of the Biosecurity Act 2014 (Qld). b) a pest declared under a local law by the local government for the Land to be a pest because the pest is causing, or has the potential to cause, an adverse environmental, economic or social impact in all or part of the local government area.
protection zone	means the primary protection zone of any Category A, B or C ESA or the secondary protection zone of any Category A or B ESA.
regional ecosystem	has the meaning in the Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 3.2 August 2012) and means a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil. Regional ecosystems of Queensland were originally described in Sattler and Williams (1999). The Regional Ecosystem Description Database (Queensland Herbarium 2013) is maintained by Queensland Herbarium and contains the current descriptions of regional ecosystems. For biodiversity values in relation to the environmental authority, the regional ecosystem (biodiversity status) is relevant. For prescribed environmental matters related to offsets, regional ecosystems are prescribed in the Environmental Offset Regulation 2014.
regulated structure	means any structure in the 'significant' or 'high' consequence category as assessed using the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193315)</i> published by the administering authority. A regulated structure does not include: a) a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;

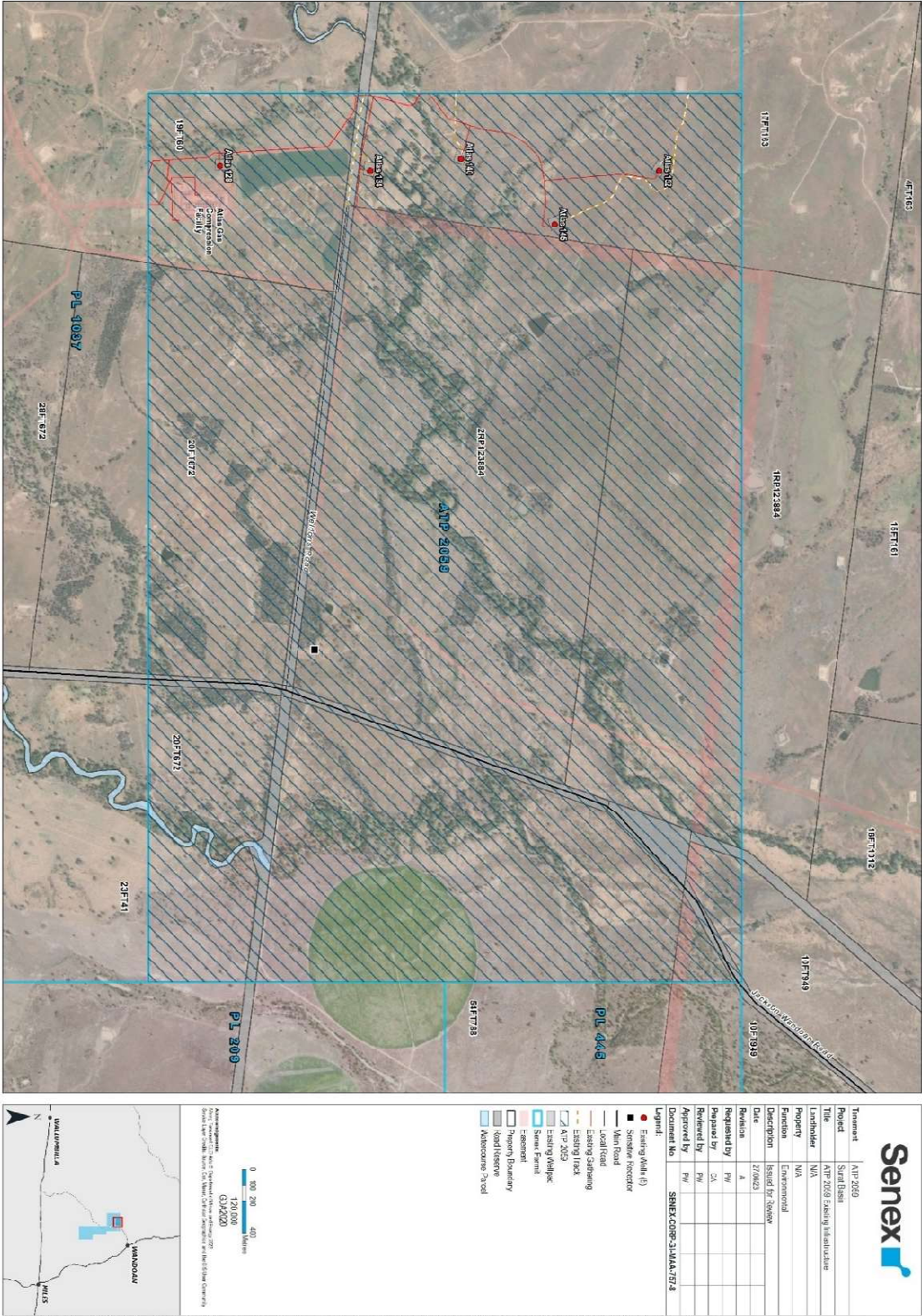
	b) a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities; c) a flare pit.
rehabilitation or rehabilitated	means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with acceptance criteria and, where relevant, includes remediation of contaminated land. For the purposes of pipeline rehabilitation, rehabilitation includes reinstatement, revegetation and restoration.
reinstate or reinstatement	for pipelines, means the process of bulk earth works and structural replacement of pre-existing conditions of a site (i.e. soil surface typography, 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).
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 pre-determined or analogue site. For the purposes of pipelines, restoration applies to final rehabilitation after pipeline decommissioning.
revegetation or revegetating or revegetate	means to actively re-establish vegetation through seeding or planting techniques in accordance with site specific management plans.
secondary protection zone	in relation to a Category A or Category B ESA means an area within 100 metres from the boundary of the primary protection zone.
secondary treated class B standards	means treated sewage effluent or greywater which meets the following standards: a) total phosphorous as P, maximum 20mg/L; b) total nitrogen as N, maximum 30mg/L; c) 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L; d) suspended solids, maximum 30mg/L; e) pH, range 6.0 to 8.5; f) e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 1000cfu per 100mL, maximum 10 000cfu per 100mL.
secondary treated class C standards	means treated sewage effluent or greywater which meets the following standards: a) total phosphorous as P, maximum 20mg/L; b) total nitrogen as N, maximum 30mg/L; c) 5-day biochemical oxygen demand (inhibited) (e.g. Release pipe from sewage treatment plant), maximum 20mg/L; d) suspended solids, maximum 30mg/L; e) pH, range 6.0 to 8.5; f) e-Coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 10 000cfu per 100mL, maximum 100 000cfu per 100mL.
sensitive place	means: a) a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel) b) a library, childcare centre, kindergarten, school, university or other educational institution c) a medical centre, surgery or hospital d) a protected area

	e) a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment f) 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 g) for noise, a place defined as a sensitive receptor for the purposes of the <i>Environmental Protection (Noise) Policy 2019</i>.
sensitive receptor	is defined in Schedule 2 of the <i>Environmental Protection (Noise) Policy 2019</i> , and means an area or place where noise is measured.
short term noise event	is a noise exposure, when perceived at a sensitive receptor, persists for an aggregate period not greater than eight hours and does not re-occur for a period of at least seven (7) days. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a different source or source location.
significant residual impact	has the meaning in section 8 <i>Environmental Offsets Act 2014</i> .
significantly disturbed or significant disturbance or significant disturbance to land or areas	Means land is <i>significantly disturbed</i> if— a) it is contaminated land; or b) it has been disturbed and human intervention is needed to rehabilitate it: i. to a condition required under the relevant environmental authority; or ii. if the environmental authority does not require the land to be rehabilitated to a particular condition—to the condition it was in immediately before the disturbance.
specified relevant activities	for this environmental activity means an activity, that for being carried out as a resource activity, would otherwise be an activity prescribed under section 19 of the <i>Environmental Protection Act 1994</i> as an environmentally relevant activity and is identified in the cover pages of this environmental authority.
species richness	means the number of different species in a given area.
stable	has the meaning in Schedule 8 of the <i>Environmental Protection Regulation 2019</i> 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.
stimulation	means a technique used to increase the permeability of a natural underground reservoir that is undertaken above the formation pressure and involves the addition of chemicals. It includes hydraulic fracturing/hydrofracturing, fracture acidizing and the use of proppant treatments. Explanatory note: This definition is restricted from that in the <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 the environmental values of water quality in aquifers.
structure	means a dam or levee.
subterranean cave GDE	a) means an area identified as a subterranean cave in the mapping produced by the Queensland Government and identified in the Queensland Government Information System, as amended from time to time; and b) means a cave ecosystem which requires access to groundwater on a permanent or intermittent basis to meet all or some of their water requirements so as to maintain its communities of plants and animals, ecological processes and ecosystem services. Subterranean cave GDEs are caves dependent on the subterranean presence of groundwater. Subterranean cave GDEs have some degree of groundwater connectivity and are indicated by either high moisture levels or the presence of

	stygo fauna, or both, referred to in the Queensland Government WetlandsInfo mapping program, as amended from time to time. <i>Note: the Subterranean GDE (caves) dataset can be displayed through the Queensland Government WetlandInfo mapping program.</i> <i>Note: the Subterranean GDE (caves) dataset can be obtained from the Queensland Government Information System.</i>
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 14 of the <i>Environmental Protection Regulation 2019</i>; 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.
synthetic based drilling mud	means a mud where the base fluid is a synthetic oil, consisting of chemical compounds which are artificially made or synthesised by chemically modifying petroleum components or other raw materials rather than the whole crude oil.
synthetic oil-based	means for a mud or drilling fluid, the base fluid being a synthetic oil, consisting of chemical compounds which are artificially made or synthesised by chemically modifying petroleum components or other raw materials rather than the whole crude oil.
top soil	means the surface (top) layer of a soil profile, which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.
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 10cm 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 management hierarchy	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— a) AVOID unnecessary resource consumption b) REDUCE waste generation and disposal c) RE-USE waste resources without further manufacturing d) RECYCLE waste resources to make the same or different products e) RECOVER waste resources, including the recovery of energy f) TREAT waste before disposal, including reducing the hazardous nature of waste

	g) DISPOSE of waste only if there is no viable alternative.
waste and resource management principles	has the meaning provided in section 4(2)(b) of the <i>Waste Reduction and Recycling Act 2011</i> and means the: a) polluter pays principle b) user pays principle c) proximity principle d) product stewardship principle.
waste fluids	has the meaning in section 13 of the <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: a) a river, creek or stream in which water flows permanently or intermittently— i. in a natural channel, whether artificially improved or not; or ii. in an artificial channel that has changed the course of the watercourse. b) Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.
waters	includes all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.
wetland	for the purpose of this environmental authority, wetland means: <i>an area shown as a wetland on the Map of Queensland wetland environmental values.</i> <i>Note: The Environmental Protection (Water and Wetland Biodiversity) Policy 2019 Schedule 2, Map of Queensland Wetland Environmental Values means the document ‘Map of Queensland Wetland Environmental Values’ made by the Chief Executive and published on the website.</i> <i>Environmental values in section 8 of the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 apply to wetland areas on the map, which are categorised as wetlands of high or general ecological significance.</i>
wetland of high ecological significance	means a wetland that meets the definition of a wetland and that is shown as a wetland of ‘high ecological significance’ or wetland of ‘high ecological value’ on the Map of Queensland wetland environmental values.
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.

Appendix 1 – Existing Infrastructure



END OF ENVIRONMENTAL AUTHORITY