



## Application for Works Approval

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

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**Works Approval Number** W6651/2022/1

**Applicant** Australian Potash Limited

**ACN** 149 390 394

**File number** DER2021/000404

**Premises** Lake Wells Potash Project  
Legal description -  
Part of M38/1275 and M38/1274  
As defined by the coordinates in Schedule 1 of the works approval

**Date of report** 28 July 2022

**Decision** Works approval granted

**Stephen Checker**  
**MANAGER WASTE INDUSTRIES**

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

# Table of Contents

<b>1. Decision summary .....</b>	<b>1</b>
<b>2. Scope of assessment .....</b>	<b>1</b>
2.1 Regulatory framework .....	1
2.2 Application summary and overview of premises .....	1
2.2.1 Containerised WWTP and irrigation sprayfield .....	1
2.2.2 Putrescible landfill .....	2
2.3 Part IV of the EP Act.....	2
<b>3. Risk assessment.....</b>	<b>3</b>
3.1 Source-pathways and receptors .....	3
3.1.1 Emissions and controls .....	3
3.1.2 Receptors.....	6
3.2 Risk ratings.....	10
<b>4. Consultation .....</b>	<b>15</b>
<b>5. Conclusion .....</b>	<b>16</b>
<b>References .....</b>	<b>16</b>
<b>Appendix 1: Summary of applicant’s comments on risk assessment and draft conditions .....</b>	<b>17</b>
<b>Appendix 2: Application validation summary.....</b>	<b>20</b>
Table 1: Proposed applicant controls .....	3
Table 2: Sensitive human and environmental receptors and distance from prescribed activity.	7
Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation .....	11
Table 4: Consultation .....	15
Figure 1: Proximity of premises (pink) and, landfill (green) and irrigation sprayfield (blue) boundary coordinates to Lake Wells Station Homestead (H1).....	9

## 1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6651/2022/1 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 14 July 2021, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to the installation of a containerised wastewater treatment plant (WWTP) and associated irrigation field, and construction of a landfill for the receipt and burial of Class II putrescible waste generated at the Lake Wells Potash Project. The premises is situated adjacent to Lake Wells, approximately 160 km northeast of Laverton.

The premises relates to the categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6651/2022/1. 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 works approval W6651/2022/1.

#### 2.2.1 Containerised WWTP and irrigation sprayfield

The Lake Wells Village constructed as part of the overarching Lake Wells Potash Project will comprise 200 ensuite rooms, kitchen and staff dining room, staff bar, recreation facilities, offices, meeting rooms, and a maintenance workshop. The containerised WWTP will process wastewater from these facilities and will be installed to the north of the accommodation village. Treated effluent from the containerised WWTP will be disposed of via evaporation and irrigation across an adjacent dedicated sprayfield. The containerised WWTP shall be constructed to accommodate a maximum throughput capacity of 50,000 litres per day, with treated effluent then pumped to an approximately 13.7-hectare sprayfield. The spray field will be utilised for the irrigation of effluent wastewater during commissioning, with testing undertaken to prove the WWTP is producing water to the Low Risk (Class C) standard in accordance with the *'Guidelines for the Non-Potable Uses of Recycled Water in Western Australia'* (DOH 2011). Irrigation of the effluent to the designated area will continue in steady state operations (365 days per year operation).

The location of the WWTP site and the location and dimensions of the irrigation area were selected sized in accordance with the former Department of Water (DoW) 'Water Quality Protection Note (WQPN 22) Irrigation with Nutrient Rich Wastewater'. The land is not permanently or seasonally inundated or waterlogged, needs no artificial drainage or requires natural watercourses to be diverted. There are no Sensitive Water Resources within 500 m of the WWTP facility. The location of the facility is not within a Public Drinking Water Source Area, a wetland with defined conservation value, Environmental Protection Policy Lakes,

Waterways Management Areas, or other wetlands. The soils of the Lake Wells Area comprise a thin layer of colluvium overlying residual soils atop a weathered bedrock; lithology comprising surficial sand and silty sand, hardpan of iron-cemented, or semi-cemented, silty clay and clay and weathered dolerite. Apart from the saline Lake Wells playa, there are no nearby watercourses. The soils are classified as Risk Category B (WQPN 22). Based on a maximum discharge rate of 50, 000 litres of effluent per day, and the projected maximum nitrogen and phosphorus concentrations (30 and 15 mg/l respectively), the minimum sprayfield area required has been calculated to be 13.69 hectares.

### 2.2.2 Putrescible landfill

The proposed landfill facility is required for disposal of putrescible waste and inert wastes generated as part of project operations. Landfill volumes are estimated to be in the order of 2,250 tonnes per year. This volume shall comprise an estimated 250 tonnes of putrescible waste and 2,000 tonnes of industrial/inert waste inputs per year. The landfill is proposed to be located to the west of the accommodation camp, east of the topsoil stockpile. will be constructed and operated according to the *Environmental Protection (Rural Landfill) Regulations 2002*. Domestic (putrescible and non-putrescible), non-recyclable waste produced at the Accommodation Village will be disposed of into this landfill facility. Recyclable materials, such as metals, rubber, plastic, paper, glass, and fabric products will be segregated from other waste. The proposed landfill design is a moving trench which incorporates a maximum open excavation of 30 m long by 4 m wide and up to 4 m deep.

## 2.3 Part IV of the EP Act

The Lake Wells Potash Project was assessed by the Environmental Protections Authority (EPA) and is subject to Ministerial Statement MS1162.

The Lake Wells Potash Project involves the abstraction of brine resources from the Lake Wells Playa Lake system (salt lake terrain) to produce a sulfate of potash (SOP). The project includes construction of an SOP processing plant, brine abstraction bores, evaporation ponds, raw water bore field, accommodation village, airstrip, and other associated infrastructure.

The applicant referred their proposal to the EPA on 21 December 2017. On 30 January 2018, the EPA decided to assess the proposal and set the level of assessment at Environmental Review – No Public Review.

The EPA identified the following key environmental factors during the course of its assessment:

- **Flora and Vegetation** – direct disturbance of flora and vegetation for the construction of bore fields, evaporation ponds and infrastructure. There is potential for indirect impacts associated with changes to surface water regimes.
- **Terrestrial Fauna** – direct disturbance of known habitat for significant fauna species. There would also be indirect impacts including increased feral animal activity and vehicle strike.
- **Inland Waters** – changes to groundwater regimes associated with groundwater abstraction of brine and potable or process water. Changes to surface water regimes associated with the construction of evaporation ponds on the playa surface.
- **Subterranean Fauna** – potential impacts to habitat for stygofauna associated with groundwater abstraction.
- **Social Surroundings** – potential impacts to heritage sites.

Ministerial Statement number 1162 for the implementation of the Lake Wells Potash Project (subject to implementation conditions and procedures) was published on 1 February 2021.

### 3. 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.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 1: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
Dust	Clearing activities, excavation, vehicle movements, lift-off from stockpiles and/or earthworks etc.	Air/windborne pathway causing impacts to health and amenity	Physical Separation distance from sensitive receptors Short duration/temporary nature of construction activities
Noise	Clearing activities, excavation, vehicle movements and/or earthworks etc.	Air/windborne pathway causing impacts to health and amenity	Physical Separation distance from sensitive receptors Short duration/temporary nature of construction activities
Sediment laden stormwater	Clearing activities, excavation, vehicle movements and/or earthworks etc.	Overland flow and discharge to waterlines and waterbodies	Surface water management in accordance with requirements of Ministerial Statement
<b>Operation</b>			
Dust	Vehicle movements, lift-off from stockpiles and/or landfilling activities etc.	Air/windborne pathway causing impacts to health and amenity	Physical Separation distance from sensitive receptors Limited vehicle movements

Emission	Sources	Potential pathways	Proposed controls
Noise	Vehicle movements, waste deposition, compaction and burial. WWTP pumps	Air/windborne pathway causing impacts to health and amenity	Physical Separation distance from sensitive receptors
Windblown waste and litter	Acceptance, deposition, and burial of waste	Air/windborne pathway causing impacts to amenity  Dispersal by scavenging fauna	An appropriately sized fence will be erected around the boundary of the landfill facility to ensure an effective barrier is in place to prevent fauna (particularly feral animals and stock) from accessing waste material  Weekly compaction and covering of deposited waste with excavated materials  Monthly retrieval of wind-blown waste in accordance with Regulation 8 of the <i>Environmental Protection (Rural Landfill) Regulations 2002</i>
Odour	Operation of WWTP Acceptance, deposition, and burial of putrescible waste	Air/windborne pathway causing impacts to health and amenity	Containerised WWTP to minimise potential odour emissions  Physical Separation distance from sensitive receptors  Weekly compaction and covering of deposited waste with excavated materials
Vector emissions – vermin, pests, pathogens	Acceptance, deposition, and burial of waste	Movement via air, or transmission via fauna	Physical Separation distance from sensitive receptors  Weekly compaction and covering of deposited waste with excavated materials
Leachate	Percolation of rainfall through exposed and/or buried waste	Seepage to soil and groundwater causing impacts on subterranean fauna communities and groundwater users	Excavated overburden material will be placed around the edge of the landfill to create a safety bund and prevent stormwater inflows  Excavated material will be used to cover waste on a weekly basis

Emission	Sources	Potential pathways	Proposed controls
Landfill gas	Anaerobic breakdown of putrescible waste within the landfill cell	Vertical migration of gases through soil profile before dispersal to atmosphere.  Post-closure vertical migration through capping layer	Deposition of cover material would oxidise some of the methane gas before dispersing in the atmosphere
Sediment laden stormwater	Runoff from excavated material stockpiles and unsealed roads	Overland flow and discharge to waterlines and waterbodies	Installation of suitable flood ways, drains and culverts to ensure the natural flow patterns across the playa are maintained as far as practicable
Smoke and ash from uncontrolled fire	Acceptance, deposition, and burial of waste - accidental ignition or spontaneous combustion	Air/windborne pathway causing impacts to health and amenity	Establishment of fire breaks around key infrastructure, and installation of firefighting equipment
Embers (Bushfire ignition)	Acceptance, deposition, and burial of waste - accidental ignition or spontaneous combustion	Air/windborne pathway resulting in ignition of dry vegetation	Establishment of fire breaks around key infrastructure, and installation of firefighting equipment  Operation of landfill in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i>
Spills/leaks of raw or partially treated sewage	Loss of containment from WWTP	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Valves, instrumentation, and control system logic to mitigate the risk of discharge of untreated or partially treated effluent to the environment through build up and overtopping  Provision of uninterrupted power supply to ensure power is maintained to the programmable logic controller so that individual outputs can be disabled, and presence of control system logic to shut off and close all valves in the event of power failure

Emission	Sources	Potential pathways	Proposed controls
Treated effluent discharge to land via fixed sprayfield	Irrigation via sprinklers over designated sprayfield	Infiltration through soil profile, transporting nutrients and contaminants to groundwater and subsoil profile	Monitoring of effluent quality  Dispersion over appropriately sized irrigation area

### 3.1.2 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 2 below provide 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)). Figure 1 depicts the proximity of the Premises boundary and prescribed activities to the nearest human receptor, Lake Wells Station Homestead.

Potential impacts of the broader Lake Wells Potash Project on aboriginal heritage places were considered as part of Ministerial Statement MS1162.

**Table 2: Sensitive human and environmental receptors and distance from prescribed activity**

Receptor ID	Human receptors	Distance from prescribed activity
H1	Lake Wells Station Homestead	Approximately 1km east of Premises boundary  WWTP situated approximately 1.15 km northwest of Lake Wells Station Homestead  Putrescible landfill situated 3.39 km northwest of Lake Wells Station Homestead
H2	Lake Wells Station pastoral lease (11 windmills pumping groundwater from the superficial deposits for watering livestock)	Overlaying Premises boundary
H3	Wintan (Ceremonial, Mythological, Water Source)	Encompasses eastern portion of Premises  WWTP and sprayfield situated within mapped area
H4	Marlutja (Ceremonial, Mythological, Natural Feature – male access only)	Encompasses northern portion of Premises  Approximately 100m north of landfill footprint
H5	Waturata native title claim over the area lodged in July 2018 (accepted for registration)	Native title claim covers project area
H6	Karu (Artefacts / Scatter, Water Source)	Approximately 20.7 km southwest of Premises boundary
H7	Yilka Aboriginal community (Cosmo Newberry)	Approximately 70 km south of Premises boundary
Receptor ID	Environmental receptors	Distance from prescribed activity
E1	Lake Wells (a salt lake playa system, defined as a lake in an arid or semi-arid region that evaporates during drier months. The playa overlays an ancient river paleochannel, with potassium-rich hypersaline brine, which is the target of the proposed operations)	Within M38/1274 and M38/1275, and immediately adjacent to northern and eastern premises boundary  Approximately 500 m east of sprayfield footprint  Approximately 1.45 km north of landfill footprint

<b>E2</b>	<p>Threatened and /or priority fauna:</p> <ul style="list-style-type: none"> <li>• Great Desert Skink (V);</li> <li>• Brush-tailed Mulgara (P4); and</li> <li>• Long-tailed Dunnart (P4)</li> </ul>	<p>Potential to occur within remises area</p> <p>NB: Works Approval to comply with MS1162 and approved Fauna management Plan</p>
<b>E3</b>	<p>Threatened and/or Priority flora:</p> <ul style="list-style-type: none"> <li>• <i>Melaleuca apostiba</i> (P3)</li> </ul> <p>No Threatened Ecological Communities or Priority Ecological Communities were identified in the study area.</p> <p>None of the vegetation types identified are likely to be groundwater dependent, although vegetation surrounding the playa may opportunistically access stored groundwater within shallow soil profiles.</p>	<p>Within wider project development envelope.</p> <p>No known population within proposed WWTP footprint</p>
<b>E4</b>	Lake Wells Off - Playa Stygofauna and Troglafauna communities	Within underlying fractured rock aquifer
<b>E5</b>	de la Poer Range Nature reserve - Department of Biodiversity Conservation and Attractions (SCLM)	Approximately 9 km southwest of premises boundary (Approximately 1.8 km west of M38/1274)



**Figure 1: Proximity of premises (pink) and, landfill (green) and irrigation sprayfield (blue) boundary coordinates to Lake Wells Station Homestead (H1)**

*Environmental Protection Act 1986*  
Works Approval: W6651/20221/1  
File number: DER2021/000404

## 3.2 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 3.1. 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 3.1), 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 works approval 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 3.

Works approval W6651/2022/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e., putrescible landfill and containerised WWTP and irrigation sprayfield. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

**Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation**

Risk events					Risk rating <sup>1</sup>  C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Groundworks and excavation - including vehicle movements (reversing beepers)	Dust	Air / windborne pathway causing impacts to health and amenity	Lake Wells Station homestead	Refer to Section 3.1	C = Slight L = Rare <b>Low Risk</b>	Y	Condition 1 and 2	N/A
	Noise				C = Slight L = Rare <b>Low Risk</b>	Y	Condition 1	N/A
	Sediment - laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Native vegetation and playa communities		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1	N/A
Placement of equipment and construction of WWTP and spray-field, including vehicle movements (reversing beepers)	Dust	Air / windborne pathway causing impacts to health and amenity	Lake Wells Station homestead		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 and 2	N/A
	Noise				C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1	N/A

Risk events					Risk rating <sup>1</sup>  C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Operation (Including time-limited-operations)								
Unloading and burial of waste in landfill	Dust	Air / windborne pathway causing impacts to health and amenity	Lake Wells Station homestead	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A  (Ongoing landfilling activities to be undertaken in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> )	N/A
	Noise	Air / windborne pathway causing impacts to health and amenity			C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A  (Ongoing landfilling activities to be undertaken in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> )	N/A
	Infiltration of waste contaminated leachate to soil and groundwater	Infiltration through landfill and subsoil to groundwater with potential impacts on stygofauna, troglofauna and aquatic communities	Subterranean ecosystems and seasonal aquatic communities		C = Moderate L = Possible <b>Medium Risk</b>	Y	N/A  (Ongoing landfilling activities to be undertaken in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> )	N/A
	Waste contaminated stormwater runoff	Overland flow and infiltration through soil profile with impacts on stygofauna, troglofauna and aquatic communities			C = Moderate L = Possible <b>Medium Risk</b>	Y	N/A  (Ongoing landfilling activities to be undertaken in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> )	N/A

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Unloading and burial of waste in landfill	Vector emissions – vermin, pests, pathogens	Movement via air, or transmission via fauna	Lake Wells Station homestead, pastoral lease (livestock)	Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	N/A  (Ongoing landfilling activities to be undertaken in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> )	N/A
	Windblown waste/litter	Air/windborne pathway causing impacts to amenity  Dispersal by scavenging fauna	Lake Wells Station homestead, pastoral lease (livestock),  Remnant native vegetation		C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 13	N/A
	Smoke and ash from landfill fire	Air/windborne pathway causing impacts to health and amenity	Lake Wells Station homestead		C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 1	N/A
	Embers (bushfire ignition)	Potential property and habitat destruction	Lake Wells Station homestead and pastoral lease (livestock)  Remnant native vegetation		C = Major L = Unlikely <b>Medium Risk</b>	Y	Condition 1	N/A

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Unloading and burial of waste in landfill	Fugitive landfill gas	Passive venting to air, Lateral migration through soil with adverse impacts on plant roots and soil biota	Remnant native vegetation	Refer to Section 3.1	C = Minor L = Rare <b>Low Risk</b>	Y	N/A  (Ongoing landfilling activities to be undertaken in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> )	N/A
Operation of WWTP	Odour	Air/windborne pathway causing impacts to health and amenity	Lake Wells Station homestead		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 5	N/A
	Spills/leaks or raw or partially treated sewage	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Lake Wells Station pastoral lease, native vegetation communities		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 and 8	N/A
	Pump noise	Air/windborne pathway causing impacts to health and amenity	Lake Wells Station homestead		C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 1	NA
	Treated effluent discharge to land via fixed sprayfield	Infiltration through soil profile, transporting nutrients and contaminants to groundwater and subsoil profile	Native vegetation communities, fauna (native and introduced)		C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 6 and 14	N/A

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

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

## 4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

**Table 4: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on (01/03/2022)	None received	N/A
Local Government Authority advised of proposal on (30/03/2022)	None received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (30/03/2022)	<i>"In relation to your request for comments on this works approval application for Lake Wells Potash Project submitted by Australian Potash Limited, in the absence of any specific questions, I have reviewed the MP approved for this proposal (REG ID 98155 – approved 05/07/2021) and can confirm that the Mining Proposal provides approval for a wastewater treatment plant and a domestic landfill"</i>	Noted
Department of Planning, lands, and Heritage (DPLH) advised of proposal (30/03/2022)	None received	N/A
Department of Biodiversity, Conservation and Attractions (DBCA) advised of proposal (30/03/2022)	<i>"DBCA does not have any information suggesting a direct interest. Therefore, the Department does not intend to make a submission"</i>	Noted
Department of Health (DoH) advised of proposal (30/03/2022)	None received	N/A
Office of the EPA advised of proposal (30/03/2022)	None received	N/A
Lake Wells Station advised of proposal (30/03/2022)	On 6 April 2022, lawyers representing the owners of Lake Wells Station contacted the Department requesting additional time in which to make a submission on the application.  Following discussion with the Delegated Officer on 18 May 2022, and the provision of additional details on the location of the prescribed activities in relation to Lake Wells Homestead, the Department was advised that the owners of Lake Wells Station had provided instruction not to lodge an objection at this time.	N/A

Applicant was provided with draft documents on 17/06/2022	Refer to Appendix 1	Refer to Appendix 1
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## 5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval 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.
4. Environmental Protection Authority (EPA), Ministerial Statement 1162 - Lake Wells Potash Project. Accessed online at <https://www.epa.wa.gov.au/1162-lake-wells-potash-project>
5. Department of Water (DOW), July 2008. Water Quality Protection Note 22 (WQPN22): Irrigation with nutrient rich wastewater. Perth, Western Australia. Accessed at: [www.dwer.wa.gov.au](http://www.dwer.wa.gov.au)
6. Department of Health (DOH), 2011. Guidelines for the Non-potable Uses of Recycled Water in Western Australia. Perth, Western Australia. Accessed at: [www.health.wa.gov.au](http://www.health.wa.gov.au)

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

Condition	Summary of applicant's comment		Department's response
1	"All tanks and containerised plant shall be positioned atop an impermeable, bunded concrete hardstand."	<p><i>This condition is inconsistent with other recent decisions and not typically applied to containerised WWTP solutions in WA. APC requests it to be removed.</i></p> <p><i>* APC has consulted the manufacturer of the Lake Wells WWTP, Remote Water Treatment Solutions (RWTS) and determined there are sufficient controls in place through valves, instrumentation, and control system logic to mitigate the risk of discharge of untreated or partially treated effluent to the environment through build up and overtopping.</i></p>	Agreed, Table 1 amended to remove hardstand requirement and instead require that WWTP be equipped with instrumentation, alarming, and programmable logic controller to alert operator of any faults, and curtail any loss of containment
	"Chemicals, including sodium hypochlorite, must be stored separately within an above ground vessel/s located on a hardstand enclosed by bunds with a holding capacity of 110% of the total vessel/s contents."	<i>This condition is excessive for the minor amount of chemicals to be used and not aligned to industry standards. APC proposes the condition be amended to read: 'Chemicals shall be stored on self-bunded spill containers where appropriate'.</i>	Agreed, Table 1 amended to require self-bunded pallets for chemical storage
	Effluent standards table	<p><i>The Effluent standards table is duplicated in Condition 1, Condition 6 (Table 2) and Condition 13 (Table 4).</i></p> <p><i>APC proposes the table is removed and the following text is deleted: "and achieve the following emissions standards:" and the associated table is deleted.</i></p>	Declined, tables are specific to each condition and will be retained

Condition	Summary of applicant's comment		Department's response
	"Wastewater pipelines constructed with containment earthen bunding to contain potential leaks."	<i>APC proposes this statement is deleted as there is no need for bunding of spray field pipelines. These are used to spray treated effluent and do not contain raw sewerage.</i>	Agreed, requirement removed as applicant has advised that pipelines shall be buried
	"Safety signage erected every 50 m of fencing."	<i>The stated signage requirement is excessive. This is a remote area with a single receptor (H1, Lake Wells Station homestead, 1.15 km to the southeast). Consider increasing requirement for signage to every 200 m.</i>	Agreed, Reduced signage requirement incorporated.
	"An earthen firebreak of at least 3 m in width shall be established around the boundary of the fenced spray-field."	<i>The sprayfield firebreak requirement is inconsistent with conditions of other recent WWTP works approvals and given general vegetation type of the Project setting appears excessive. APC requests this statement to be optional and decided onsite in line with APC's internal risk management processes.</i>	Agreed, management of fire risk to the irrigation area is the responsibility of the applicant. Firebreak requirement removed
4(a)	Engineer certification	<i>APC considers certification could be completed by either an engineer or environmental scientist for assessment of environmental compliance purposes.</i>	Declined. Engineer certification required as some instances of incorrect installation on non-engineer certified installations have been reported to DWER
6	Table 2: Commissioning monitoring	<i>Weekly sampling during commissioning is excessive and will be challenging given the remoteness of the site. Furthermore, it is unlikely to provide any value during the commissioning process, as the return of results will be slow.</i>  <i>APC proposes a once off grab sample be collected twice at a 2-weekly interval during commissioning as a suitable alternative. Furthermore, APC considers in field pH and residual chlorine methods are acceptable, similar to other Works Approvals.</i>	Noted, fortnightly sampling acceptable until desired effluent quality is achieved in a single sample; with quarterly monitoring required on an ongoing basis Table 2 and Condition 8 updated accordingly
14	Table 14: WWTP emissions monitoring during time limited operations.	<i>The time limited operations monitoring frequency is too high. APC proposes the 'daily', 'weekly' and 'monthly' entries be amended to read 'quarterly'. This aligns to other works approvals, such as the West Musgrave draft Works Approval which also stated quarterly monitoring for a similar suite of analytes and larger WWTP.</i>  <i>APC notes field-based pH and residual chlorine is acceptable under Condition 14 (Table 4) but not Condition 6 (Table 2)</i>	Agreed, quarterly monitoring adequate (then managed under licence)

Condition	Summary of applicant's comment	Department's response
Draft Decision Report	<i>APC does not have any specific comments on the 'Draft decision report' document as supplied</i>	Noted

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)					
<b>Application type</b>					
Works approval	<input checked="" type="checkbox"/>				
Licence	<input type="checkbox"/>	Relevant works approval number:		None	<input type="checkbox"/>
		Has the works approval been complied with?		Yes <input 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 type="checkbox"/>	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Date report received:			
Renewal	<input type="checkbox"/>	Current licence number:			
Amendment to works approval	<input type="checkbox"/>	Current works approval number:			
Amendment to licence	<input type="checkbox"/>	Current licence number:			
		Relevant works approval number:		N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>
Date application received		14/07/2021			
<b>Applicant and premises details</b>					
Applicant name/s (full legal name/s)		Australian Potash Limited			
Premises name		Lake Wells Potash Project			
Premises location		Portion of M38/1275 -Australian Potash Limited. Exp 10/09/2039 Portion of M38/1274 – Australian potash limited. Exp 10/09/2039			
Local Government Authority		Shire of Laverton			
<b>Application documents</b>					
HPCM file reference number:		DER2018/001042-5~91			
Key application documents (additional to application form):		Various diagrams and drawings			
<b>Scope of application/assessment</b>					
Summary of proposed activities or changes to existing operations.		<b>Works approval</b> Construction and installation of a Cat 85 wastewater treatment plant (containerised WWTP and irrigation field) and a Cat 89 Landfill (Class II putrescible waste)			

## SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 85: Sewage facility: premises — (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	Max - Up to 50 m <sup>3</sup> per day	
Category 89: Putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled " <i>Landfill Waste Classification and Waste Definitions 1996</i> " published by the Chief Executive Officer, as amended from time to time) is accepted for burial.	Unlined Class II putrescible landfill – 8 ha (2, 243 tonnes per annum)	

### 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 checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: MS1162 Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: MS 1162 EPA Report No: 1688 Assessment number: 2144
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No: A valid Ministerial Statement applies to premises
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry: Tenements held by AUSTRALIAN POTASH LIMITED
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: <u>OUTSTANDING</u> Mining proposal and mine closure

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
		plan (expected September 2021) Department of Health Permit to install sewage apparatus Shire of Laverton Building Permit
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"/>	CPS No: N/A Clearing will be undertaken in accordance with the implementation decision made by Ministerial Statement 1162. This exemption applies to clearing assesses under section 40 as part of a proposal referred under s 38 of Part IV of the EP Act.
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"/>	
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Application reference No: Licence/permit No: RIWI Act 5C and 26D GWL205728(1) – Annual water entitlement of 17, 000, 000 kL
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: Goldfields
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
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 type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

**SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)**

Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?

Yes ☐ No ☒

Classification: N/A

Date of classification: N/A