



Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Works Approval Number W6282/2019/1

Applicant Piper Preston Pty Ltd

ACN 142 862 409

File Number DER2019/000390

Premises Temporary Dams and Associated Infrastructure
Parts of Mining Leases M53/796, M53/797, M53/798,
M53/123 and M53/910

Date of Report 18 October 2019

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
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
bgl	Below ground level
BRL	Blackham Resources Limited
Category 14	Solar Salt manufacturing: premises on which salt is produced by solar evaporation
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
Decision Report	refers to this document.
Delegated Officer	an officer under section 20 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this Review
HDPE	High Density Polyethylene
m ³	cubic metres

Minister	the Minister responsible for the EP Act and associated regulations
mtpa	million tonnes per annum
Occupier	has the same meaning given to that term under the EP Act.
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
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
SOP	Sulfate of Potash
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>

2. Purpose and scope of assessment

Piper Preston (the Applicant) proposes to establish and operate a field scale sulfate of potash (SOP) demonstration plant to optimise its processes for SOP production and manufacture. The Lake Way demonstration plant will be a limited duration operational project to demonstrate the viability of processes developed at bench scale and to confirm the applicability of earlier testing at the Lake Way resource. The demonstration plant layout is shown in Figure 1 below. The works associated with this application are as follows:

- Halite ponds
- Kainite harvest ponds
- Carnalite harvest ponds; and
- Bitterns ponds (non- halite residue).

2.1 Application details

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Demonstration Plant Application form and Supporting document	12 July 2019
Response to request for further information <ul style="list-style-type: none"> - Updated application form - Aquatic invertebrate desktop survey - Fauna Report - Acid Sulate Soil Investigation - ASIC information 	6 August 2019

3. Background

Lake Way has been a site of historical mining activity with the Williamson pit currently being operated by Blackham Resources Limited (BRL) as part of its Matilda gold mining operations. The Applicant and Blackham Resources have a services agreement that allows for the extraction of potassium- bearing brines and allows the Applicant to establish the necessary infrastructure.

Table 3 lists the prescribed premises categories that have been applied for.

Table 3: Prescribed Premises Categories

Classification of Premises	Description	Approved Premises production or design capacity or throughput
Category 14	Solar salt manufacturing: premises on which salt is produced by solar evaporation	50,000 tonnes per annum

4. Overview of Premises

4.1 Operational aspects

Nine ponds will be constructed in total. Seven of the nine (two Halite ponds, four Kainite ponds

and the Carnalite pond) will be constructed using a plastic sheet pile methodology and two (one halite pond and the bitterns pond) will be constructed using an earthworks methodology. The sheet pile methodology is shown in Figure 2 and the earthworks methodology is shown in Figure 3.

All of the ponds will be located on the lake and have a combined disturbance area of 700 ha. The Halite, Kainite and Carnalite ponds serve as a series of evaporation ponds to induce the sequential precipitation of salts from the brine. Brine extracted from the trenches will be pumped continually to the evaporation ponds where it will be concentrated by evaporation to allow the recovery of potassium bearing minerals required to produce SOP.

Brine is pumped from the trenches into the initial evaporation pond (Halite pond) where halite is precipitated. The brine concentration is monitored to ensure that only Halite salts are formed in the ponds and potassium remains in the brine. The brine solution is then pumped into the Kainite pond where concentrations are monitored to ensure the correct potassium salts are formed. The bulk of the potassium harvest salts are formed in the Kainite pond. The salts from this pond are harvested and concentrated brine is sent to the Carnalite pond. The non-halite residue from the pond system contains concentrated magnesium chloride (bischofite). It will be stored in the terminal bitterns pond where the brine will undergo evaporation until the pond is dry.

Plastic sheet pile methodology

PVC plastic sheet piles will be driven through lake sediments to achieve a minimum pond wall height or refusal (whichever comes first). Sheet piling will be to a depth of 2m around the full perimeter of the ponds. The pond perimeter wall will vary based on the individual pond. The sheet pile height will vary for each pond's brine depth and precipitation rate.

In order to construct the sheet piles, an access track of mine waste (approximately 6m wide by 0.8m thick) is constructed around the perimeter of the sheet piles. The access tracks is offset 1-2m from the sheet pile wall so that a piling rig or excavator can pitch and drive the sheet pile at the required angle. The downstream side of the sheet pile will be backfilled to prevent excessive deflection under the brine loading.

A minimum freeboard of 200mm is proposed for the sheet pile method.

Earthworks methodology

Pond walls are constructed from overburden waste rock and clay sourced from Williamson Pit waste rock dump. The slopes of the bunds will be at 1V:2H and lined with a HDPE liner which will extend into a trench at the internal toe of the bunds. The bunds will be cut into the underlying clays below the lake.

A minimum freeboard of 300mm is proposed for the earthworks method.

4.2 Infrastructure

The Temporary dam facility infrastructure, as it relates to Category 14 activities, is detailed in Table 4 and with reference to the Site Plan (Figure 1 below and attached in the Issued Works Approval).

Table 4 lists infrastructure associated with Category 14.

Table 4: Temporary dam facility Category 14 infrastructure

	Infrastructure	Site Plan Reference
	Prescribed Activity Category 14	
1	Halite ponds (3)	Figure 1
2	Kainite harvest ponds (4)	
3	Carnalite harvest pond	
4	Bitterns pond (non- halite residue)	

4.3 Commissioning

Commissioning activities shall include the following:

- Pumping of water into each of the ponds over a 4 month period to allow a salt crust to form over the internals of the ponds
- Ponds shall be monitored daily for leaks in the walls
- If leaks are identified, they shall be either treated with silica (sheetpile methodology) or placement of the HDPE liner (earthworks methodology)
- Due to the salt curing process, it is intended that all ponds shall be filled with brine solution during the 4 month period.

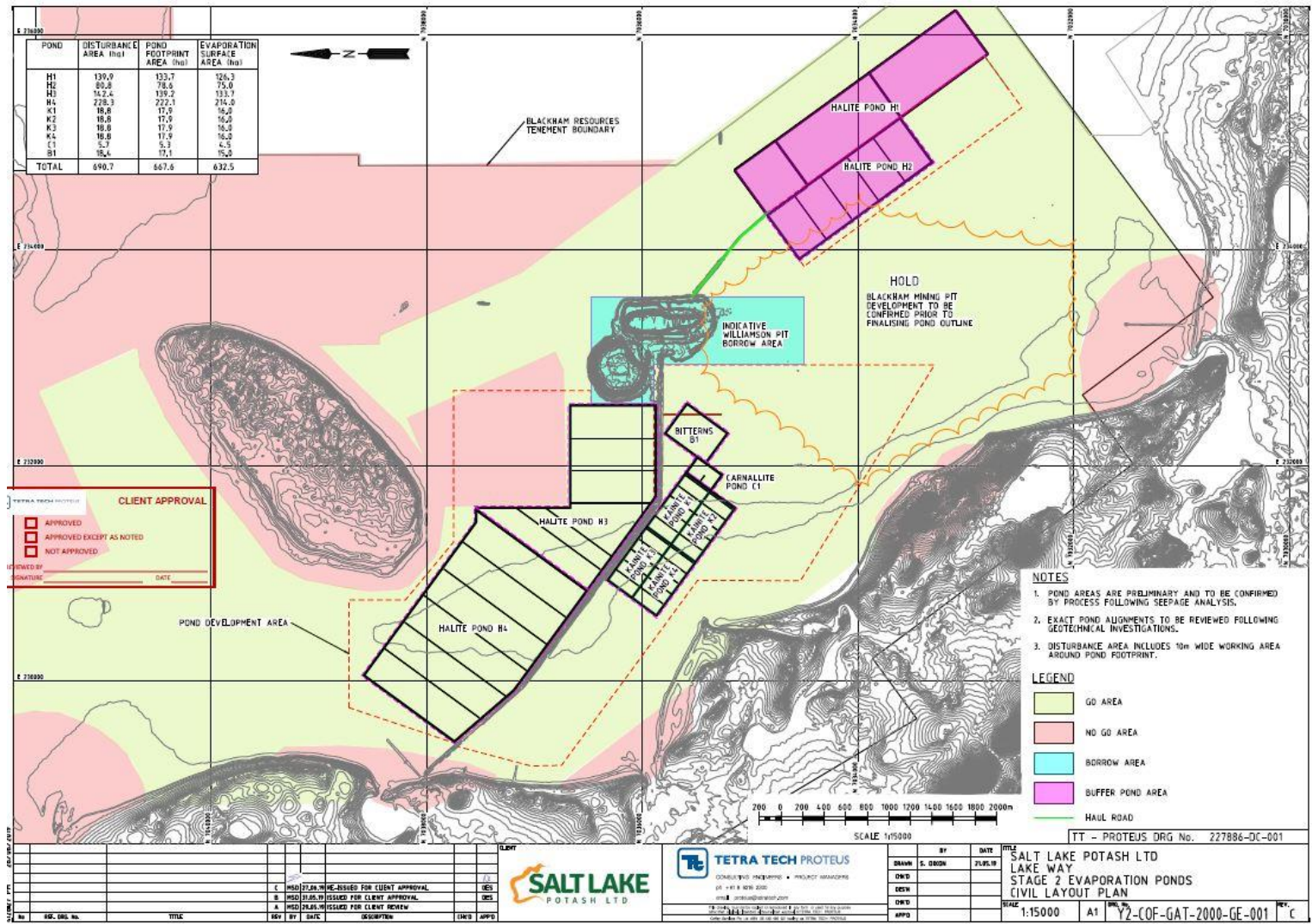


Figure 1: Temporary Dam and associated infrastructure site plan

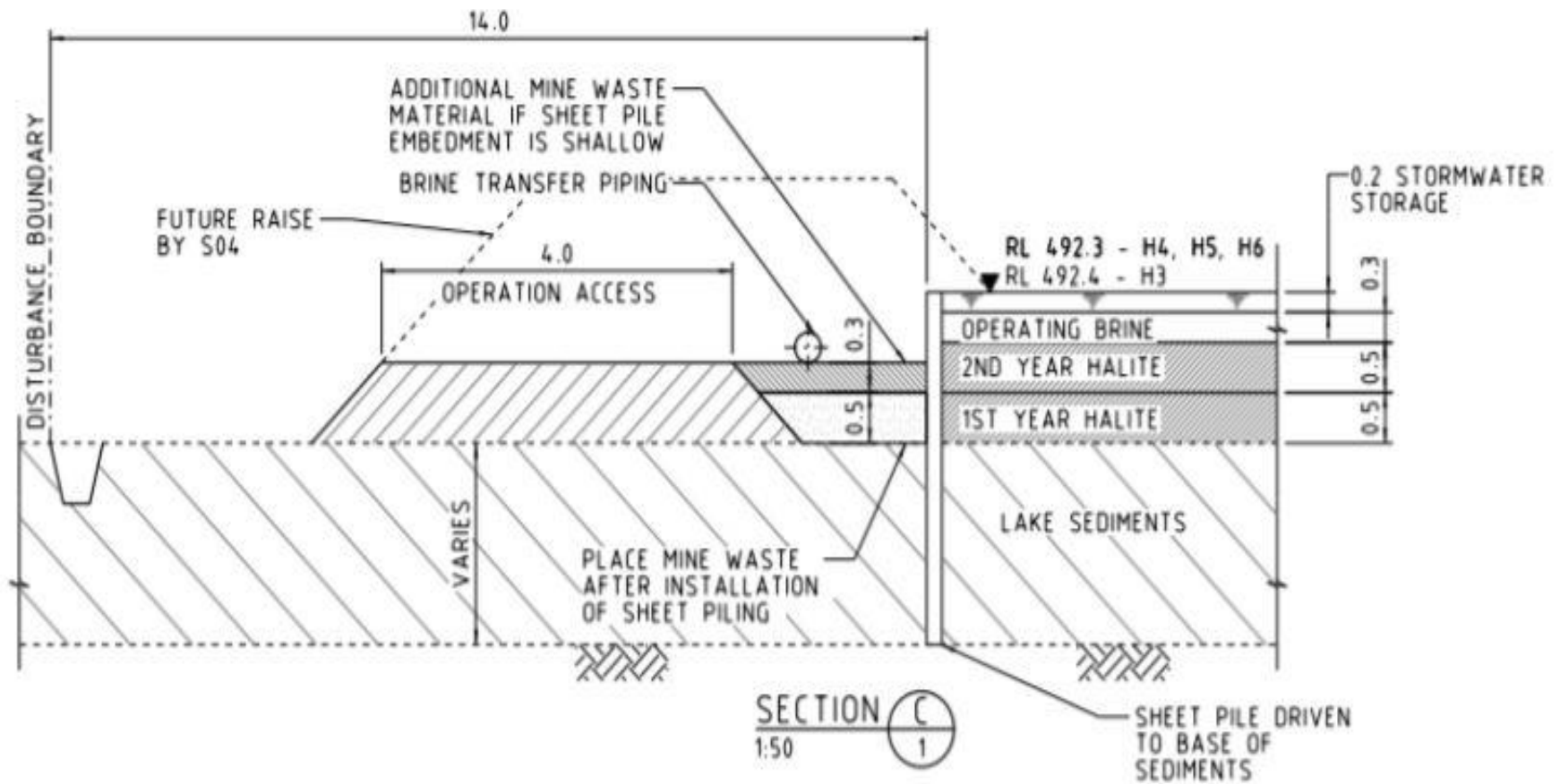


Figure 2: Typical plastic sheet pile methodology wall design (Halite pond example)

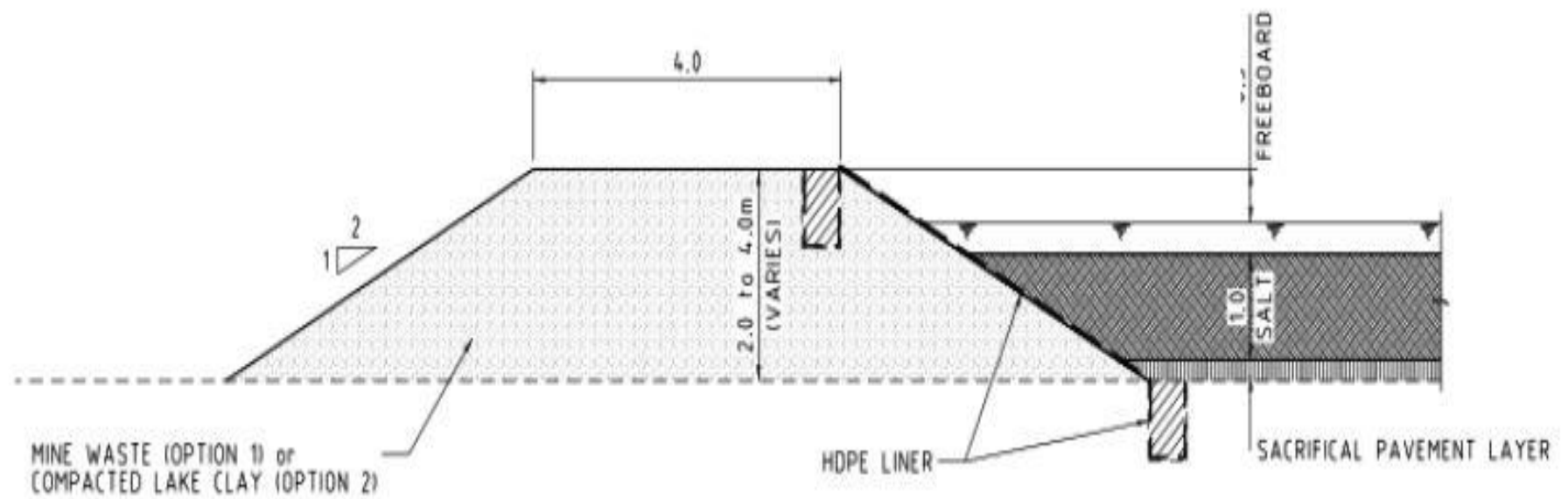


Figure 3: Earthworks methodology wall design (Halite pond example)

5. Legislative context

Table 5 summarises approvals relevant to the assessment.

Table 5: Relevant approvals and tenure

Legislation	Number	Subsidiary	Approval
Part IV of the EP Act (WA)	Case number CMS 17578	Salt Lake Potash Pty Ltd	Decision not to assess (19 June 2019)
Mining Act 1987	Registration 80903	Salt Lake Potash Pty Ltd	Mining Proposal and Closure Plan approved 27 September 2019
RIWI Act 1914	GWL 202044(1) GWL 202044(2)	Salt Lake Potash Pty Ltd	GWL 202044 authorises the extraction of 300,000 kL from the East Murchison, Meekatharra Paleochannel and is granted to Blackham Resources Ltd Application to increase to 8,000,000 kL approved 19 September 2019
Country Areas Water Supply Act 1947	CAW202043(1)		Authorisation to construct the trench
Department of Planning, Lands and Heritage (DPLH) Section 18	Application numbers S18-20784936-657 and S18-20794419-658	Salt Lake Potash Pty Ltd	Applications submitted on 19 June 2019 (trenching activities) and 17 April 2019 (pond locations and on lake infrastructure) Approval ID 69- 15903 and 69- 15904

5.1 Part IV of the EP Act

5.1.1 Background

The Applicant referred the Lake Way SOP Demonstration Plant to the EPA on 8 March 2019 under Section 38 of the Environmental Protection Act 1986. In considering the potential direct and indirect impacts of the proposal on the Flora and Vegetation, Terrestrial Fauna, Subterranean Fauna and Social Surroundings, the EPA had regard to the following:

- the high environmental values but the relatively short duration of planned activities
- there being existing disturbance and infrastructure on and off- playa at Lake Way due to historical mining activities that are being utilised for the Demonstration Plant to reduce the impacts of the proposal
- the mitigation strategies proposed to avoid and minimise impacts for example location of on-playa infrastructure to avoid direct impacts on *Tecticornia* dominated vegetation; and
- monitoring of hydrological regimes and implementation of adaptive management measures through an Environmental Monitoring and Management Plan should the monitoring indicate that responses are required to minimise impacts to *Tecticornia* vegetation
- use of dewatering from existing mine pits as the water source for the proposal

- presence of other statutory processes including Part V of the EP Act 1986 and the Mining Act 1978.

As a result the EPA considered that the likely environmental effects of the proposal are not so significant as to warrant formal assessment. The EPA is of the view that the potential impacts of the proposal can be adequately managed by the Applicant's mitigation measures and dealt with by other statutory processes.

5.2 Part V of the EP Act

5.2.1 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: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessments (February 2017)*
- *Guideline: Industry Regulation Guide to Licensing (June 2019)*

5.2.2 Works approval and licence history

Table 6 summarises the works approval and licence history for the premises.

Table 6: Works approval and licence history

Instrument	Issued	Nature and extent of works approval, licence or amendment
W6206/2018/1	1 March 2019	Construction and installation of the following infrastructure: <ul style="list-style-type: none"> - Temporary Holding Pond consisting of two ponds (pond 1 and pond 2) in series - Access road between the Williamson Pit and Temporary Holding Pond - Borrow pit haul road to access clay material - Trench which collects local groundwater and seepage (if any) from the Temporary Holding Pond; and - Pump within the Williamson Pit (for the purpose of extracting water from Williamson Pit into Pond 1)
L9208/2019/1	27 September 2019	Pumping of up to 1.5GL of water from the Williamson Pit into a Temporary Holding Pond consisting of two ponds (Pond 1 and Pond 2) in series. Water in these ponds will evaporate and result in a residual solid of potash salt.

6. Consultation

Stakeholder consultation is shown in Table 7.

Table 7: Stakeholder consultation

Method	Comments received	DWER response
Direct interest stakeholders notified (29/8/2019): DBCA and Shire of Wiluna	No comments were provided.	N/A
Application advertised on DWER website (02/09/2019)	<p>One received. Respondent raised the following issues:</p> <ul style="list-style-type: none"> - Six design options are presented for pond construction - It is inappropriate for DWER to perform a risk assessment on six different options for pond construction as each individual approach will have different risks - What are the mine closure considerations where plastic liners are used for ponds? - The company should have requisite knowledge to commit to a specific construction method so the assessment can be done properly. This is important as these ponds will become part of a larger scale operation - Lake flooding study needs to be at a level sufficient to allow a lake recharge model to be developed and included in the groundwater model - Pond wall heights may need to be built up higher than 2m. Walls will need to be built from material that has not been specified with unknown stability and no closure information - Not enough information on uranium. This would appear to be a significant risk given uranium mining proposals in the same area <p>The company has made reference to commercial scale operations via ASX announcements.</p>	<p>Comments regarding pond design and construction, liners, flooding were taken into account in the assessment of the application, the risk assessment and the determination of conditions</p> <p>Uranium generally has a low mobility in brines drawn from an anoxic groundwater environment. Therefore uranium concentrations may not necessarily indicate the overall activity of the water</p> <p>DWER sought clarification of this with the Applicant and reviewed the ASX announcements and is satisfied that this application relates to a demonstration plant (50,000 tpa) and not a commercial scale plant (200,000 tpa).</p>
	<ul style="list-style-type: none"> - Page 5 of the scoping study (ASX announcement 13 June 2019) specifies that 1325 ha of evaporation ponds are required for a 200 ktpa operation. The company's existing works approval granted 130 hectares of evaporation ponds and the supplementary document for this works approval totals 690 hectares. Granting this works approval 	

	<p>would give 820 hectares which would exceed the 757 hectares approved by the EPA</p> <ul style="list-style-type: none"> - The EPA has specifically stated that anything larger than the 50,000 tonne plant approved would need to be formally referred to the EPA - No native title mining agreement has been obtained. This is a registered site with no S18 approval granted so no works are allowed - There is no mining lease that has approval for potash or salts production in place only gold 	<p>The EPA considered that the likely environmental effects of the proposal are not so significant as to warrant formal assessment</p> <p>These approvals have been obtained</p>
Applicant notified of draft 17 October 2019	See Appendix 2	Comments noted and revisions were made as appropriate

7. Location and siting

7.1 Siting context

The premises is located approximately 30km south of the Town of Wiluna and situated within Lake Way.

7.2 Sensitive receptors

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

Table 8: Receptors and distance from activity boundary

Receptor	Distance from Prescribed Activity
Human receptors	
Wiluna townsite	Approximately 30km north of the Premises
Environmental receptors	
Lake Way	Premises is situated within Lake Way
Surface geology	Soil type is SV5: Saline soils associated with salt lakes
Groundwater	Located 200mm to 300mm bgl

8. Risk assessment

8.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, DWER will identify all potential emissions pathways and potential receptors to establish whether there is a Risk Event which requires detailed risk assessment.

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. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event. In addition, where an emission has an actual or likely pathway and a receptor which may be adversely impacted, but that emission is regulated through other mechanisms such as Part IV of the EP Act, that emission will not be risk assessed further and will be screened out through Table 14.

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 9,

Table 10 and Table 11 below.

Table 9. Identification of emissions, pathway and receptors during construction

Risk Event				Consequence rating*	Likelihood rating*	Risk*	Reasoning	Regulatory controls - refer to conditions of the granted instrument
Source/Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Earthworks and construction of pond and access track infrastructure Vehicle movements (including reversing beepers)	Dust	Air/windborne pathway causing impacts to surface water quality within Lake Way (within Premises boundary).	- Dust suppression on access roads and during construction	N/A	N/A	N/A	Negligible risk.	N/A
		Air/windborne pathway causing impacts to health and amenity of closest human receptors (Wiluna townsite) approximately 30km from project area.	- Surface stabilisation in locations where dust emissions are likely to be significant - Vehicle traffic will be restricted to designated roads.	N/A	N/A	N/A	The nearest human receptor is located 30km away from the project area.	

	Noise	Air/windborne pathway causing impacts to health and amenity of closest human receptors (Wiluna townsite) approximately 30km from project area.	Use of noise attenuating equipment where feasible.	N/A	N/A	No credible risk	The nearest human receptor is located 30km away from the project area.	
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**Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017).*

Table 10: Identification of emissions, pathway and receptors during commissioning

Risk Event				Consequence rating**	Likelihood rating**	Risk**	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
<p>Commissioning of infrastructure (operation of plant and infrastructure)</p> <p>Commissioning activities shall include:</p> <ul style="list-style-type: none"> - Pumping of water into each pond to allow a salt crust to form over the internals of the pond - Ponds shall be monitored daily for leaks in the walls - If leaks are identified they shall either be treated with silica or placement of HDPE liner - Due to the salt curing process it is intended that all ponds shall be filled with brine 	Discharges of hypersaline water	<p>Direct discharge via overland runoff and overtopping of ponds causing impacts to water quality in Lake Way.</p> <p>Seepage and infiltration through salt to groundwater</p> <p>Leaks or discharges from the brine pipelines onto land or salt lake</p>	<ul style="list-style-type: none"> - Embankments shall be constructed from lake clay material compacted to restrict seepage - The geotechnical engineering design has identified seepage at the site shall be less than 1×10^{-9} m/s - All embankments shall be designed by a certified engineer with experience in embankment construction - Daily inspection of ponds for leaks - Leaks shall be managed by either placement of HDPE liner (construction methodology) or silica of sheeting (sheet pile methodology) 	Slight	Rare	Low	Given the Applicant controls and the scale of the plant, discharges are not expected to cause any changes to surface water or ground-water quality.	N/A

Table 11: Identification of emissions, pathway and receptors during operation

Risk Event				Consequence rating**	Likelihood rating**	Risk*	Reasoning	Indicative Regulatory controls (licence)
Source/Activities	Potential emissions	Potential receptors pathway and impact	Applicant controls					
<p>Containment of hypersaline water</p> <p>Harvesting activities</p>	<p>Discharges of hypersaline water through leaks</p> <p>Seepage of hypersaline water through base or walls of the ponds</p> <p>Pond bund wall failure and/or overflow of hypersaline water</p>	<p><u>Potential Receptors</u> Ecosystems adjacent to the ponds and groundwater</p> <p><u>Pathway</u> Direct discharges to surface waters, land and infiltration to groundwater</p> <p><u>Potential adverse impacts</u> Elevated salinity in underlying soils and groundwater</p>	<ul style="list-style-type: none"> - Embankments shall be constructed from lake clay material compacted to restrict seepage - The geotechnical engineering design has identified that seepage at the site shall be less than 1×10^{-9} m/s - All embankments shall be designed by a certified engineer with experience in embankment construction - Freeboard sufficient to contain a 1% AEP storm event - Halite ponds are designed to a height of 1.5m to provide the following capacity: <ol style="list-style-type: none"> 1) Two years of precipitate at 0.5m/year 2) Operational brine height of 0.3m 3) A storm storage capacity of 0.2m (based on a 1 in 100 annual exceedance probability rain event of 72 hours duration) - Kainite and Carnalite ponds are designed to a height of 1.7m to provide the following capacity: <ol style="list-style-type: none"> 1) One year of precipitate at 1.2m/year 2) Operational brine height of 0.3m 	Slight	Rare	Low	<p>Given the Applicant controls and the scale of the plant, any discharges are not expected to cause any changes to surface water or groundwater quality.</p>	<p>To be determined at licensing assessment stage*</p>

Risk Event				Consequence rating**	Likelihood rating**	Risk* *	Reasoning	Indicative Regulatory controls (licence)
Source/Activities	Potential emissions	Potential receptors pathway and impact	Applicant controls					
			<p>A storm storage capacity of 0.2m (based on a 1 in 100 annual exceedance probability rain event of 72 hours duration)</p> <ul style="list-style-type: none"> - Daily operational inspections of: <ol style="list-style-type: none"> 1) Pipelines and discharge points 2) Pond embankments 3) Pump operations 4) Embankment crest (identifying any unusual changes) 5) Embankment toe and perimeter drainage (identifying any unusual changes) - Inspections will also be undertaken after heavy rain or any unusual events to ensure embankments are functioning as per specifications or whether immediate rectification action is necessary - These inspections will ensure the evaporation ponds and pumping operations have not been adversely affected or that erosion has not created any adverse conditions - Environmental inspections will be conducted on a monthly basis to ensure all relevant approvals are complied with. 					
	Naturally occurring radioactive materials (NORMS)	<u>Potential receptors</u> Brine product Wildlife eg. birds <u>Pathway</u>	-	Moderate	Possible	Medium	Dickson (1985) has investigated saline groundwater	Conditions 8-12 apply. The required measurement will be Gross α and Gross β .

Risk Event				Consequence rating**	Likelihood rating**	Risk* *	Reasoning	Indicative Regulatory controls (licence)
Source/Activities	Potential emissions	Potential receptors pathway and impact	Applicant controls					
	in saline ground-water below and adjacent to salt lakes (radium and actinium isotopes)	Precipitation during production process Concentration in ponds Ingestion of pond water <u>Impact</u> Toxicity, wildlife death					beneath and adjacent to salt lakes in the south western Yilgarn region of WA and has reported high levels of radium and actinium isotopes due to the leaching of granitic bedrock by hypersaline water	

**The works approval that accompanies this Report authorises construction only. A licence is required for operations. ** Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017).*

8.2 Consequence and likelihood of risk events

A risk rating will be determined for risk events in accordance with the risk rating matrix set out in Table 12 below.

Table 12: Risk rating matrix

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

DWER will undertake an assessment of the consequence and likelihood of the Risk Event in accordance with Table 13 below.

Table 13: Risk criteria table

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		The following criteria has been used to determine the consequences of a Risk Event occurring:		
			Environment	Public health* and amenity (such as air and water quality, noise, and odour)
Almost Certain	The risk event is expected to occur in most circumstances	Severe	<ul style="list-style-type: none"> onsite impacts: catastrophic offsite impacts local scale: high level or above offsite impacts wider scale: mid-level or above Mid to long-term or permanent impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are significantly exceeded 	<ul style="list-style-type: none"> Loss of life Adverse health effects: high level or ongoing medical treatment Specific Consequence Criteria (for public health) are significantly exceeded Local scale impacts: permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	<ul style="list-style-type: none"> onsite impacts: high level offsite impacts local scale: mid-level offsite impacts wider scale: low level Short-term impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are exceeded 	<ul style="list-style-type: none"> Adverse health effects: mid-level or frequent medical treatment Specific Consequence Criteria (for public health) are exceeded Local scale impacts: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	<ul style="list-style-type: none"> onsite impacts: mid-level offsite impacts local scale: low level offsite impacts wider scale: minimal Specific Consequence Criteria (for environment) are at risk of not being met 	<ul style="list-style-type: none"> Adverse health effects: low level or occasional medical treatment Specific Consequence Criteria (for public health) are at risk of not being met Local scale impacts: mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	<ul style="list-style-type: none"> onsite impacts: low level offsite impacts local scale: minimal offsite impacts wider scale: not detectable Specific Consequence Criteria (for environment) likely to be met 	<ul style="list-style-type: none"> Specific Consequence Criteria (for public health) are likely to be met Local scale impacts: low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	<ul style="list-style-type: none"> onsite impact: minimal Specific Consequence Criteria (for environment) met 	<ul style="list-style-type: none"> Local scale: minimal to amenity Specific Consequence Criteria (for public health) met

[^] Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting*.

* In applying public health criteria, DWER may have regard to the Department of Health's *Health Risk Assessment (Scoping) Guidelines*.

"onsite" means within the Prescribed Premises boundary.

8.3 Acceptability and treatment of Risk Event

DWER will determine the acceptability and treatment of Risk Events in accordance with the Risk treatment Table 14 below:

Table 14: Risk treatment table

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk Event will not be tolerated. DWER may refuse application.
High	May be acceptable. Subject to multiple regulatory controls.	Risk Event may be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk Event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled.	Risk Event is acceptable and will generally not be subject to regulatory controls.

9. Determination of Works Approval conditions

The conditions in the issued Works Approval in Attachment 1 have been determined in accordance with the *Guidance Statement: Setting Conditions*.

Table 15 provides a summary of the conditions to be applied to this works approval.

Table 15: Summary of conditions to be applied

Condition Ref	Grounds
Infrastructure and Equipment 1,2 and 3	These conditions are valid, risk-based and contain appropriate controls.
Emissions 4	This condition is valid, risk-based and consistent with the EP Act.
Record Keeping 5,6 and 7	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.
Monitoring 8,9,10,11 and 12	This condition is valid, risk-based and consistent with the EP Act.

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the works approval under the EP Act.

10. Applicant's comments

The Applicant was provided with the draft Decision Report and draft issued Works Approval on 17 October 2019. The Applicant provided comments which are summarised, along with DWER's response, in Appendix 2.

11. Conclusion

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the 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.

Tim Gentle
Manager Resource Industries
REGULATORY SERVICES

Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

	Document title	Availability
1.	Demonstration Plant Works Approval application form and supporting documentation- July 2019	DWER records (DWERDT178825)
2.	Response to request for further information <ul style="list-style-type: none"> - Updated application form - Aquatic invertebrate desktop survey - Fauna Report - Acid Sulfate Soil Investigation - ASIC information 	DWER Records (DWERDT186097)
3.	DER, July 2015. <i>Guidance Statement: Regulatory principles.</i> Department of Environment Regulation, Perth	Accessed at www.dwer.wa.gov.au
4.	DER, October 2015. <i>Guidance Statement: Setting conditions.</i> Department of Environment Regulation, Perth	
5.	DER, February 2017. <i>Guidance Statement: Risk Assessments.</i> Department of Environment Regulation, Perth	
6.	DER, February 2017. <i>Guidance Statement: Decision Making.</i> Department of Environment Regulation, Perth	
7.	DWER, June 2019. <i>Guideline: Industry Regulation Guide to Licensing.</i> Department of Water and Environmental Regulation, Perth	

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

Condition	Summary of Licence Holder comment	DWER response
3 Infrastructure and equipment	Confirmation of 4 calendar months for commissioning of ponds	A time period of 6 months is given for commissioning to allow for contingency
6 Record- keeping	Change the time period for complying with a Department request from 14 days to 30 business days	A time period of 14 days will remain and if necessary a longer time period can be requested and agreed to

Attachment 1: Issued Works Approval W6282/2019/1
