



## Application for Licence

### Part V Division 3 of the *Environmental Protection Act 1986*

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<b>Licence Number</b>	L9387/2023/1
<b>Applicant</b>	Australian Mud Company Pty Ltd
<b>ACN</b>	009 283 416
<b>File number</b>	DER2023/000016
<b>Premises</b>	Hope Valley Drilling Product Manufacturing Plant 111 Investigator Drive, Hope Valley WA 6165  Part Lot 1028 Investigator Drive, Plan 403186 Certificate of Title Volume 2851 Folio 196 As defined by the premises maps attached to the issued licence
<b>Date of report</b>	29 June 2023
<b>Proposed Decision</b>	Licence granted

**MANAGER, PROCESS INDUSTRIES  
REGULATORY SERVICES**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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## 1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the operation of the premises. As a result of this assessment, licence L9387/2023/1 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary and overview of premises

On 10 January 2023, the applicant submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The application is to seek a licence relating to the manufacturing of liquid and powdered drill products at the premises. The premises is approximately 28 km south-west of Perth. The applicant seeks to transfer authorisation of operation of infrastructure constructed under works approval W6382/2020/1 to this licence. No change to the plant design capacity was proposed as part of this licence application.

The premises relates to the category 33 and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L9387/2023/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in licence L9387/2023/1.

#### 2.2.1 Premises

Construction of the premises was completed in December 2022. The applicant manufactures liquid and powdered drilling products for the drilling industry. Materials are blended in dedicated production areas as detailed in section 2.2.2 and 2.2.3. A wastewater storage tank originally proposed in the works approval application has not been installed, due to the decision to transfer waste directly into intermediate bulk containers (IBCs) instead of via the waste storage tank. IBCs are stored within a bunded area. The premises also consists of the following infrastructure:

- Enclosed warehouse;
- Washdown bay;
- Vertical Gravity Separator (VGS) Oil water separator;
- Spray painting booth;
- Covered loading area; and
- Office and carpark.

#### 2.2.2 Liquid drilling products

Liquid drilling products are manufactured on site via the blending of liquids, such as castor oils, esters of canola oil and canola oil with emulsifiers and/or surfactants and/or water. Raw materials are pumped at required ratios into a 6,000 L mixing tank, blended and packed into 20 – 1,000 L containers via filling machines. Tanks are dedicated by product chemistry to

reduce/eliminate cleaning or wash out. Residuals from any cleaning are incorporated into the subsequent batches where possible or held in IBCs for collection by a licensed controlled waste disposal company. Dangerous goods and combustible raw liquid materials used in this process are detailed in Table 1.

**Table 1: Raw liquid materials (Dangerous Goods and Combustibles)**

Raw Material	Combustible	Dangerous Goods
Canola oil sulphurised	C2	N/A
Castor oil	C2	N/A
Linseed Oil	C2	N/A
BLOWN CASTOR OIL	C2	N/A
ISO 21-ADS	C1	N/A
RECOSOL 78	C1	N/A
Di-Propylene Glycol	C1	N/A
Gardiquat BSAU	N/A	UN1760 Class 8
SOD METASILICATE PENTAHYD	N/A	UN3253 Class 8
Sulphonic Acid	N/A	UN2586 Class 8
SODIUM HYDROXIDE solid	N/A	UN1823 Class 8
Potassium Hydroxide solid	N/A	UN1813 Class 8
SODIUM HYDROXIDE liquid	N/A	UN 1824 UN1813 Class 8
GARDIQUAT 1450 QAC (50%)	N/A	UN 1760 UN1813 Class 8
Acticide B20	N/A	UN 1719 UN1813 Class 8
THPS 75%	N/A	UN2810 UN1813 Class 8, 6.1
Methanol	N/A	UN1230 Class 3

### 2.2.3 Blended powder products

Powdered drill products are produced by using powdered polymers including inorganic clays, minerals and salts, naturally derived and synthetic polymers, and cellulosic flours as described in Table 2.

The powder production area is currently operational at the premises. A works approval was not required for construction of the powder production area as the infrastructure was below the design capacity for category 33 (under Schedule 1 of the EP Regulations). The emissions and discharges relating to the powder production component of the plant have been assessed as part of this licence application.

**Table 2: Powder materials (Dangerous Goods and Combustibles)**

Raw Material	Combustible	Dangerous Goods
<b>Inorganic Clays and Minerals</b>		
AMC BEN	N	N/A
Calcium carb super fine	N	N/A
Calcium carb fine	N	N/A
Magnesium carbonate	N	N/A
<b>Inorganic Salts</b>		
Magnesium oxide	N	N/A

Lime	N	N/A
Soda ash	N	N/A
Potassium chloride	N	N/A
<b>Naturally Derived Polymers</b>		
XAN BORE	Y	N/A
AMC DEX RM	Y	N/A
AMC EZEE PAC R	Y	N/A
<b>Synthetic Polymers</b>		
AMC PLUG	Y	N/A
PHPA 63008	Y	N/A
PHPA 64826	Y	N/A
CR 650	N	N/A
TS 305 RM	Y	N/A
DB 45SH	N	N/A
ZETAG 8180	Y	N/A
Aquasorb 3005KM	Y	N/A
AN945VHM	Y	N/A
<b>Ground Cellulosic Flours</b>		
Walnut shell flour	Y	N/A
Rice flour	Y	N/A

#### 2.2.4 Equipment washdown

The washdown bay is used to clean drilling equipment once to twice a month with detergent and water. It is located on a hardstand with bund in which wastewater is directed to the Vertical Gravity Separator (VGS) to remove suspended solids and hydrocarbons. A licensed controlled waste contractor periodically removes collected waste material to ensure optimum performance. The washdown area is separate to the liquid and powder productions areas and none of the blending vessels and storage tanks are connected to the VGS.

### 3. Legislative context

The premises is subject to the *Dangerous Goods Safety Act 2004* due to the hazardous nature of some of the materials used in the production of liquid drilling products as outlined in Table 1. A Dangerous Goods licence was issued 16 March 2020 (approval number DGS022602).

The premises is also subject to the *Water Services Act 2012* (WA). Waste at the premises is disposed of via a licensed controlled waste disposal company. The applicant holds a Trade Waste Permit issued 20 April 2020, (approval number 61899).

### 4. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway, and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

## 4.1 Source-pathways and receptors

### 4.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this decision report are detailed in Table 3 below. Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 3: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
Noise			<p>Low levels of noise expected in line with permitted levels in local industrial area in accordance with Environmental Protection (Noise) Regulations 1997.</p> <p>Operations within enclosed warehouse.</p> <p>No sensitive receptors within 2 km.</p>
Dust	Blending/mixing of chemicals	Air / windborne pathway	<p>Dust collector system.</p> <p>Dust collected either onto the filter media where it forms a cake that is periodically dislodged or directly falls out into collection containers.</p> <p>Daily housekeeping.</p> <p>Monthly floor sweeping/vacuum by 3rd party.</p> <p>Closed processing between product input (25–1000 kg bags) to output (20 kg box/pail).</p> <p>Maximum packaging size of 1.2 t FIBC.</p>
Spills/leaks of liquid chemicals, hydrocarbons, and wastewater.	Blending/mixing of liquid chemicals	Seepage to soil and groundwater	<p>Liquids Production Bunded Area and Bunded Tank Farm - built on concrete hardstand with bunding around the perimeter to AS 1940 integrity and permeability requirements.</p> <p>All product transfers to occur within bunded areas.</p> <p>Blending vessels, wastewater storage IBCs and canola/castor oil storage tanks certified for operations by a qualified Dangerous Goods Engineer.</p> <p>Canola and Castor Oil storage tanks will be fitted with high level alarms with an automatic shutdown when these are</p>

Emission	Sources	Potential pathways	Proposed controls
Spills/leaks of dry powdered materials, hydrocarbons and washdown water.	Blending/mixing of dry powdered materials chemicals		<p>triggered.</p> <p>If required, liquids captured in bunds (spills) will be tested prior to removal by a licensed wastewater contractor.</p> <p>The transfer of product into blending vessels and storage tanks is done under supervision.</p> <p>Regular checks are undertaken of connected pipework from tank to tank or truck to tank during product transfer.</p> <p>Spills occurring with bunded area are cleaned immediately via absorption method using appropriate spill kit.</p> <p>Operations are carried out within an enclosed warehouse.</p>

#### 4.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

**Table 4: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
Closest residential receptor	2.5 km south-east from southern edge of the Premises boundary
Kwinana Christian School	3.9 km south-east from southern edge of the Premises boundary
Environmental receptors	Distance from prescribed activity
Bush Forever #346: Brownman Swamp, Mt Brown Lake and Adjacent Bushland, Henderson/Naval Base.	1.5 km north-west of northern edge of the Premises boundary.
Ground/surface water and soil	<p>Long Swamp located 0.9 km north-east of northern edge of the Premises boundary.</p> <p>Multiple use damp lands located 0.4 km east, 0.45 km west and 1.5 km north-west of the Premises boundary.</p> <p>There is low potential for escaped product to move in soil and groundwater due to the distance of surface water or wetlands from the Premises.</p>

Beeliar Regional Parks	3.5 km south-east of the southern edge of the Premises boundary and 2 km north-west of the northern edge of the Premises boundary.
Priority 5 Fauna species (mammal and reptile)	0.14 km, 0.44 km south-west of the southern edge of the Premises boundary and 2 km north of the northern edge of the Premises boundary.



## 4.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 4.1 Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 4.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5

Licence L9387/2023/1 that accompanies this decision report authorises emissions associated with the operation of the premises i.e., chemical blending or mixing activities.

The conditions in the issued licence, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

**Table 5: Risk assessment of potential emissions and discharges from the premises during operation**

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls			
<b>Operation</b>							
Blending/mixing of powder/dry chemicals	Noise	Air / windborne pathway causing impacts to health and amenity	Residential dwelling located 2.5 km south-east of the Premises boundary	Refer to Section 4.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	No additional regulatory controls proposed as noise emissions are not expected to be significant.
	Dust				C = Moderate L = Unlikely <b>Medium Risk</b>	Y	The Delegated Officer considers that the controls proposed to manage the risks are sufficient, no additional regulatory controls proposed.
	Spills/leaks of dry chemicals, hydrocarbons and washdown water	Direct discharge to land and infiltration	Soil and groundwater underlying the premise		C = Moderate L = Possible <b>Medium Risk</b>	Y	No additional regulatory controls proposed. The Environmental Protection (Unauthorised Discharges) Regulations 2004 apply.
Blending/mixing of liquid chemicals	Noise	Air / windborne pathway causing impacts to health and amenity	Residential dwelling located 2.5 km south-east of the Premises boundary	Refer to Section 4.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	No additional regulatory controls proposed as noise emissions are not expected to be significant
	Spills/leaks of liquid chemicals and wastewater	Direct discharge to land and infiltration	Soil and groundwater underlying the premise		C = Moderate L = Possible <b>Medium Risk</b>	Y	No additional regulatory controls proposed. The Environmental Protection (Unauthorised Discharges) Regulations 2004 apply.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

## 5. Consultation

The Licence Holder was provided with the draft Amendment Report on 15 June 2023. Comments received from the Licence Holder on 28 June 2023 have been considered by the Delegated Officer as detailed in Appendix 1.

## 6. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

## References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

## Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

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Condition	Summary of applicant's comment	Department's response
Infrastructure and equipment requirements table.	The applicant requests minor changing to wording of operational requirements relating to the Liquid Drill Product Manufacturing Area and has provided further detail as requested relating to the Powder blending Product Manufacturing areas.	The Delegated Officer accepts the changes as minor; the table has been amended.

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY						
Application type						
Licence	☒	Relevant works approval number:	W6382/2020/1	None	<input type="checkbox"/>	
		Has the works approval been complied with?			Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/>
		Has time limited operations under the works approval demonstrated acceptable operations?			Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/>
		Environmental Compliance Report submitted?			Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/>
		Date Report received: 10/01/2023				
Date application received		10/01/2023				
Applicant and Premises details						
Applicant name/s (full legal name/s)		Australian Mud Company Pty Ltd				
Premises name		Hope Valley Drilling Product Manufacturing Plant				
Premises location		111 Investigator Drive, Hope Valley WA 6165				
Local Government Authority		City of Kwinana				
Application documents						
HPCM file reference number:		DER2018/001042-8~73				
Key application documents (additional to application form):		Environmental Compliance Report				
Scope of application/assessment						
Summary of proposed activities or changes to existing operations.		Transfer authorisation of operation of infrastructure constructed under works approval W6382/2020/1 to a new licence.				
Category number/s (activities that cause the premises to become prescribed premises)						
Table 1: Prescribed premises categories						
Prescribed premises category and description		Assessed production or design capacity		Proposed changes to the production or design capacity (amendments only)		
Category 33: Chemical blending or mixing: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that causes or is likely to cause a discharge of waste into the environment.		7,300 tonnes per year		N/A		
Legislative context and other approvals						
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A		
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A		

Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Lease agreement provided with works approval (W6382) application. Expiry 10/11/2029. DWER Document Number: A1861082
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	The premises is located in an approved industrial area with use being consistent with that zoning. The City of Kwinana Planning Approval issued 3 October 2018, approval number DA9254.
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: <i>Rights in Water and Irrigation Act 1914</i> Groundwater Areas Type: Cockburn Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: Kwinana Peel
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g., <i>Dangerous Goods Safety Act 2004</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i> )	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Dangerous Goods Safety Act 2004</i> Licence issued 16 March 2020, approval number DGS022602. <i>Water Services Act 2012 (WA)</i> Trade Waste Permit issued 20 April 2020, approval number 61899
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A