

End of Waste Code

Coal Seam Gas Drilling Mud (ENEW07543018)

Waste Reduction and Recycling Act 2011

Version history

Version	Date	Description of changes
1.00	01 January 2019	Commencement of EOW code

Prepared by: Waste and Contaminated Land Assessment, Department of Environment and Science

© State of Queensland, 2018

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 3.0 Australia (CC BY) licence.



Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.

You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

For more information on this licence, visit <http://creativecommons.org/licenses/by/3.0/au/deed.en>

If you need to access this document in a language other than English, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone Library Services on +61 7 3170 5470.

This publication can be made available in an alternative format (e.g. large print or audiotape) on request for people with vision impairment; phone +61 7 3170 5470 or email <library@des.qld.gov.au>.

December 2018

Contents

1. Explanatory Statement.....	4
2. Guidance.....	4
2.1 Resource use versus Activity	4
2.2 Resource versus Waste	4
2.3 Failure to comply.....	4
2.4 Lawfulness of the activity	5
3. Period of this EOW code.....	5
4. Waste to which this EOW code applies	5
5. Person to whom this EOW code applies	5
5.1 Registered resource producers of the resource	5
5.2 Resource users.....	5
6. Registered resource producer requirements	6
7. Conditions of use	10
8. Definitions.....	12
Appendix A — General obligation for all persons	14

1. Explanatory Statement

This End of Waste (EOW) code for **coal seam gas drilling mud** has been issued by the Queensland Government in accordance with section 159 of the *Waste Reduction and Recycling Act 2011* (WRR Act).

This EOW code states when a waste becomes a resource and any relevant requirements and/or conditions for its use. It supports the vision of Queensland's Waste Strategy for Queensland to become a national leader in avoiding unnecessary consumption and waste generation by adopting innovative resource recovery approaches and managing all products and materials as valuable and finite resources.

If the waste is not being used in accordance with the relevant requirements and/or conditions of this EOW code, or another type of permit that allows for its use, it is considered a waste and must be disposed of appropriately at a facility that is lawfully able to receive the waste.

2. Guidance

2.1 Resource use versus Activity

An EOW code states when a waste stops being a waste following any necessary processing or treatment.

A waste becomes a **resource** when it has been determined to meet the requirements of an EOW code. It may be necessary to treat or process the waste prior to that point. An Environmental Authority (EA) under the *Environmental Protection Act 1994* (EP Act) is required where an activity being undertaken triggers the threshold for any environmentally relevant activity (ERA). This means that treating or processing the waste to meet the resource quality criteria under the EOW code may require an EA under the EP Act if the activity meets the threshold for an ERA.

2.2 Resource versus Waste

A waste that is considered a **resource** under an EOW code is considered a resource only for the purpose of the use(s) approved in an EOW code. In the event, a resource does not meet the requirements of the EOW code and/or is not used in accordance with the EOW code, it is deemed to be a waste and must be managed in accordance with waste management requirements under the EP Act and the WRR Act, and their subordinate legislation.

A resource, approved under an EOW code, is also deemed to be a waste when it is disposed of at a waste disposal facility, or if it is deposited at a place in a way that would, apart from its use approved under an EOW code, constitute a contravention of the general littering provision or the illegal dumping of waste provision under the WRR Act.

2.3 Failure to comply

Any **person** operating under this EOW code must comply with the relevant requirements and conditions of use of the EOW code. It is an offence to not comply with the relevant requirements and conditions, carrying a maximum penalty of 1665 penalty units for an individual and 8325 penalty units for a corporation¹.

Please refer to Appendix A of this EOW code for general obligations for all persons which includes the **resource users**.

¹ The value of a penalty unit is stated in the Penalties and Sentences Regulation 2015 (Qld).

2.4 Lawfulness of the activity

The issuing of this EOW code for the use of the **resource** does not warrant or imply the lawfulness of the activity under all legislation, or that approvals necessary under other legislation have or will be approved. It is the responsibility of the **registered resource producer** and **resource user** to identify and obtain all other approvals necessary for the relevant activities.

3. Period of this EOW code

This EOW code takes effect from **01 January 2019** and remains in force until it is amended, cancelled or suspended² by the **chief executive**³.

4. Waste to which this EOW code applies

This EOW code is limited to **drilling mud** sourced from **coal seam gas projects** located within Queensland.

This waste becomes a **resource** when the requirements and conditions under this EOW code are met.

5. Person to whom this EOW code applies

5.1 Registered resource producers of the resource

- 5.1.1 Prior to operating under this EOW code, the producer of the **resource** must register with the **chief executive** by giving a notice in the approved form⁴ that the **person** intends to become a **registered resource producer** for this EOW code.
- 5.1.2 A registered resource producer for this EOW code must comply with the stated registered resource producer requirements.

5.2 Resource users

- 5.2.1 The **resource user** must only use the **resource** for a purpose allowed under this EOW code.
- 5.2.2 The resource user must comply with the stated conditions of use.

² If an EOW code is to be amended, cancelled or suspended, the chief executive will provide an opportunity to make written submissions by providing a proposed action notice to the registered resource producers; and publishing the proposed action notice on department's website for anyone interested.

³ The chief executive is currently in the process of undertaking a project that will review the suitability of feedstock in compost manufacturing. When the project is finalised, the outcome of this project may influence the uses approved by this EOW code.

⁴ The approved form, *Registered Resource Producer for an EOW code*, is available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2018/4082) as a search term.

6. Registered resource producer requirements

(6.1)	The registered resource producer must not use, sell or otherwise transfer ownership of the resource unless it meets the stated criteria in <i>Table 1 – Resource quality criteria</i> for the approved use in accordance with this EOW code.				
(6.2)	Table 1 – Resource quality criteria				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Resource</th> <th>Criteria</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">Drilling mud</td> <td> <ol style="list-style-type: none"> 1. A mixture of naturally occurring rock, soil, and water based drilling fluid, generated by drilling through overburden (as opposed to coal seam formations) during coal seam gas drilling operations at a coal seam gas project. 2. Sourced from coal seam gas projects located within Queensland. 3. Has not been generated by drilling through soil contaminated by a hazardous contaminant. 4. Does not contain or have any of the following: <ol style="list-style-type: none"> a) Restricted stimulation fluids; and b) Any characteristics contained in List 2: Characteristics of controlled wastes, of Schedule A of the Movement of Controlled Waste NEPM (such as, being flammable or emitting flammable gases, liable to spontaneous combustion, oxidising, containing organic peroxides, poisonous, infectious, corrosive, toxic or giving off toxic gases or being ecotoxic) 5. Is free from: <ol style="list-style-type: none"> a) detectable offensive odours⁵; b) glass, metal, plastics (including rigid, light, flexible or film), rubber and coatings; and c) pest or vermin infestations (for example, fire ant infestation). 6. Is in a solid form that is generally able to be picked up by a spade or shovel. 7. Meets the quality requirements in accordance with <i>Table 2 - Maximum contaminant levels (MCL)</i> for the relevant uses specified in <i>Table 3 – Requirements for registered resource producer for approved uses</i>. </td> </tr> </tbody> </table>	Resource	Criteria	Drilling mud	<ol style="list-style-type: none"> 1. A mixture of naturally occurring rock, soil, and water based drilling fluid, generated by drilling through overburden (as opposed to coal seam formations) during coal seam gas drilling operations at a coal seam gas project. 2. Sourced from coal seam gas projects located within Queensland. 3. Has not been generated by drilling through soil contaminated by a hazardous contaminant. 4. Does not contain or have any of the following: <ol style="list-style-type: none"> a) Restricted stimulation fluids; and b) Any characteristics contained in List 2: Characteristics of controlled wastes, of Schedule A of the Movement of Controlled Waste NEPM (such as, being flammable or emitting flammable gases, liable to spontaneous combustion, oxidising, containing organic peroxides, poisonous, infectious, corrosive, toxic or giving off toxic gases or being ecotoxic) 5. Is free from: <ol style="list-style-type: none"> a) detectable offensive odours⁵; b) glass, metal, plastics (including rigid, light, flexible or film), rubber and coatings; and c) pest or vermin infestations (for example, fire ant infestation). 6. Is in a solid form that is generally able to be picked up by a spade or shovel. 7. Meets the quality requirements in accordance with <i>Table 2 - Maximum contaminant levels (MCL)</i> for the relevant uses specified in <i>Table 3 – Requirements for registered resource producer for approved uses</i>.
Resource	Criteria				
Drilling mud	<ol style="list-style-type: none"> 1. A mixture of naturally occurring rock, soil, and water based drilling fluid, generated by drilling through overburden (as opposed to coal seam formations) during coal seam gas drilling operations at a coal seam gas project. 2. Sourced from coal seam gas projects located within Queensland. 3. Has not been generated by drilling through soil contaminated by a hazardous contaminant. 4. Does not contain or have any of the following: <ol style="list-style-type: none"> a) Restricted stimulation fluids; and b) Any characteristics contained in List 2: Characteristics of controlled wastes, of Schedule A of the Movement of Controlled Waste NEPM (such as, being flammable or emitting flammable gases, liable to spontaneous combustion, oxidising, containing organic peroxides, poisonous, infectious, corrosive, toxic or giving off toxic gases or being ecotoxic) 5. Is free from: <ol style="list-style-type: none"> a) detectable offensive odours⁵; b) glass, metal, plastics (including rigid, light, flexible or film), rubber and coatings; and c) pest or vermin infestations (for example, fire ant infestation). 6. Is in a solid form that is generally able to be picked up by a spade or shovel. 7. Meets the quality requirements in accordance with <i>Table 2 - Maximum contaminant levels (MCL)</i> for the relevant uses specified in <i>Table 3 – Requirements for registered resource producer for approved uses</i>. 				
Resource monitoring requirements					
(6.3)	<p>Prior to providing the resource to a resource user, the registered resource producer must develop a resource characterisation report that:</p> <ol style="list-style-type: none"> a) identifies the source of the resource including how it is generated; b) identifies the constituents of, or inputs to the resource stream, including any drilling fluids used as well as the lithology and composition of the formation water; c) determines whether the composition of the resource will be consistent or variable with time; and d) characterises the initial batch of the resource based on the detailed assessment undertaken and the quality criteria listed in <i>Table 2 – Maximum contaminant levels (MCL)</i>. 				
(6.4)	Characterisation of the initial batch of resource must be undertaken with a sampling density in accordance with Environmental Protection Authority Victoria Industrial Waste Resource Guideline				

⁵ Where drilling fluids containing a high concentration of barite (barium sulphate) are used there is potential for drilling mud to be odorous due to the sulphate present in the chemical. In anaerobic conditions some bacteria can reduce the sulphate to hydrogen sulphide, which is also toxic. This not only has the potential to cause a nuisance but can also affect the quality of the end product.

End of waste code
Coal Seam Gas Drilling Mud (ENEW07543018)

	(IWRG) 702 ⁶ requirements and analytical suite determined based on the detailed assessment undertaken and the quality characteristics listed in <i>Table 2 - Maximum contaminant levels (MCL)</i> . The characterisation should also include Total Dissolved Solids and surfactants if present.				
(6.5)	Table 2 - Maximum contaminant levels (MCL)				
Quality characteristic	MCL (dry mass)			Unit	Limit type
	Column A	Column B	Column C		
Arsenic (As)	80	80	20	mg/kg	Maximum
Barium (Ba)	8000	8000	2000	mg/kg	Maximum
Boron (B)	20	20	5	mg/kg	Maximum
Cadmium (Cd)	4	4	1	mg/kg	Maximum
Chromium (Cr III)	400	400	100	mg/kg	Maximum
Chromium (Cr VI)	4	4	1	mg/kg	Maximum
Copper (Cu)	600	600	150	mg/kg	Maximum
Lead (Pb)	600	600	150	mg/kg	Maximum
Mercury (Hg)	4	4	1	mg/kg	Maximum
Nickel (Ni)	240	240	60	mg/kg	Maximum
Selenium (Se)	20	20	5	mg/kg	Maximum
Silver (Ag)	40	40	10	mg/kg	Maximum
Vanadium (Va)	400	400	100	mg/kg	Maximum
Zinc (Zn)	1200	1200	300	mg/kg	Maximum
Total Petroleum Hydrocarbons (TPH) C6-C9	400	100	100	mg/kg	Maximum
Total Petroleum Hydrocarbons (TPH) C10-C36	4000	1000	1000	mg/kg	Maximum
Benzene	4	1	1	mg/kg	Maximum
Phenols (non-halogenated)	240	60	60	mg/kg	Maximum
Phenols (halogenated)	4	1	1	mg/kg	Maximum
(6.6)	If the source of the resource is determined to be consistent and inputs do not change, the registered resource producer must conduct sampling and characterisation at least on an annual basis to confirm the resource still matches initial characterisation.				
(6.7)	Where the composition of the resource has changed or is likely to change, additional monitoring to that required under Requirement 6.6 must be carried out to ensure that the quality criteria in <i>Table 1 – Resource quality criteria</i> are met.				
(6.8)	Any determination of the suitability or characterisation of the resource (including ongoing sampling) must be made by an appropriately qualified person .				
(6.9)	All analysis required under this EOW code must be carried out by a laboratory that has NATA certification, or an equivalent certification, for such analyses.				

⁶ A copy of this guideline can be found on the Environment Protection Authority Victoria's website.

(6.10)	Prior to the initial supply of the resource to the resource user , or following a variation of the quality of the supply, the registered resource producer must advise the resource user of the quality of the resource ⁷ in writing.								
(6.11)	Table 3 – Requirements for registered resource producer for approved uses								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Approved use</th> <th>Requirements of registered resource producer</th> </tr> </thead> <tbody> <tr> <td>Manufacturing compost, mulch or soil conditioners (resource used as feedstock in manufacturing compost)</td> <td> <ol style="list-style-type: none"> 1. The quality of the resource must not exceed any of the maximum contaminant levels (MCL) stated in Column A of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. Details of the constituents of any surfactants present must be provided in writing to the resource user. </td> </tr> <tr> <td>Manufacturing compost, mulch or soil conditioners (resource added to manufactured compost to create a final product)</td> <td> <ol style="list-style-type: none"> 1. The quality of the resource supplied must not exceed any of the maximum contaminant levels (MCL) stated in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. The resource must be free of viable plant propagules. 3. Details of the constituents of any surfactants present must be provided in writing to the resource user. </td> </tr> <tr> <td>Manufacturing a general purpose soil</td> <td> <ol style="list-style-type: none"> 1. The quality of the resource must not exceed any of the maximum contaminant levels (MCL) in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. The resource must be free of viable plant propagules. 3. Details of the constituents of any surfactants present must be provided in writing to the resource user. </td> </tr> </tbody> </table>	Approved use	Requirements of registered resource producer	Manufacturing compost, mulch or soil conditioners (resource used as feedstock in manufacturing compost)	<ol style="list-style-type: none"> 1. The quality of the resource must not exceed any of the maximum contaminant levels (MCL) stated in Column A of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. Details of the constituents of any surfactants present must be provided in writing to the resource user. 	Manufacturing compost, mulch or soil conditioners (resource added to manufactured compost to create a final product)	<ol style="list-style-type: none"> 1. The quality of the resource supplied must not exceed any of the maximum contaminant levels (MCL) stated in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. The resource must be free of viable plant propagules. 3. Details of the constituents of any surfactants present must be provided in writing to the resource user. 	Manufacturing a general purpose soil	<ol style="list-style-type: none"> 1. The quality of the resource must not exceed any of the maximum contaminant levels (MCL) in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. The resource must be free of viable plant propagules. 3. Details of the constituents of any surfactants present must be provided in writing to the resource user.
Approved use	Requirements of registered resource producer								
Manufacturing compost, mulch or soil conditioners (resource used as feedstock in manufacturing compost)	<ol style="list-style-type: none"> 1. The quality of the resource must not exceed any of the maximum contaminant levels (MCL) stated in Column A of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. Details of the constituents of any surfactants present must be provided in writing to the resource user. 								
Manufacturing compost, mulch or soil conditioners (resource added to manufactured compost to create a final product)	<ol style="list-style-type: none"> 1. The quality of the resource supplied must not exceed any of the maximum contaminant levels (MCL) stated in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. The resource must be free of viable plant propagules. 3. Details of the constituents of any surfactants present must be provided in writing to the resource user. 								
Manufacturing a general purpose soil	<ol style="list-style-type: none"> 1. The quality of the resource must not exceed any of the maximum contaminant levels (MCL) in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i>. 2. The resource must be free of viable plant propagules. 3. Details of the constituents of any surfactants present must be provided in writing to the resource user. 								
Information to be provided									
(6.12)	<p>The registered resource producer must make the following available to any person to whom they provide the resource each time the resource is provided for use:</p> <ol style="list-style-type: none"> a) confirmation in writing that the resource being supplied is compliant with the requirements of this EOW code; b) disclosure that non-compliance of the resource criteria would revert the resource back to waste; c) the most recent certificate of analysis for the quality of the resource being supplied for at least the quality criteria in <i>Table 1 – Resource quality criteria</i>; and d) Safety Data Sheet for the resource. 								
Records									
(6.13)	<p>The registered resource producer must record details of the following:</p> <ol style="list-style-type: none"> a) the assessment and characterisation of the resource required by Requirement 6.3; b) results of ongoing sampling and characterisation, including how the verification sampling frequency was determined for consistent resource streams, as required by requirement 6.5; and 								

⁷ The quality of the resource includes the quality characteristics in *Table 2 - Maximum contaminant levels (MCL)*, and any other quality characteristic identified in characterising the resource, such as Total Dissolved Solids and surfactants present.

End of waste code
Coal Seam Gas Drilling Mud (ENEW07543018)

	<p>c) a written agreement between the registered resource producer and resource user to use the resource in accordance with the conditions and requirements of this EOW code.</p>
(6.14)	<p>The registered resource producer must keep the following records each time the resource is provided for use:</p> <ul style="list-style-type: none">a) origin of the resource (including drill well identification⁸ and GPS coordinates);b) date of delivery of the resource;c) destination of the resource (including the site address and name of the resource user);d) contact details for the person receiving the resource; ande) quantity of the resource supplied (in tonnes).
(6.15)	<p>The registered resource producer must:</p> <ul style="list-style-type: none">a) keep records of all requirements under this EOW code for a period of at least five (5) years; andb) provide the records to the chief executive upon request and in the format requested.

⁸ Where the resource has been sourced from multiple wells, each well is to be identified.

7. Conditions of use

Approved uses	
(7.1)	The approved resource is drilling mud that complies with the quality criteria listed in <i>Table 1 – Resource criteria</i> and is used for the approved uses stated in <i>Table 4 – Approved uses and conditions for resource users</i> .
(7.2)	The resource may be used for an approved use stated in <i>Table 4 – Approved uses and conditions for resource users</i> where the resource user complies with all of the relevant conditions for that use.
(7.3)	Where the resource is to be used for more than one of the approved uses, the resource user must comply with all conditions for those uses in accordance with <i>Table 4 – Approved uses and conditions for resource users</i> .
(7.4)	Table 4 – Approved uses and conditions for resource users
Approved uses	Conditions for resource users
Manufacturing compost, mulch or soil conditioners (resource used as feedstock in manufacturing compost)	<ol style="list-style-type: none"> The resource must only be used in manufacturing products that meet the requirements of AS4454. The resource must only be used in the following mixing ratios⁹: <ol style="list-style-type: none"> equal to or greater than 3:1 where the resource does not exceed the MCLs in Column A of <i>Table 2 - Maximum contaminant levels (MCL)</i> equal to or greater than 1:1 where the resource does not exceed the MCLs in Column C of <i>Table 2 - Maximum contaminant levels (MCL)</i> Where surfactants have been identified in the resource, a risk assessment must be conducted by an appropriately qualified person and the final product determined to present a low leachability/risk to surface water¹⁰.
Manufacturing compost, mulch or soil conditioners (resource added to manufactured compost to create a final product)	<ol style="list-style-type: none"> The resource must only be used in manufacturing products that meet the requirements of AS4454. The resource must only be used in the following mixing ratios¹⁰: <ol style="list-style-type: none"> equal to or greater than 3:1 where the resource does not exceed the MCLs in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i> equal to or greater than 1:1 where the resource does not exceed the MCLs in Column C of <i>Table 2 - Maximum contaminant levels (MCL)</i> Where surfactants have been identified in the resource, a risk assessment must be conducted by an appropriately qualified person and the final product determined to present a low leachability/risk to surface water¹¹.
Manufacturing a general purpose soil	<ol style="list-style-type: none"> The resource must only be used in manufacturing products that: <ol style="list-style-type: none"> meet the requirements of AS4419; and have an exchangeable sodium percentage of less than 15%. The resource must only be used in the following mixing ratios¹⁰:

⁹ Ratios expressed as other material to drilling mud (dry mass). For example, a ratio of 3:1 equals 3 parts other material to 1 part drilling mud (dry mass).

¹⁰ Although surfactants are unlikely to present a risk to human health or plants, there is a potential for **environmental harm** to be caused by runoff or leaching to surface water bodies.

End of waste code
Coal Seam Gas Drilling Mud (ENEW07543018)

	<ul style="list-style-type: none"> a) equal to or greater than 3:1 where the resource does not exceed the MCLs in Column B of <i>Table 2 - Maximum contaminant levels (MCL)</i> b) any ratio where the resource does not exceed the MCLs in Column C of <i>Table 2 - Maximum contaminant levels (MCL)</i>. <p>3. Where surfactants have been identified in the resource, a risk assessment must be conducted by an appropriately qualified person and the final product determined to present a low leachability/risk to surface water¹¹.</p>
Storage	
(7.5)	The resource must not be stored other than at a site where it is to be used.
(7.6)	The resource must not be stored for a period of longer than 14 calendar days.
Records	
(7.7)	For each load of the resource received, the resource user must keep the following records : <ul style="list-style-type: none"> a) origin of the resource (including drill well identification¹¹); b) quantity of the resource (in tonnes); c) date of receipt; and d) name and address of the person who supplied the resource.
(7.8)	All records required by the conditions of this EOW code must be: <ul style="list-style-type: none"> a) kept by the resource user for a period of not less than five (5) years; and b) provided to the chief executive upon request and in the format requested.
Notification of emergencies, incidents and exceptions	
a)	Any breach of a condition of this EOW code must be reported to the chief executive as soon as practicable within 24 hours of becoming aware of the breach. Records , including full details of the breach and any subsequent actions taken, must be kept and provided to the chief executive upon request and in the format requested.

¹¹ Where the resource has been sourced from multiple wells, each well is to be identified.

8. Definitions

Words and phrases used throughout this EOW code in **bold** are defined below. Where a definition for a term used in this EOW code is sought and the term is not defined within this EOW code, the definitions provided in the relevant legislation shall be used.

'**appropriately qualified person**' means a person or persons who has professional qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis in relation to the requirement using the relevant protocols, standards, methods or literature.

'**AS4454**' means Australian Standard 4454 Composts, soil conditioners and mulches (2012), or its most recent version.

'**AS4419**' means Australian Standard 4419 Soils for landscaping and garden use (2003), or its most recent version.

'**chief executive**' means the chief executive of the *Waste Reduction and Recycling Act 2011*, being the Department of Environment and Science or its successor.

'**coal seam gas project**' means an activity authorised under petroleum authority (under petroleum legislation including the *Petroleum Act 1923*, the *Petroleum and Gas (Production and Safety) Act 2004* and the *Petroleum (Submerged Lands) Act 1982* for the extraction of coal seam gas.

'**compost**' has the meaning in **AS4454** and is the organic product that has undergone controlled aerobic and thermophilic biological transformation through the composting process to achieve **pasteurisation** and reduce phytotoxic compounds, and achieved a specified level of maturity required for compost.

'**environmental harm**' has the meaning in section 14 of the *Environmental Protection Act 1994* and is 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.

'**general purpose soil**' has the meaning in **AS4419** being a material consisting of natural soil, a blend of sand and organic material or a blend of sand, natural soil materials and organic materials, which is suitable for the culture of plants usually grown in domestic gardens and landscaped areas.

'**hazardous contaminant**' has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means a contaminant, other than an item of explosive ordnance, that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material **environmental harm** because of -

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

'**load**' means the volume of resource put in or on something for conveyance or transportation, carried at one time. A truck and trailer carrying the resource is considered as one load as well as multiple bins travelling by rail. Where the resource is transported via conveyor systems, information should be recorded on a daily basis until the transfer ceases.

'**Movement of Controlled Waste NEPM**' means the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure, as varied in 2012, or the most recent version.

'**mulch**' has the meaning in **AS4454** and is any organic product (excluding polymers that do not degrade, such as plastics, rubber and coatings) that is suitable for placing on soil surfaces.

'**NATA**' means National Association of Testing Authorities.

'**offensive odours**' means odours that affect the general life, health and wellbeing of an individual as a result of the intensity, character, frequency and duration of the odours.

'**overburden**' means the material overlying the formation of interest to the **coal seam gas project**.

'pasteurisation' means a process whereby organic materials are treated to significantly reduce the numbers of plant and animal pathogens and plant propagules.

'person(s)' means an individual or an entity or a corporation.

'registered resource producer' means a **person** who has registered with the **chief executive** to use, sell or otherwise transfer ownership of the **resource** to be used under this EOW code.

'records' means any records required under a requirement or a condition of this EOW code, including breach notifications and subsequent actions, written procedures, analysis results, monitoring reports and monitoring programs required under this EOW code.

'resource' means **drilling mud** approved as a resource in *Table 1 – Resource criteria*.

'resource user' means a **person** who has entered into a written agreement with a **registered resource producer** to use the **resource**, for an approved use stated in *Table 4 - Approved uses and conditions for resource users*.

'restricted stimulation fluids' has the meaning in section 206 of the *Environmental Protection Act 1994* 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 (the Environmental Protection Regulation 2008)-

- a) petroleum hydrocarbons containing benzene, ethylbenzene, toluene or xylene;
- b) chemicals that produce, or are likely to produce, benzene, ethylbenzene, toluene or xylene as the chemical breaks down in the environment.

'Safety Data Sheet' means a document containing data regarding the properties of the resource which provides information on handling or working with that substance in a safe manner; and includes information such as physical data toxicity, environmental characteristics, health effects, first aid, reactivity; and storage, disposal, protective equipment and spill handling procedures. The Safety Data Sheet must be compliant with Safe Work Australia's code of practice for production of Safety Data Sheets.

'soil conditioner(s)' has the meaning in **AS4454** and is any composted or pasteurised organic product, that is suitable for adding to soils. This also includes products termed 'soil amendment', 'soil additive', 'soil improver' and similar, but excludes polymers that do not biodegrade, such as plastics, rubber and coatings.

'stored' means storing the **resource** for a period of greater than 24 hours. Note that Condition of use 7.6 of the EOW code imposes a maximum storage time of 14 calendar days.

'variation' means:

- a) a change in concentration for one or more of the quality characteristics listed in *Table 2 - Maximum contaminant levels (MCL)* that affects the type of use of the resource permitted under *Table 4 - Approved uses and conditions for resource users*; or
- b) an increase in the concentration of surfactants; or
- c) any other change in the quality of the resource that has the potential to cause significant or material **environmental harm** when the resource is used in accordance with the this EOW code.

'viable plant propagules' means any living parts (including but not limited to seeds, bulbs, roots and vegetation) of plants that are generally considered to be weeds that could generate a new plant.

'waters' includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

- END -

Appendix A — General obligation for all persons

This appendix is not intended to provide a comprehensive assessment of all obligations under Queensland law. It provides some general information and persons are encouraged to familiarise themselves with all requirements related to their specific operation.

Responsibilities under the *Environmental Protection Act 1994*

All persons within the State of Queensland must also meet their obligations under the *Environmental Protection Act 1994*, and the regulations made under that Act.

General environmental duty

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

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

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

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG.

More information is available on the Department of Environment and Science (DES) website www.des.qld.gov.au.

Some relevant offences under the *Environmental Protection Act 1994*

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

Material environmental harm is when the harm is not trivial or negligible in nature. Serious environmental harm is harm that is irreversible, of a high impact or widespread, or that is caused to an area of high conservation value or special significance. Damages, or costs required to rehabilitate the environment, of over \$5000 constitutes material environmental harm and damages, or costs required to rehabilitate the environment, of over \$50,000 constitutes serious environmental harm.

Serious or material environmental harm excludes environmental nuisance.

Causing environmental nuisance (section 440)

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

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

Prescribed water contaminants include a wide variety of contaminants listed in Schedule 9 of the Environmental Protection Regulation 2008.

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

Placing a contaminant where environmental harm or nuisance may be caused (section 443)

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the *Waste Reduction and Recycling Act 2011*

Littering (section 103)

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

Illegal dumping of waste (section 104)

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

Failure to comply with EOW code (section 158)

A registered resource producer for an EOW code must not produce, use, sell or give away the resource unless the registered resource producer complies with the requirements of the EOW code relating to the resource.

A person, other than a registered resource producer, must not use a resource in a way, or for a purpose, that does not comply with an EOW code for the resource.

Approved
12 December 2018

Enquiries:
Permit and Licence Management
Ph: 13 QGOV (13 74 68)
Email: palm@des.qld.gov.au