DRAFT ENVIRONMENTAL SCOPING DOCUMENT

Proposal Name:	**Lake Wells Potash Project**
Proponent:	**Australian Potash Limited**
Assessment Number:	**2144**
Location:	**160 km north northeast of Laverton**
Local Government Area:	**Shire of Laverton**
Public Review Period:	**Environmental review – no public review**
EPBC Referral Number	**N/A**

1. INTRODUCTION

The Environmental Protection Authority (EPA) determined on 30 January 2018 that the Lake Wells Potash Project (the Proposal) be assessed under Part IV of the *Environmental Protection Act 1986* (*EP Act*) by way of an Environmental Review with no public consultation.

This draft Environmental Scoping Document (ESD) has been prepared by Australian Potash Limited (APC) in accordance with the EPA's *Procedures Manual* (Part IV Divisions 1 and 2). The purpose of the ESD is to define the form, content, timing and procedure of the Environmental Review Document (ERD), required by s. 40(3) of the *EP Act*.

1.1 FORM

The form of the ERD required under s. 40 of the EP Act will be in accordance with the ERD template.

1.2 CONTENT

The ERD will include the content outlined in sections 2 to 6 of this ESD.

1.3 TIMING

Table 1 outlines a timeline for the assessment of the Lake Wells Potash Project as agreed between the EPA and APC.

1.4 PROCEDURE

The EPA requires that APC undertake an environmental review according to the *Administrative Procedures* and the *Procedures Manual*.

This draft ESD will not be released for public review. The ESD will be available on the EPA website (www.epa.wa.gov.au) upon endorsement and will be appended to the ERD.

Table 1: Assessment Timeline

Key Assessment Milestone	Completion Date
EPA approves Environmental Scoping Document	1 September 2018
Proponent submits first draft of Environmental Review Document	28 February 2019
EPA provides comment on first draft of Environmental Review Document (*6 weeks from receipt of ERD*)	11 April 2019
Proponent submits revised Environmental Review Document	2 May 2019
EPA prepares draft assessment report and completes assessment	31 May 2019
EPA finalises assessment report (including two weeks consultation on draft conditions) and gives report to Minister (*6 weeks from completion of assessment*)	12 July 2019

2. THE PROPOSAL

2.1 BACKGROUND

The Lake Wells Potash Project occupies palaeovalley and salt lake terrain in the northeast part of the Yilgarn Craton of Western Australia, located approximately 160 km north northeast of Laverton, Western Australia (Figure 1). APC proposes to develop and operate a facility to extract and evaporate natural brines to produce potassium sulphate.

The Proposal includes:

- Development of a brine production borefield within the palaeochannel and development of solar evaporation ponds within the Lake Wells playa lake system.
- Development of harvest ponds of approximately 2 km^2 off playa.
- Construction and operation of a Sulphate of Potash (SOP) processing plant to process salts harvested from the solar evaporation ponds in two stages.
- Development of a brackish-freshwater borefield located within fractured rock aquifers to provide a supply of raw water during construction and process water during operations.
- Construction and operation of ancillary infrastructure.

2.2 KEY PROPOSAL CHARACTERISTICS

Key characteristics for the Proposal are provided in Table 2 with a conceptual site layout depicted in Figure 2. Since the submission of the Environmental Referral Document in December 2017 a change to proposal has been sought, and approved by the EPA, under s. 43a of the *EP Act*. The information presented below, and in Table 2 and Figure 2, reflects the revised development envelopes.

Two development envelope areas, corresponding to the on and off playa areas, totalling 14,341 ha, have been defined (Figure 3). These reflect the different environments between the On and Off playa areas associated with the project.

Definitions for On and Off Playa are as follows:

- On Playa - the projection of the palaeochannel at the surface of the lake including any overlying dunes
- Off Playa - the area around the lake, outside of the paleochannel projection.

The approximate land areas for each development envelope are:

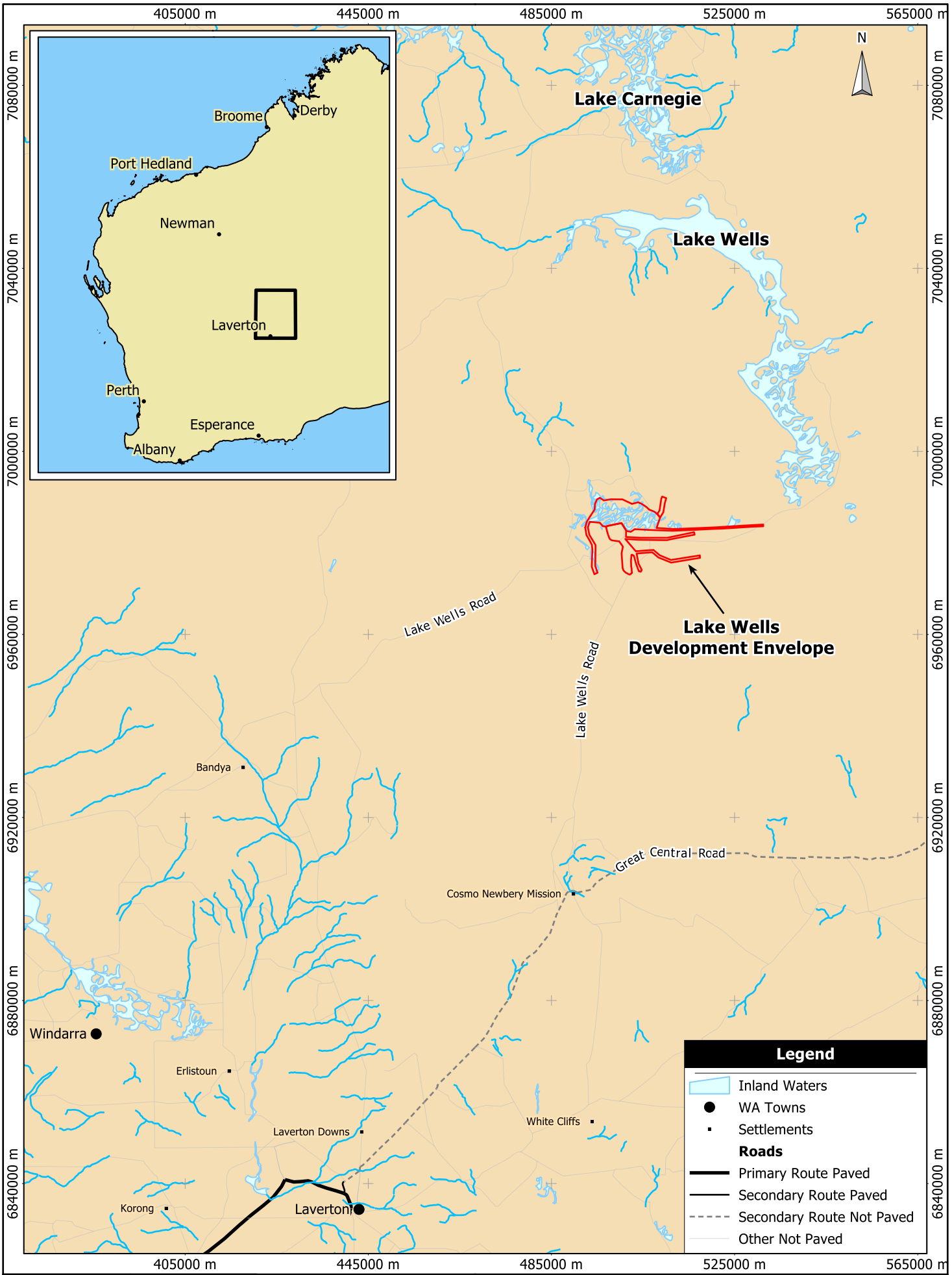
- On Playa - 9,322 ha.
- Off Playa - 5,019 ha

Areas of estimated disturbance for physical and operational elements of the Proposal are provided in Table 2.

Table 2: Key Proposal Characteristics

Summary		
Proposal Title	Lake Wells Potash Project	
Proponent Name	Australian Potash Ltd	
Short Description	Australian Potash aims to develop a Sulphate of Potash (SOP) operation by evaporation and processing of the potassium and sulphate rich brines found at Lake Wells. The project will be developed in two stages: • Stage 1 (Years 1-5): Development of a 150,000 tonne per annum (tpa) SOP processing plant, 35 brine abstraction bores and associated brine transfer network, evaporation ponds, accommodation village, raw water borefield and associated site infrastructure. • Stage 2 (Years 6-20): Duplication of the processing plant, expanding its capacity to 300,000 tpa and increasing the brine borefield and the area of the evaporation ponds.	
Physical Elements		
Element	**Location**	**Proposed Extent Authorised**
On Playa Development Envelope		
Bitterns Pond	Figure 2 and Figure 3	Clearing no more than 30 ha within the 9,322 ha On Playa Development Envelope.
Concentrator and Crystalliser Ponds and Brine Borefield/On Playa Infrastructure	Figure 2 and Figure 3	Clearing no more than 2,440 ha within the 9,322 ha On Playa Development Envelope.
Off Playa Development Envelope		
Project Infrastructure	Figure 2 and Figure 3	Clearing no more than 150 ha within the 5,019 ha Off Playa Development Envelope.
Fractured Borefield North and South	Figure 2 and Figure 3	Clearing no more than 90 ha within the 5,019 ha Off Playa Development Envelope.
Harvest Ponds and Processing Plant	Figure 2 and Figure 3	Clearing no more than 510 ha within the 5,019 ha Off Playa Development Envelope.
Operational Elements		
Element	**Location**	**Proposed Extent Authorised**
On Playa Development Envelope		
Waste Salt Residue Stockpiles	Figure 2 and Figure 3	Production of up to 2.7 Mtpa of waste salt (Years 1 to 5) Production of up to 5.4 Mtpa of waste salt (Years 6 to 20)
Bitterns – magnesium chloride	Figure 2 and Figure 3	Production of up to 1.1 Mtpa of bitterns brine (Years 1 to 5) Production of up to 2.2 Mtpa of bitterns brine (Years 6 to 20)

Brine Abstraction	Figure 2 and Figure 3	Abstraction of up 18 GLpa (Years 1 to 5) Abstraction of up to 40 GLpa (Years 6 to 20)
Off Playa Development Envelope		
Fresh – Brackish Water Abstraction	Figure 2 and Figure 3	Abstraction of up 0.9 GLpa (Years 1 to 5) Abstraction of up to 1.8 GLpa (Years 6 to 20)
Processing Plant	Figure 2 and Figure 3	Stage 1 – 150, 000 tpa Stage 2 – 300, 000 tpa
Power Plant	Figure 2 and Figure 3	Stage 1 – 8 MW Stage 2 – 16 MW



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Grid: MGA94(51)

0 40 km

Australian Potash Limited
Lake Wells Project

Figure 1

Location Plan

Martinick Bosch Sell Pty Ltd
4 Cook St
West Perth WA 6005
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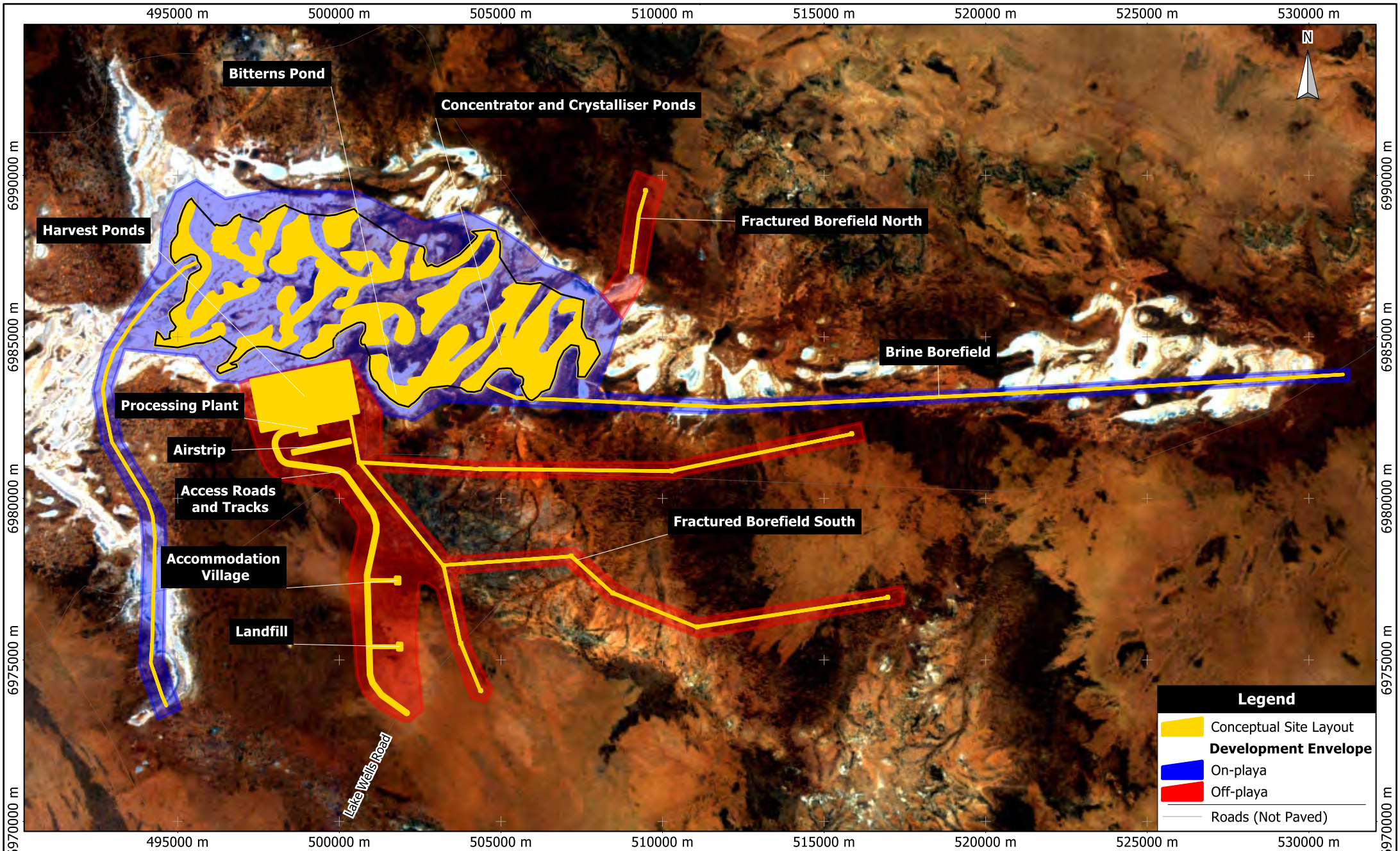

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Grid: MGA94(51)

0 5 km

Australian Potash Limited
Lake Wells Project

Figure 2

Conceptual Site Layout

4 Cook St
West Perth WA 6005
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www.mbsenvironmental.com.au

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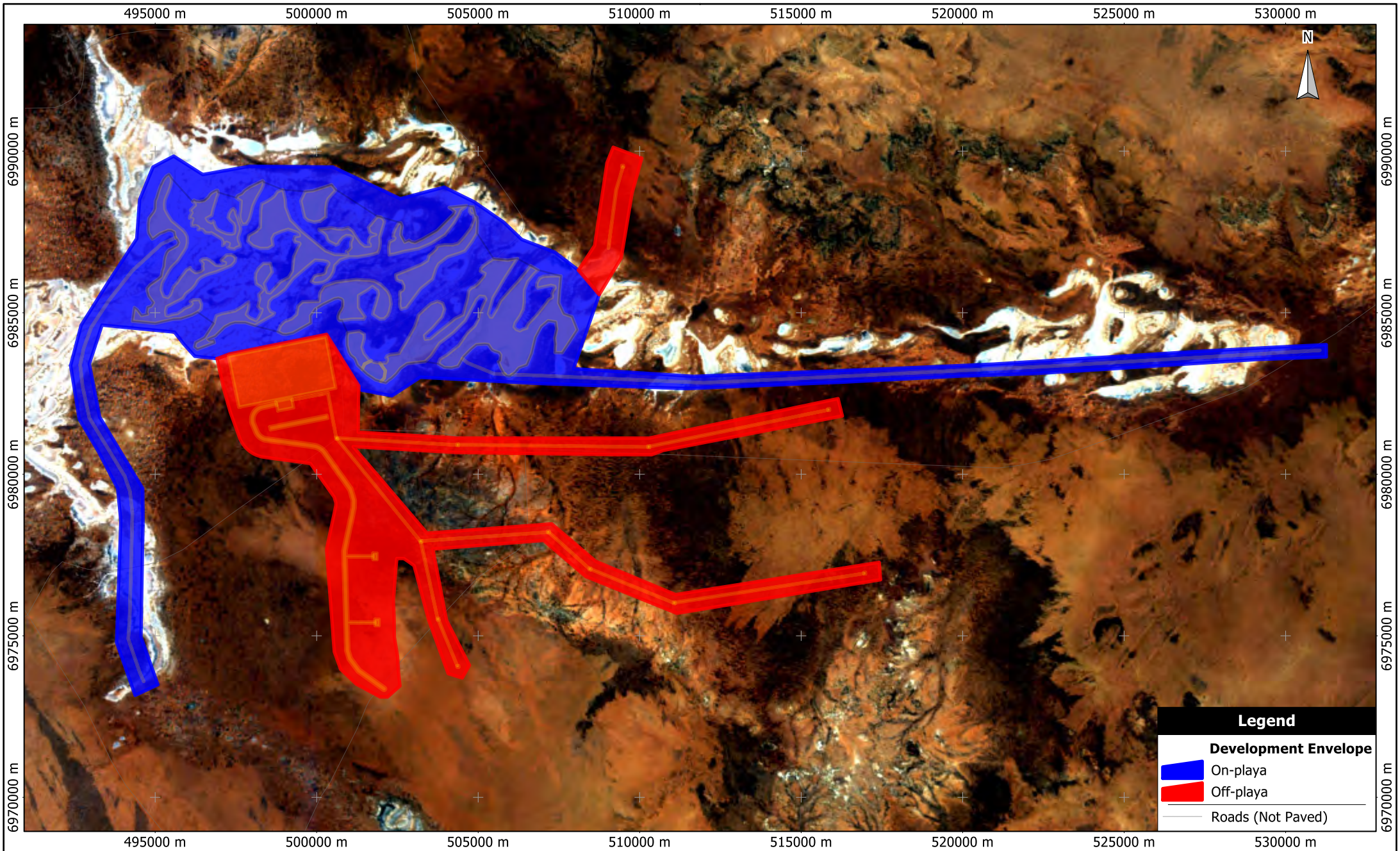

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Air Photo Date: March 2016
Grid: MGA94(51)

0 5 km

Australian Potash Limited
Lake Wells Project

Figure 3

Development Envelopes

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3. PRELIMINARY KEY ENVIRONMENTAL FACTORS AND WORK REQUIRED

The preliminary key environmental factors to be addressed in the environmental review document are:

- Flora and Vegetation.
- Terrestrial Fauna.
- Subterranean Fauna.
- Inland Waters.
- Social Surroundings.

Table 3 outlines the work required for each preliminary key environmental factor and contains the following elements for each factor:

- EPA factor and EPA objective for that factor.
- Relevant activities – the proposal activities that may have a significant impact on that factor.
- Potential impacts and risks to that factor.
- Required work for that factor.
- Relevant policy and guidance – EPA (and other) guidance and policy relevant to the assessment.

Table 3: Preliminary Key Environmental Factors and Required Work

Flora and Vegetation	
EPA Objective	To protect flora and vegetation so that biological diversity and ecological integrity are maintained.
Relevant Activities	• Clearing of up to 2470 and 750 ha of native vegetation within the On and Off Playa Development Envelopes (9,322 and 5,019 ha), respectively. • Groundwater abstraction. • Evaporation pond construction. • Vehicle and/or machinery movements during construction. • Vehicle movement during operations. • Dust from construction operations. • Use of saline water for dust suppression.
Potential Impacts and Risks	**On Playa:** • Localised loss of vegetation from clearing of up to 2470 ha within a Development Envelope of 9,322 ha. • Loss of significant flora. • Loss of significant vegetation. • Loss of biological diversity and reduced regional representation of flora and vegetation communities. • Fragmentation of vegetation communities. • Alteration to vegetation communities resulting from changed drainage patterns.

	Off Playa: • Localised loss of vegetation from clearing of up to 750 ha within a Development Envelope of 5,019 ha. • Loss of significant flora. • Introduction of new and spread of existing weed species due to increased activity in the local area. • Vegetation damage due to increased fire risk. • Impact to vegetation due to saline water spills or leaks. • Alteration to vegetation communities resulting from changed drainage patterns. • Reduction in vegetation condition due to dust emissions. • Risk of loss of vegetation due to fire associated with increased activity in the local area.
Required Work	**1.** Identify and characterise flora and vegetation within the proposed Development Envelopes through detailed Flora and Vegetation Surveys in accordance with the standards of *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016). Surveys will include searches for populations of plants of significance within or in close proximity to the Development Envelopes. Submission of specimens of potentially new species to the WA Herbarium for verification by taxonomic experts. Specimens of all significant flora will be vouchered at the WA Herbarium.
	2. Complete a detailed sampling regime within the salt lake playas in accordance with pages 13-14 of the Technical Guidance. Undertake targeted surveys for *Tecticornia* dominated vegetation units within the salt lake playas based on the establishment of a series of 3 x 3 m quadrats. Two sampling events to occur to target the flowering periods, one between August and October and one in December or January. All Tecticornia specimens will be submitted to the WA Herbarium for identification and vouchering. Targeted surveys for significant flora will quantify and map the size and extent of populations.
	3. Identify and provide detailed mapping of the vegetation communities within the Development Envelopes, including the recorded locations of significant species and communities. Figures to show the likely spatial extent of loss of vegetation units from both direct and indirect impacts.
	4. Assess the extent of direct and indirect impacts associated with the proposal on the flora and vegetation within the Development Envelopes, including percentages of vegetation communities to be disturbed or otherwise impacted in a local and regional context, to assist in determining significance of impacts. Provide tables quantifying the direct and indirect impacts of the proposal on vegetation and significant flora in terms of number of plants, area of vegetation, number of populations/occurrences and proportions of the total.
	5. Undertake a review of areas outside the Development Envelopes to determine the likelihood of indirect impacts to significant flora or vegetation.
	6. Demonstrate that all practicable measures have been taken to reduce the area of the proposed disturbance footprint based on project design.
	7. Demonstrate application of the mitigation hierarchy to avoid and minimise impacts to flora and vegetation.
	8. Provide a discussion of the proposed management, monitoring and mitigation methods to be implemented in order to demonstrating that residual impacts will not be greater than predicted.
	9. Determine and quantify any significant residual impacts for the proposal by applying the Residual Impact Significance Model (page 11) and WA Offset Template (Appendix 1) in the WA Environmental Offset Guidelines (2014), with reference to the Commonwealth Assessment Guide.

	10. Where significant residual impacts remain propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines. Spatial data defining the area of each significant residual impact should also be provided.
	11. Provide a discussion which demonstrated an assessment of any proposed offset against the six offset principles in the WA Environmental Offsets Policy.
	12. Prepare a Mine Closure Plan consistent with DMIRS/EPA Guidelines for Preparing Mine Closure Plans (2015) which details the proposed rehabilitation methodologies to achieve successful progressive rehabilitation of all areas disturbed by mining with vegetation composed of native species of local provenance where possible. Where local provenance seed cannot be sourced seed will be collected from an appropriate reference ecosystem as close as possible to the rehabilitation site.
	13. Demonstrate and document in the ERD how the EPA's objectives for this factor can be met.
Relevant policy, guidance documents and legislation	**EPA Policy and Guidance** • EPA - Statement of Environmental Principles, Factors and Objectives (EPA 2016). • Environmental Impact Assessment (EIA) (Part IV Divisions 1 and 2) Administrative Procedures 2016 (EPA 2016). • EIA (Part IV Divisions 1 and 2) Procedures Manual 2016 (EPA 2016). • EPA Environmental Factor Guideline – Flora and Vegetation (EPA 2016). • Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016). • Instruction on how to prepare an Environmental Review Document (EPA 2016). • Rehabilitation of Terrestrial Ecosystems – Guidance for the assessment of Environmental Factors (GS 6) (EPA 2006). Other Policy and Guidance • Government of WA 2011, WA Environmental Offsets Policy • Government of WA 2014, WA Environmental Offsets Guideline (including template). • Commonwealth Offsets Assessment Guide. • DMP and EPA Guidelines for Preparing Mine Closure Plans (2015)
Terrestrial Fauna	
EPA Objective	To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.
Relevant Activities	• Clearing of up to 2470 and 750 ha of native vegetation (fauna habitat) within the On and Off Playa Development Envelopes respectively. • Vehicle and/or machinery movements during construction. • Vehicle movement during operations. • Domestic waste generation. • Light and noise emissions from 24-hour processing activities. • General mining related activities.

Potential Impacts and Risks	**On Playa:** • Removal and fragmentation of fauna habitat. • Loss of and reduction in connectivity of wetland fauna habitat due to construction of ponds in playa depressions. • Loss and degradation of fauna habitats as a result of interference of on playa surface water flows. • Degradation of fauna habitat through indirect impacts (i.e. weeds). • Death of fauna within the concentrator, crystalliser or bitterns ponds. **Off Playa:** • Direct removal of fauna habitat and fragmentation of habitat at a local scale. • Potential increase in feral animals resulting in increased predation and competition. • Degradation of fauna habitat through indirect impacts (i.e. weeds). • Risk of fauna mortality from vehicle strikes. • Light and noise impacts on fauna due to 24 hour operations.
Required Work	**14.** Undertake a terrestrial fauna desktop study to provide context for the proposed field surveys and impact assessment in accordance with EPA Guidance in order to gather sufficient information to allow evaluation of the field survey results and assessment of the potential impacts of the proposal in a regional context.
	15. Conduct Level 2 terrestrial fauna, Short Range Endemic (SRE) and Lake Ecology surveys, in areas that are likely to be directly or indirectly impacted as a result of the proposal in order to identify and characterise the fauna communities and fauna habitats present. Surveys are to be undertaken in accordance with relevant EPA policies and technical guidance and where available, species-specific survey guidelines for relevant species.
	16. Conduct targeted surveys for the Night Parrot in order to determine presence/absence of the species and/or critical habitat.
	17. Provide a review of Night Parrot records and map potentially suitable habitat in the local and regional area.
	18. Detail the extent to which clearing will remove critical habitat and be expected to impact the Night Parrot.
	19. Undertake targeted surveys for significant species as/if required.
	20. Identify and provided detailed mapping and tables of the fauna habitats within the Development Envelope, including the known recorded locations of significant species and communities in relation to the proposed footprint areas. Figures and tables should show the likely spatial extent of loss of habitats from both direct and indirect impacts. For each significant species provide quantification of the area of habitat, broken down by habitat type (i.e. breeding, foraging etc.) that is likely to be directly or indirectly impacted by the proposal.
	21. Assess the occurrence of SRE invertebrate's species and provide figures to show the extent of potential impacts to SRE's.
	22. Demonstrate that no SRE's or other significant terrestrial invertebrates are restricted to the area of impact, if this cannot be demonstrated, that such species have been adequately surveyed for outside the area of impact.
	23. Assess the extent of direct and indirect impacts to fauna species (including migratory birds) and fauna habitats in a local and regional context.

	24. Demonstrate application of the mitigation hierarchy to avoid, minimise and rehabilitate impacts to fauna and fauna habitat.
	25. Provide a discussion of the proposed management, monitoring and mitigation methods to be implemented in order to demonstrate that residual impacts will not be greater than predicted.
	26. Determine and quantify any significant residual impacts for the proposal by applying the Residual Impact Significance Model (page 11) and WA Offset Template (Appendix 1) in the WA Environmental Offset Guidelines (2014) and include reference to the Commonwealth Assessment guide.
	27. Where significant residual impacts remain propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines. Spatial data defining the area of each significant residual impact should also be provided.
	28. Provide a discussion which demonstrated an assessment of any proposed offset against the six offset principles in the WA Environmental Offsets Policy.
	29. Prepare a Mine Closure Plan consistent with DMIRS/EPA Guidelines for Preparing Mine Closure Plans (2015) which considers rehabilitation and decommissioning for areas of habitat for significant fauna.
	30. Demonstrate and document in the ERD how the EPA's objectives for this factor can be met.
Relevant policy, guidance documents and legislation	**EPA Policy and Guidance** • EPA - Statement of Environmental Principles, Factors and Objectives (EPA 2016). • Environmental Impact Assessment (EIA) (Part IV Divisions 1 and 2) Administrative Procedures 2016 (EPA 2016). • EIA (Part IV Divisions 1 and 2) Procedures Manual 2016 (EPA 2016). • EPA Factor Guideline – Terrestrial Fauna (EPA 2016). • Technical Guidance – Sampling Methods for Terrestrial Vertebrate Fauna (EPA 2016). • Technical Guidance – Terrestrial Fauna Surveys (EPA 2016). • Technical Guidance – Sampling of Short Range Endemic Invertebrate Fauna (EPA 2016). **Other Policy and Guidance** • Interim guideline for preliminary surveys of night parrot (*Pezoporus occidentalis*) in Western Australia (DBCA 2017) • Government of WA 2011, WA Environmental Offsets Policy • Government of WA 2014, WA Environmental Offsets Guideline (including template). • Commonwealth Offsets Assessment Guide. • DMP and EPA Guidelines for Preparing Mine Closure Plans (2015)
Subterranean Fauna	
EPA Objective	To protect subterranean fauna so that biological diversity and ecological integrity are maintained.
Relevant Activities	• Groundwater abstraction from the Off Playa borefield. • Physical presence of infrastructure. • Discharge of treated wastewater. • Any accidental leaks or spills of hydrocarbons.

Potential Impacts and Risks	**On Playa:** • None. **Off Playa:** • Direct disturbance and loss of potential subterranean fauna habitat due to groundwater abstraction from the fractured rock aquifer. • Changes to hydrological regimes leading to impacts to subterranean fauna habitat. • Contamination of groundwater resulting in potential subterranean fauna habitat loss.
Required Work	**31.** Conduct Stygofauna surveys within areas to be impacted (Off Playa) and in surrounding areas in accordance with EPA guidance.
	32. Assess likelihood of troglofauna habitat being present and if likely undertake surveys as appropriate and in accordance with EPA guidance.
	33. Present figures and tables to summarise the results and illustrate the areas of impact in relation to subterranean fauna species and habitat.
	34. Assess the extent of direct and indirect impacts to subterranean fauna. For species which are likely to be impacted provide information, including figures, to demonstrate any habitat connectivity beyond the impact area.
	35. Demonstrate that no subterranean fauna species are restricted to the potential direct and indirect area of impact or, if this cannot be demonstrated, that such species have been adequately surveyed for outside of these areas and/or that habitat connectivity exists for these species.
	36. Provide a discussion of the proposed management, monitoring and mitigation methods to be implemented in relation to subterranean fauna.
	37. Determine and quantify any significant residual impacts for the proposal by applying the Residual Impact Significance Model (page 11) and WA Offset Template (Appendix 1) in the WA Environmental Offset Guidelines (2014) and include reference to the Commonwealth Assessment guide.
	38. Where significant residual impacts remain propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines.
	39. Provide a discussion which demonstrated an assessment of any proposed offset against the six offset principles in the WA Environmental Offsets Policy.
	40. Demonstrate and document in the ERD how the EPA's objectives for this factor can be met.
Relevant policy, guidance documents and legislation	**EPA Policy and Guidance** • EPA - Statement of Environmental Principles, Factors and Objectives (EPA 2016). • Environmental Impact Assessment (EIA) (Part IV Divisions 1 and 2) Administrative Procedures 2016 (EPA 2016). • EIA (Part IV Divisions 1 and 2) Procedures Manual 2016 (EPA 2016). • EPA Factor Guideline – Subterranean Fauna (EPA 2016). • Technical Guidance – Subterranean Fauna Survey (EPA 2016). • Technical Guidance – Sampling Methods for Subterranean Fauna (EPA 2016). Other Policy and Guidance • Government of WA 2011, WA Environmental Offsets Policy • Government of WA 2014, WA Environmental Offsets Guideline (including template).

Inland Waters	
EPA Objective	To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.
Relevant Activities	• Construction of evaporation, bitterns and harvest ponds and related support infrastructure. • Physical presence of evaporation ponds. • Groundwater abstraction. • Alteration to surface water flows due to surface water diversion around infrastructure. • Storage, use and/or accidental leaks or spills of hydrocarbons.
Potential Impacts and Risks	**General:** • Potential direct and indirect impacts to Groundwater Dependent Ecosystems and riparian vegetation. **On Playa:** Potential impacts to surface water in the On Playa Development Envelope include: • Infrastructure (ponds) changing local drainage patterns. • Changes to surface water quality. Potential impacts to groundwater within the On Playa Development Envelope include: • Groundwater abstraction causing alternation of groundwater volumes. • Changes to groundwater quality. **Off Playa:** Potential impacts to surface water in the Off Playa Development Envelope include: • Infrastructure changing local drainage patterns. • Contamination of surface water. Potential impacts to groundwater in the Off Playa Development Envelope include: • Groundwater abstraction from the fractured rock aquifer causing alternation of groundwater volumes. • Contamination of groundwater.
Required Work	**41.** Conduct a H3 detailed hydrological assessment, including drilling, test pumping and groundwater model in accordance with DWER's *Operational Policy No. 5.12 – Hydrological reporting associated with groundwater well licence* (DWER 2009).
	42. Identify key environmental values in the project area that may be supported by ground or surface water regimes.
	43. Characterise the baseline surface and groundwater hydrology in a local and regional context and describe any connection between the surface water and groundwater system.
	44. Assess groundwater drawdown associated with the proposal and analyse and discuss any impacts to key environmental values, surface water flows and surface and groundwater quantity expected as a result of the proposal.
	45. Identify borefield locations and design requirements to meet project needs (water supply and extraction of brine).
	46. Determine expected abstraction over the life of the project and assess the sustainability of borefields.

	47. Provide a water balance for the mining operations demonstrating that there is sufficient water for the duration of the mining operations.
	48. Determine the change and impact to hydrological regimes as a result of abstraction.
	49. Assess, analyse and discuss changes to surface water regimes as a result of the proposal and analyses and discuss impacts to any key environmental values supported by surface water flows.
	50. Characterise and describe the baseline surface and groundwater quality in a local and regional context.
	51. Identify key environmental values that could be impacted by adverse changes to surface and groundwater quality.
	52. Characterise sediments to be disturbed by on playa infrastructure in terms of presence of acid sulfate soils, metals and metalloid concentrations in addition to salt concentrations.
	53. Evaluate the potential for mobilisation of metals from sediment porewater due to disturbance and evapo-concentration of metals within ponds and detail mitigation measures if required.
	54. Assess the likelihood for change in pH, salinity and metal concentrations of surface waters within the ponds and potential toxicity for waterbirds and aquatic invertebrate fauna. Detail mitigation methods if required.
	55. Describe the potential direct and indirect impacts from the proposal on surface and groundwater quality.
	56. Discuss the proposed management, monitoring and mitigation measures to be implemented to prevent significant adverse impacts to ground and surface water hydrology and quality as a result of the construction and operation of the proposal, including the development of water quality trigger levels.
	57. Determine and quantify any significant residual impacts for the proposal by applying the Residual Impact Significance Model (page 11) and WA Offset Template in the WA Environmental Offset Guidelines (appendix 1).
	58. Where significant residual impacts remain propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines.
	59. Provide a discussion which demonstrated an assessment of any proposed offset against the six offset principles in the WA Environmental Offsets Policy.
	60. Prepare a Mine Closure Plan consistent with DMIRS/EPA Guidelines for Preparing Mine Closure Plans (2015) which addresses the development of completion criteria to maintain surface and groundwater regimes and the quality of surface and groundwater so that environmental values are maintained post closure.
	61. Demonstrate and document in the ERD how the EPA's objectives for this factor can be met.

Relevant policy and guidance documents and legislation	**EPA Policy and Guidance** • EPA - Statement of Environmental Principles, Factors and Objectives (EPA 2016). • Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016 (EPA 2016). • Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual 2016 (EPA 2016). • EPA Factor Guideline –Inland Waters (EPA 2016). **Other Policy and Guidance** • Western Australia Water in Mining Guideline (DWER 2013). • Operational Policy 5.12 - Hydrogeological reporting associated with a groundwater well licence (DoW 2009) Western Australian Water in Mining guideline (DWER, May 2013). • Government of WA 2011, WA Environmental Offsets Policy. • Government of WA 2014, WA Environmental Offsets Guideline (including template) • DMP and EPA Guidelines for Preparing Mine Closure Plans (2015)
Social Surroundings	
EPA Objective	To protect social surroundings from significant harm.
Relevant Activities	• Clearing of up to 2470 and 750 ha of native vegetation within the On and Off Playa Development Envelopes (9,322 and 5,019 ha), respectively. • Construction of evaporation, bitterns and harvest ponds and related support infrastructure. • Groundwater abstraction. • Alteration to surface water flows. • General mining related activities.
Potential Impacts and Risks	**On and Off Playa:** • Clearing of or alterations to sites of cultural significance. • Prevention or change to access to a site of cultural significance.
Required Work	**62.** Conduct consultation with Traditional Owner groups.
	63. Provide details on consultation undertaken with Traditional Owner Groups and future plans for consultation. Detail any changes made to the proposal as a result from this consultation.
	64. Characterise and map the heritage sites and cultural values of proposed disturbance areas and any other areas that may be indirectly impacted to identify sites of significance and their relevance and value within a wider regional context. Assess the impacts on heritage sites and cultural values in accordance with the Environmental Factor Guideline – Social Surroundings (EPA 2016) and predict the residual impacts after considering the mitigation hierarchy
	65. Detail and assess the product transport corridors including the proposed trucking route, rail siding loading area and port access route. Describe management measures and monitoring arrangements proposed to mitigate impacts to amenity from product transport.
	66. Assess the impacts on amenity and predict the residual impacts after considering the mitigation hierarchy.
Relevant policy and guidance documents and legislation	**EPA Policy and Guidance** • EPA - Statement of Environmental Principles, Factors and Objectives (EPA 2016). • Environmental Impact Assessment (EIA) (Part IV Divisions 1 and 2) Administrative Procedures 2016 (EPA 2016). • EIA (Part IV Divisions 1 and 2) Procedures Manual 2016 (EPA 2016). • EPA Environmental Factor Guideline – Social Surroundings (EPA 2016). **Other Policy and Guidance** • Aboriginal Heritage Due Diligence Guidelines, Version 3.0. Perth, Western Australia (DAA 2013).

4. STAKEHOLDER CONSULTATION

APC will consult with stakeholders who are affected by, or are interested in the proposal. This includes decision-making authorities, other relevant state (and Commonwealth) government agencies and local government authorities, the local community and interested groups or organisations. APC will document the following in the ERD:

- Identified stakeholders.
- Stakeholder consultation undertaken to date and the outcomes of consultation including decision-making authorities' specific regulatory approvals and any adjustments to the proposal as a result of consultation.
- Any future plans for consultation.

5. DECISION MAKING AUTHORITIES

Table 4 presents the Decision Making Authorities (DMA's) which have been identified for the proposal. Additional DMA's may be identified during the course of the assessment.

Table 4: Relevant Decision Making Authorities

Decision Making Authority	Relevant Legislation
Minister for Environment.	*Wildlife Conservation Act 1950.*
Minister for Water.	*Rights in Water and Irrigation Act 1914.*
Minister for Mine and Petroleum.	*Mining Act 1978.*
Minister for Lands.	*Land Administration Act 1997*
Minister for Aboriginal Affairs.	*Aboriginal Heritage Act 1972.*
Acting Executive Director Environment Division, Department of Mines, Industry Regulation and Safety.	*Mining Act 1978.*
Chief Dangerous Goods Officer, Department of Mines, Industry Regulation and Safety.	*Dangerous Goods Safety Act 2004.*
State Mining Engineer, Department of Mines, Industry Regulation and Safety.	Mines Safety and Inspection Act 1994.
Director General, Department of Water and Environmental Regulation.	*Environmental Protection Act 1986.* *Environmental Protection Regulations 1987.*
Commissioner for Roads WA, Main Roads.	*Main Roads Act 1930: Road Traffic Regulations 2014.*
Chief Executive Officer, Department of Health.	*Health Act 1911.*
Chief Executive Officer, Shire of Laverton.	*Building Act 2011.*