Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Works Approval Number	W6047/2017/1
Applicant	Altech Meckering Pty Ltd
ACN	141 831 914
File Number	DER2017/000557
Premises	Altech Meckering Project Leeming Road Meckering WA 6407 Mining Lease M70/1334 MECKERING WA 6407
Date of Report	Thursday, 25 August 2017
Status of Report	Final

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1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Annual Period	Means a 12 month period commencing from 30 June until 1 July in the following year
Applicant	Altech Meckering Pty Ltd
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
Decision Report	refers to this document.
Delegated Officer	an officer delegated under section 20 of the EP Act.
DMIRS	Department of Mines, Industry Regulation and Safety The Department of Mines, Industry Regulation and Safety was created on 1 July 2017 with the amalgamation of the Departments of Mines and Petroleum and Commerce. These structural changes are part of the WA Government's State-wide public sector reforms.
DWER	Department of Water and Environmental Regulation (DWER) As of 1 July 2017, the Departments of Water (DoW) and Environment Regulation (DER) and the Office of the Environmental Protection Authority (OEPA) amalgamated to form DWER. It has been established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
m^3	cubic metres
Mt	million tonnes
mbgl	metres below ground level
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
ROM	Run of Mine
tpa	tonnes per annum

2. Purpose and scope of assessment

Altech Meckering Pty Ltd (the Applicant) lodged a concurrent works approval and licence application on 18 April 2017 for a screening plant to be located 8km south east of Meckering in support of its proposal to mine and export kaolin.

The Application is to develop an open pit, ROM, dry screening facility and supporting infrastructure at the Meckering Kaolin Project (Premises) for the processing of no more than 42,500 tpa of kaolin extracted from the on-site pit. The facility has a maximum design capacity to be able to process up to 234, 000 tpa based on the maximum capacity of the processing plant.

The Applicant has requested that the Licence application be put on hold pending the

completion of the works.

2.1 Application details

Table 2 lists the documents that form the application.

Table 2: Documents that form the application

Document/information description	Date received
Application form for a concurrent works approval and licence including Altech Meckering Pty Ltd - Meckering Kaolin Deposit - Works Approval and Operating Licence Supporting Document .	18 April 2017
E-Mail RE: Clarification request- Meckering Kaolin Project, Altech Chemicals Ltd	23 June 2017
E-Mail RE: Altech Works Approval Meckering Kaolin Project - Process clarification	17 July 2017

3. Background

The Applicant has identified kaolin suited to producing alumina product on farmland near Meckering. The Applicant and former tenement holders' exploration and mining activities have shown there to be about 65Mt of kaolin at the location.

Mining will be conducted in a series of campaign mining operations (~2months duration) during the summer months about every third year or as required. The first three years of kaolin feedstock (approximately 145,000 tonnes) will be extracted in one campaign lasting about two months and stockpiled at the ROM stockpile. Mining activities will cease at the end of each mining campaign and the operating plant will continue with screening from the ROM stockpile. The screening process is entirely a dry process with no slurry or tailings being generated.

The Department of Mines, Industry Regulation and Safety (DMIRS) has granted Altech Meckering Pty Ltd Registration ID: 61370, which gives approval for mining with a mine closure plan. The construction area as well nearly 100% of the tenement has previously been cleared of native vegetation and as such approval to clear native vegetation has not been sought in the application.

The initial Application document referred to a cyclone and attrition cell, a filter feed tank and to pressure filters which involve slurry feed. This process usually uses water and would have tailings as waste. In an e-mail dated 17 July 2017 the Applicant confirmed that the reference to this infrastructure and wet process was an error and that the kaolin will only be dry screened and not beneficiated and this information was therefore removed from the Application.

The general arrangement of the premises is set out in Figure 1.

Table 3 lists the prescribed premises category relative to the proposed activities to be conducted on site.

Table 3: Prescribed Premises Category

Classification of Premises	Description	Approved Premises production or design capacity or throughput
5	Processing or beneficiation of metallic or non-metallic ore: premises on which – (a) Metallic or non-metallic ore is crushed, ground, milled or otherwise processed; or (b) Tailings from metallic or non-metallic ore are reprocessed; or (c) Tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam	Maximum design capacity of the processing plant - 234,000 tonnes per Annual Period. Assessed throughput - <42,500 tonnes processed per Annual Period

4. Overview of Premises

4.1 Operational aspects

The kaolin ore is reclaimed from the ROM stockpile into a feed hopper via front-end loader to be screened to a size of minus 12mm via the trommel screen. The rejected oversize material (the >12mm) will be stockpiled adjacent to the ROM stockpile and eventually used as waste to backfill the mining pits during the mining operation periods.

The proposed screening process will be housed just outside of the shed, adjacent to the proposed ROM stockpile. The electric trommel screening unit comprises of a ROM carbon steel feed hopper, a portable trommel screen, and a feed conveyor/chutework. No wet processing or the generation of tailings is involved.

The <12mm screened ore will then be fed from the trommel screen into standard 20 foot sea containers via a telescopic container feed conveyor unit, which retracts into the length of the sea container enabling consistent distribution of material. The loaded sea container is taken to the designated truck loading area awaiting transportation to Fremantle port.

No commissioning of the processing plant under this works approval is proposed.

4.2 Waste and waste management

A summary is detailed in Table 4 below of the solid and liquid wastes to be generated by the processing plant at the operational stage and how they will be managed.

Table 4: Waste and waste management

Waste Type	Source	Management	Emission Point
Dust	Screening plant and stockpiles	Water spray as needed	Atmosphere
Oversize material	Screening plant	Dust suppression	In-pit disposal
Gaseous	Electricity generating set, diesel powered	Engine exhaust	Atmosphere
Inert waste	Construction related wastes	Periodic transfer to landfill	Landfill offsite
General wastes and other related wastes	General operations	Periodic transfer to landfill	Landfill offsite

The main waste stream relates to the oversize material returned to the existing mining pits. This is described in more detail above.

4.3 Infrastructure

The Altech Meckering Project facility infrastructure, as it relates to Prescribed Category 5 activities, is detailed in Table 5 and with reference to the Site Plan (Figure 1).

Table 5: Premises infrastructure

	Infrastructure	Site Plan Reference
	Prescribed Activity Category 5	
1	ROM Stockpile	See Figure 1
2	Evaporation pond for storage of pit water and stormwater for dust suppression	
3	Trommel package	

	Infrastructure	Site Plan Reference
	Prescribed Activity Category 5	
	• portable trommel screen; • ROM feed hopper; and • conveyor/chutework	
4	Container loading/unloading facility	

4.4 Exclusions to the Premises

The screening plant supports the mining activities on site. The mining related activities are not within the jurisdiction of Part V of the EP Act and have not been considered in this assessment. Likewise, access roads, crib rooms, workshops and offices have not been considered. The table below itemises those aspects of the site activities that have not been assessed for the works approval.

Table 6: Exclusions to the Premises

	Infrastructure	Capacity	Reason for exclusion from the works approval
1	Access roads	-	Not prescribed
2	Crib Room and Offices	-	Not prescribed
3	Fuel store	10kL	Less than threshold amount
4	Power generating set	220 KVA/128kW	Less than threshold amount
5	Mining of kaolin from ore body.	<42,500 tpa (mining rate)	Mining related activity regulated and approved by DMIRS
6	Construction and general related wastes	-	Waste transferred to local landfill
7	Workshop and machinery washdown pad	Portable wash bay to include: • drive on metal cladded sealed; frame with 1.8m side walls; • sump; • containerised filtration system; • 25000 litre storage tank; • oil separator; • recycle storage water tank; • high pressure wash; • pumping systems; • integrated water; and recycling system.	Not prescribed

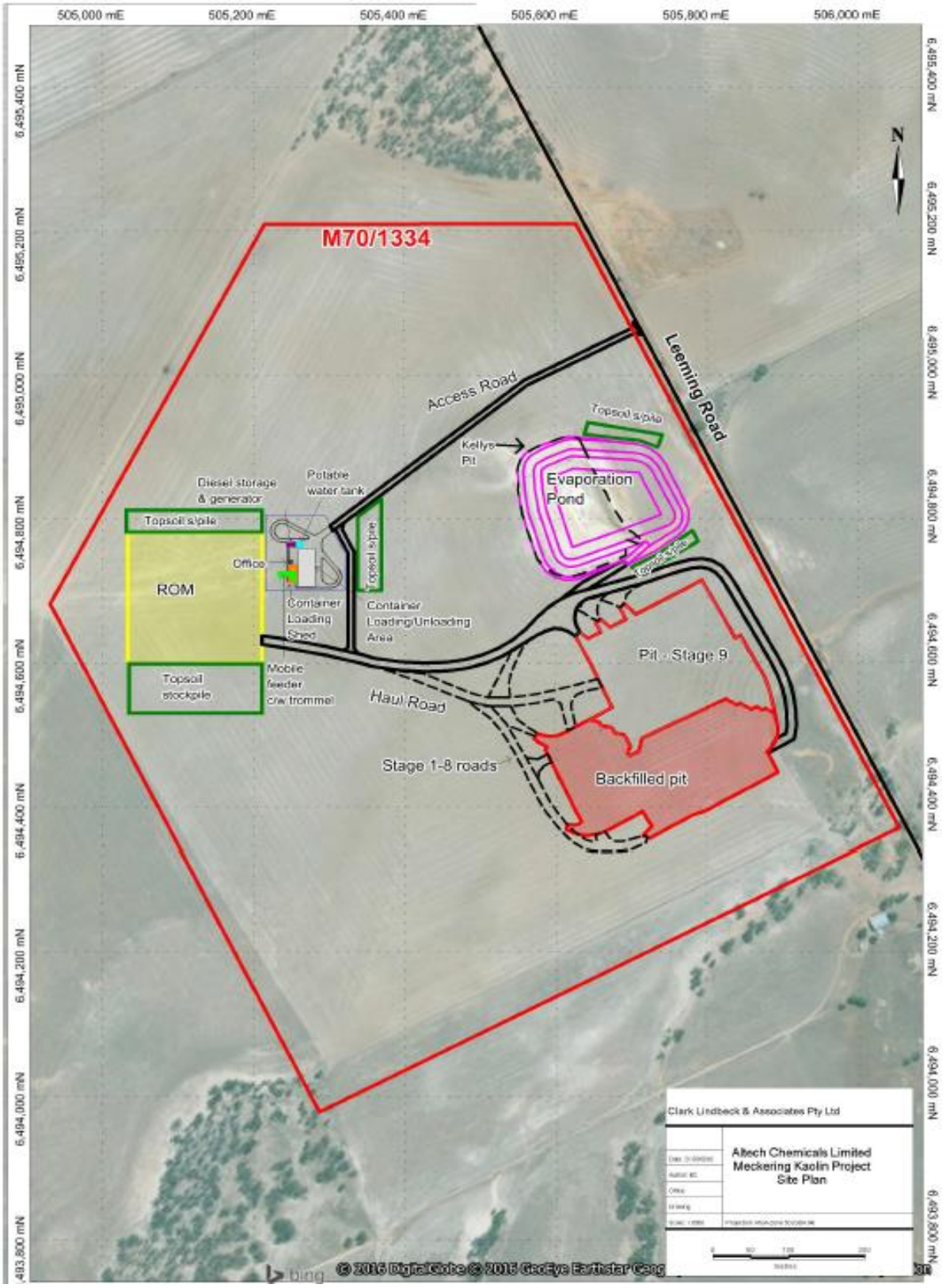

Figure 1: Site layout plan (from Application)

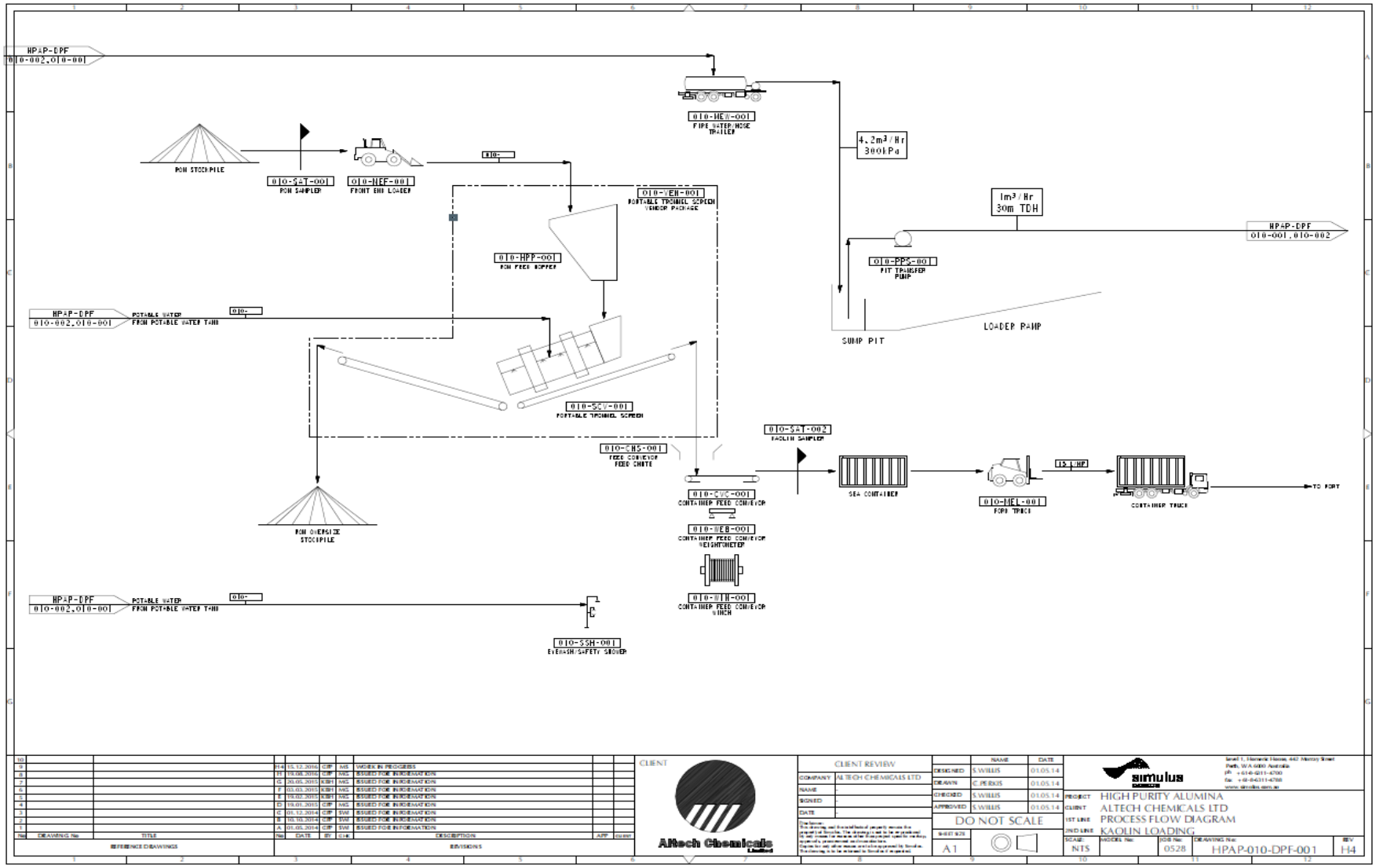

Figure 2: Process flow diagram (from Application)

5. Legislative context

A Mining Proposal and Mine Closure Plan submitted to DMIRS on 22 February 2017 was assessed and approved under section 70 of the Mining Act 1978 (the Act).

Table 7 summarises approvals relevant to the assessment.

Table 7: Relevant approvals and tenure

Legislation	Number	Subsidiary	Approval
Mining Act (WA)1978	Registration ID: 61370	Altech Meckering Ptyl Ltd	Mining proposal with a mine closure plan

5.1 Part IV of the EP Act

Altech Chemical's Meckering Kaolin Project has not been referred for Part IV assessment. The Premises was not considered to have a significant impact on the environment.

5.2 Contaminated sites

There are no registered contaminated sites within Mining Lease M70/1334.

5.3 Other relevant approvals

5.3.1 Planning approvals

No planning approval is required from the Shire of Cunderdin as the Meckering Kaolin Project will be operating on a mining lease.

5.4 Part V of the EP Act

5.4.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations.

The guidance statements which inform this assessment are:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Licence Duration (August 2016)*
- *Guidance Statement: Decision Making (November 2016)*
- *Guidance Statement: Risk Assessments (February 2017); and*
- *Guidance Statement: Environmental Siting (November 2016).*

5.4.2 Clearing of Native Vegetation

The clearing of native vegetation is not approved under the Issued Works Approval. No clearing is required.

6. Consultation

The Application was advertised in the West Australian newspaper and on the department's website on 22 May 2017. No comments were received.

A letter inviting comment was sent to the Shire of Cunderdin on 22 May 2017. Comment was received on 8 June 2017 advising that mining activities were allowed at that location under the provisions of the Shire of Cunderdin Local Planning Scheme No.3.

DMIRS provided a copy of their approval (Registration ID 61370) for the mining proposal and mine closure plan.

The draft Works Approval and Decision Report were referred to the Applicant on 9 August 2017

7. Location and siting

7.1 Siting context

The Meckering Kaolin Project is situated within Mining Lease M70/1334 on Leeming Road, approximately 140km east of Perth and 8km southeast of Meckering in the Shire of Cunderdin. The surrounding land uses are predominantly agriculture.

The Altech Meckering Kaolin Project is situated adjacent to the Dana Meckering Kaolin Project located within Mining Leases M70/1359 and M70/1363. Both projects and companies are independent of each other.

7.2 Residential and sensitive premises

The distances to residential and sensitive receptors are detailed in Table 8.

Table 8: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential premises	Isolated rural dwellings located about 3 km northeast and 2.5 km southwest from the premises.
Meckering Town site	8 km to the southeast

7.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or emissions and discharges from the Premises. The distances to specified ecosystems are shown in Table 9. Table 9 also identifies the distances to other relevant ecosystem values which do not fit the definition of a specified ecosystem.

The table has also been modified to align with the Guidance Statement: Environmental Siting.

Table 9: Environmental values

Ecosystems	Distance from the Premises
Bulgin Nature Reserve	3 km northeast of Project.
Waterways Conservation Areas	Project located within the Avon River Water Management Area.

7.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 10 below.

Table 10: Groundwater and water sources

Groundwater and water sources	Distance from Premises	Environmental Value
Groundwater	Depth to groundwater is approximately 50m mbgl No operational bores located within 2 km of the Project area	Project is not located within a Proclaimed Groundwater Area under the *Rights in Water And Irrigation Act 1914* The *'Avon Catchment Council Report for IWM006 Surface Water Management and Self Sufficiency - Analysis of Regional Water Demand – May 2007'* indicates that low salinity groundwater resources within the Meckering Region are rare.
Closest Priority Ecological Community and Threatened Ecological Communities are associated with wetlands associated with the Mortlock River East Branch.	4.5 km to the west and 8 km to the north respectively.	

7.5 Soil type

Table 11 details soil types and characteristics relevant beneath the assessment.

Table 11: Soil and sub-soil characteristics

Soil category	Typical soil type
Shallow sands over laterite	Sandy Loam changing slowly to Sandy Clay Loam
Deep yellow sand	Sandy Loam changing slowly to Sandy Clay Loam

7.6 Meteorology

7.6.1 Wind direction and strength

The average wind speeds recorded at the Cunderdin Airfield vary throughout the year from 13.2 - 22.6km/h in the morning and 18.5 - 22.1km/h in the afternoon (BOM, 2015). The dominant wind directions experienced at the Cunderdin Airfield in the morning derive from the east whilst wind directions originating from the west and southwest (but with also an easterly trend) are common in the afternoon (BOM, 2015). (Meckering Kaolin Deposit - Works Approval and Operating Licence Supporting Document - 13 April 2017)

7.6.2 Rainfall and temperature

The mean annual maximum temperature is 26.0^{o}C whilst the mean annual minimum temperature is 10.5^{o}C . Daily maxima above 32^{o}C are usual from December to February whilst the coldest month is July (BOM, 2015). The annual average rainfall is 305.3 mm which falls (>1 mm) on an average of 48.1 days per year. Most of the rain usually falls between May and September (BOM, 2015). Cunderdin Airfield is the closest operating station with current data and is located approximately 17km to the north-east of the Premises. (Meckering Kaolin Deposit - Works Approval and Operating Licence Supporting Document - 13 April 2017)

8. Risk assessment

8.1 Determination of emission, pathway and receptor

Identification of key potential emissions, pathways, receptors and confirmation of potential impacts are set out in Table 12 and Table 13 below. Table 12 and Table 13 also identify which potential emissions will be progressed to a full risk assessment. Some potential emissions/impacts may not receive a full risk assessment where a potential receptor or pathway cannot be identified or where the emission/impacts are regulated under other approvals.

Table 12: Identification of key emissions *during construction*

	Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment	Reasoning
Construction of the Evaporation Pond, mobilisation and positioning of infrastructure for the process plant.	Noise	Rural dwellings located about 3km northeast and 2.5km south west from the premises.	Air / wind dispersion	Amenity impacts	No	No residences or sensitive land uses within 2.5 km of the Premises The Delegated Officer considers the provisions of section 49 of the EP Act sufficient to regulate dust emissions during construction and that the provisions of the *Environmental Protection (Noise) Regulations 1997* sufficient to regulate noise emissions during construction. Note: construction will occur over a short period and construction works are limited as some of the key site machinery is mobile equipment.
	Dust		Air / wind dispersion	Amenity Impacts	No	

Table 13: Identification of key emissions *during operation*

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 4.3 for infrastructure references)	**Delivery and storage of raw material to and on the ROM**	Transportation and delivery of raw material to the ROM	Dust	Rural dwellings located about 3km northeast and 2.5km southwest from the Premises.	Air / wind dispersion	Amenity impacts	No	No residences or sensitive land uses within 2.5 km of the Premises The Delegated Officer considers the provisions of section 49 of the EP Act sufficient to regulate dust emissions during construction and that the provisions of the *Environmental Protection (Noise) Regulations 1997* sufficient to regulate noise emissions during operations.
		Storage of raw material on the ROM	Dust					
	Screening plant	Screening process	Dust					
			Noise					
		Oversize storage stockpile	Dust					
		Container loading	Dust					
		Disposal of oversize waste	Oversized ore	Land	In-pit storage	Contamination of land	No	Oversized material is returned to the pit from which it was sourced, without being chemically processed or otherwise altered. The base of the pit will be ≥20m above the groundwater level.
	Stormwater	Site drainage and stormwater runoff	Stormwater contaminated with high concentrations of suspended colloidal clay particles	Groundwater, about 50m bgl. Soils and terrestrial ecosystem surrounding the premises	No pathway as stormwater and pit water is contained on site.		No	No pathway as sources is contained. All stormwater is captured and directed to evaporation pond through earthen bunds and drains

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
	Evaporation pond for pit water and stormwater	Spillages and/or breach of containment infrastructure	Kaolin and sediment contaminated stormwater	Soils and terrestrial ecosystem surrounding the premises	Overland flow	Smothering of terrestrial ecosystems	No	The design of the evaporation pond has been based on a water balance model which takes into account the 1 in 100 year, 72 hr ARI event. Pond has a 500mm design freeboard and water levels will be lowered even further during summer months as the water is used for dust suppression. An operational requirement for licence. Due to the location of the pond it is unlikely that any overtopping event or breach would result in a discharge leaving the premises and impacting off-site receptors. The Delegated Officer has considered that there are no sensitive on-site receptors (native vegetation) that could be impacted by sediment in the event of an overtopping event.

9. Determination of Works Approval Conditions

The conditions in the Works Approval granted to the Applicant have been determined in accordance with DWER's *Guidance Statement on Setting Conditions*.

A standard set of conditions has been added to the Works Approval detailing the works to be constructed and quality assurance certification. The duration of the Works Approval is recommended to be for three years, being the standard time allocation within which works should be completed.

Table 14 provides a summary of the conditions to be attached to the works approval.

Table 14: Summary of conditions to be applied

Condition Ref	Grounds
Infrastructure and Equipment Conditions 1,2,3 and 4	These conditions are valid, risk-based and contain appropriate controls
Information Conditions 5, 6 and 7	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.

The appropriateness and adequacy of controls may be reviewed at any time and following a review, amendments to the works approval may be initiated under the EP Act.

Licence Controls

The following controls will be imposed as conditions on the proposed Issued Licence to manage the risk of emissions during operations of the Premises. It should be noted that these controls are not final and will be subject to compliance with conditions of the issued Works Approval and may change if additional information becomes available to further inform the risk assessment (as per Guidance Statement : *Risk Assessments*)

Table 15: Summary of licence conditions to be applied

Condition	Grounds
Operational requirements for the Evaporation Pond -freeboard of 500mm to be maintained.	These conditions are valid, risk-based and contain appropriate controls
Operational limit for the processing plant - not more than 42,500 tonnes processed per Annual Period	
Information and reporting Conditions	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.

10. Applicant's comments

The applicant was provided with a draft Decision Report which included a draft Works Approval on 9 August 2017. A summary of the comments provided by the Applicant are detailed in Appendix 2.

11. Decision

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including documents and policies specified in this decision report. (summarised in Appendix 1).

Based on this assessment, it has been determined that the issued Works Approval will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Caron Goodbourn
A/Manager Licensing (Process Industries)
Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

	Document Title	In text ref	Availability
1	July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.		accessed at http://www.dwer.wa.gov.au
2	October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.		
3	August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.		
4	February 2017. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.		
5	February 2017. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.		
6	Altech Meckering Works Approval/Licence Application Form (18/04/2017) and supporting Information	The Application	DWER records zA110687
7	E-Mail RE: Washbay clarification request- Meckering Kaolin Project, Altech Chemicals Ltd (23/06/2017)	-	DWER records A1430235
8	E-Mail RE: Altech Works Approval Meckering Kaolin Project - Process clarification (17/07/2017)	-	DWER Record A1482166
9	E-Mail RE: Altech Works Approval- comments on draft W6047	Applicant comments	DWER Record A1509459

Appendix 2: Summary of applicant's comments on risk assessment and draft conditions

No.	Summary of Licence Holder comment	DWER response
1	Change applicant from Altech Chemicals Ltd (ACN 125 301 206) to Altech Meckering Pty Ltd (ACN 141 831 914)	DWER accepted the change in Works Approval Holder
2	There is no crushing of ore on the premises, only screening and loading	DWER changed the Decision Report and Conditions accordingly
3	Table 2 states screening is in shed – this is not accurate, the trommel screen is proposed to be outside and feed into the shed	
4	Table 2 states ROM is a fully bunded concrete base – this is not planned, we proposed it to be graded and constructed of compacted earth	
5	Minor administrative type corrections	