

TELLUS

Sandy Ridge Project

EPA Referral

May 2015

Environmental Protection Authority

Referral of a Proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*.

PURPOSE OF THIS FORM

Section 38 of the *Environmental Protection Act 1986* (EP Act) makes provision for the referral to the Environmental Protection Authority (EPA) of a proposal (significant proposals, strategic proposals and proposals under an assessed scheme) by a proponent, a decision making authority (DMA), or any other person.

The purpose of this form is to ensure that EPA has sufficient information about a proposal to make a decision about the nature of the proposal and whether or not the proposal should be assessed under Part IV of the EP Act. Information provided in the referral form must be brief (no more than 30 pages), sharp and succinct to achieve the purposes of this form.

This form does not prevent the referrer from providing a supplementary referral report. Should a referrer choose to submit a supplementary referral report please ensure the following.

- i. Information is short, sharp and succinct.
- ii. Attachments are below eight megabytes (8 MB) as they will be published on the EPA's website (exemptions apply) for public comment. To minimise file size, "flatten" maps and optimise pdf files.
- iii. Cross-references are provided in the referral form to the appropriate section/s in the supplementary referral report.

This form is to be used for all proposals¹ which can be referred to the EPA under section 38 of the EP Act; i.e. referrals from: **proponents** of proposals (significant proposals, strategic proposals, derived proposals, proposals under an assessed scheme); **DMAs** (significant proposals); and **third parties** (significant proposals).

This form is divided into several sections, including; Referral requirements and Declaration; Part A - Information of the proposal and proponent; and Part B Environmental Factors. Guidance on successfully completing this form is provided throughout the form and is also available in the EPA's *Environmental Assessment Guideline for Referral of a Proposal under s38 of the EP Act (EAG 16)*.

Send completed forms to

Office of the Environmental Protection Authority Locked Bag 10, East Perth WA 6892

or

Email: Registrar@epa.wa.gov.au

Enquiries

Office of the Environmental Protection Authority Locked Bag 10, East Perth WA 6892

Telephone: 6145 0800

Fax: 6145 0895

Email: <u>info@epa.wa.gov.au</u> Website: <u>www.epa.wa.gov.au</u>

¹ Please note that this form consolidates and replaces the following forms: Referral of a Proposal by the Proponent to the EPA under section 38(1) of the EP Act, Referral of a Proposal by a third party to the EPA under section 38(1) of the EP Act, and Referral of a development proposal to the EPA by the decision making authority.

Referral requirements and Declaration

The following section outlines the referral information required from a proponent, decision making authority and third party.

(a) Proponents

Proponents are expected to complete all sections of the form and provide GIS spatial data to enable the EPA to consider the referral. Spatial GIS data is necessary to inform the EPA's decision.

The EPA expects that a proponent will address Part B of the form as thoroughly as possible to demonstrate whether or not the EPA's objectives for environmental factors can be met.

If insufficient information is provided the EPA will request more information and processing of the referral will commence once the information is provided or the EPA decides to make a precautionary determination on the available information.

Proponent to complete before submitting form	
Completed all the questions in Part A (essential)	⊠ Yes □ No
Completed all the questions in Part B	⊠ Yes □ No
Completed all other applicable questions	⊠ Yes □ No
Included Attachment 1 – any additional document(s) the proponent wishes to provide	⊠ Yes □ No
Included Attachment 2 – confidential information (if applicable)	□Yes ⊠ No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but clearly separating any confidential information	⊠ Yes □ No
Completed the Declaration	⊠ Yes □ No
What is the type of proposal being referred? * a referred proposal seeking to be declared a derived proposal	
Do you consider the proposal requires formal environmental impact assessment?	⊠ Yes □ No
If yes, what level of assessment? API = Assessment of Proponent Information PER = Public Environmental Review	☐ API Category A ☐ API Category B ☑ PER

NB: The EPA may apply an Assessment on Proponent Information (API) level of assessment when the proponent has provided sufficient information about:

- the proposal;
- the proposed environmental impacts;
- the proposed management of the environmental impacts; and
- when the proposal is consistent with API criteria outlined in the <u>Environmental Impact</u> Assessment (Part IV Division 1 and 2) Administrative Procedures 2012.

If an API A formal level of assessment is considered appropriate, please refer to Environmental Assessment Guideline No. 14 *Preparation for an Assessment on Proponent Information (Category A) Environmental Review Document EAG 14* (EAG14).

Declaration

I, **Duncan van der Merwe**, *(full name)* declare that I am authorised on behalf of **Tellus Holdings Limited** (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signa	ture	Name	Duncan van der	Merwe
Position	Managing Director	Organisation	Tellus Holdings	Ltd
Email	duncan@tellusholdings.co	m		
Address	Suite 2, Level 10,	151 Castlereagh Street		
	Sydney		NSW	2000
Date	4 th May 2015			-

(b) Decision-making authority

The EPA expects decision-making authorities to complete applicable sections of Part A of the form and provide the proponent an opportunity to provide additional information in Part B of the form where appropriate.

Wherever possible the DMA should obtain relevant spatial information from the proponent and provide this to the EPA with the referral.

DMA to complete before submitting form						
Completed all the questions in Part A (essential)					⁄es	□ No
Provided Part	B to the proponent for comp	oletion			⁄es	□No
Completed all	other applicable questions				⁄es	☐ No
Included Attac	hment 1 – any supporting ir	nformation			⁄es	□ No
	lectronic copy of all referral al data and contextual map				⁄es	☐ No
Completed the	e below Declaration				⁄es	□ No
Do you consid impact assess	er the proposal requires for ment?	mal environmental			⁄es	□No
What is the type	pe of proposal being referre	d?		significa	nt pro	posal
				significant proposal under an assessed scheme		
I,, (full name) submit this referral to the EPA for consideration of the environmental significance of its impacts.						
Signature		Name (print)				
Position		Organisation				
Email			•			
Address	Street No.	Street Name				
	Suburb		Sta	te	Pos	tcode
Date						

(c) Third Party

Third parties are asked to have consideration for the Significance Test outlined in Part A Section 1.5 of this form before referring a significant proposal to the EPA. The EPA will only consider proposals that are likely, if implemented, to have a significant effect on the environment.

Third parties are to provide sufficient information to clearly identify the significant proposal, the proponent, and their reasons for referring the proposal. This can be done by completing as much of Part A of the form as possible, taking into consideration the information available. Third parties may wish to fill in Part B of the form to advance their own views of the significance of the environmental impacts and the need for EPA assessment.

In most cases the EPA will seek additional information from the proponent. This will be to confirm or amend the identity of the proponent, the proposal, and to allow the proponent opportunity to provide its views on the significance of the environmental impacts and the need for EPA assessment.

Third Party to	Third Party to complete before submitting form			
Complete all ap	Complete all applicable questions in Part A and B			☐ Yes ☐ No
Completed the	Declaration			☐ Yes ☐ No
Do you consider the proposal requires formal environmental impact assessment?			☐ Yes ☐ No	
Declaration I,, (full name) submit this referral to the EPA for consideration of the environmental significance of its impacts.				
Signature	Signature Name (print)			
Email				
Position		Organisation		
Address	Street No.	Street Name		
	Suburb		State	Postcode
Date				

PART A: Information on the proposal and the proponent

All fields of Part A must be completed by the proponent and/or decision-making authority for this document to be processed as a referral. Third party referrers are only expected to fill in the fields they have information for.

1 PROPONENT AND PROPOSAL DESCRIPTION

1.1 The proponent of the proposal

Proponent and/or DMA to complete	
Name of the proponent	Tellus Holdings Ltd ("Tellus")
Joint Venture parties (if applicable)	Not applicable
Australian Company Number(s) (if applicable)	138 119 829
Postal Address	Suite 2, Level 10,151 Castlereagh Street,
(Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)	Sydney, NSW, 2000
Key proponent contact for the proposal	Duncan van der Merwe
Please include: name; physical address; phone; and email.	Suite 2, Level 10,151 Castlereagh Street, Sydney, NSW, 2000 +61 2 8257 3395 Duncan@tellusholdings.com
Consultant for the proposal (if applicable)	Noel Davies
Please include: name; physical address; phone; and email.	Aurora Environmental 2 Bulwer Street Perth WA 6000 +61 8 9227 2600 noel.davies@auroraenvironmental.com.au

1.2 Proposal

Proposal is defined under the EP Act to mean a "project, plan, programme policy, operation, undertaking or development or change of land use, or amendment of any of the foregoing, but does not include scheme". Before completing this section please refer to Environmental Protection Bulletin 17 — Strategic and derived proposals (EPB 17) and Environmental Assessment Guideline for Defining the Key Characteristics of a proposal (EAG 1).

Proponent and/or DMA to complete		
Title of the proposal	Sandy Ridge Project	
What project phase is the proposal at?	☐ ScopingX Feasibility☐ Detailed design☐ Other	
Proposal type More than one proposal type can be identified, however for filtering purposes it is recommended that only the primary proposal type is identified.	Power/Energy Generation Hydrocarbon Based – coal Hydrocarbon Based – gas Waste to energy Renewable – wind Renewable – wave Renewable – solar Renewable – geothermal	

Proponent and/or DMA to complete	
	 X Mineral / Resource Extraction Exploration – seismic Exploration – geotechnical Development
	☐ Oil and Gas Development ☐ Exploration ☐ Onshore — seismic ☐ Onshore — geotechnical ☐ Onshore — development ☐ Offshore — seismic ☐ Offshore — geotechnical ☐ Offshore — development
	☐ Industrial Development☐ Processing☐ Manufacturing☐ Beneficiation
	□ Land Use and Development □ Residential – subdivision □ Residential – development □ Commercial – subdivision □ Commercial – development □ Industrial – subdivision □ Industrial – development □ Agricultural – subdivision □ Agricultural – development □ Tourism
	☐ Linear Infrastructure ☐ Rail ☐ Road ☐ Power Transmission ☐ Water Distribution ☐ Gas Distribution ☐ Pipelines
	 Water Resource Development □ Desalination □ Surface or Groundwater □ Drainage □ Pipelines □ Managed Aquifer Recharge
	 Marine Developments Port Jetties Marina Canal Aquaculture

Proponent and/or DMA to complete		
	☐ Dredging	
	If other, please state below: X Other Arid Near Surface Waste Geological Repository	
Proponent and/or DMA to complete		
Description of the proposal – describe the key characteristics of the proposal in accordance with <u>EAG 1</u> .	The Proposal is to develop a surface and underground kaolin mine with complementary long term, waste storage, treatment, recovery and permanent isolation business, approximately 75km north-east of Koolyanobbing (Figure 1), WA.	
Timeframe in which the proposal is to occur (including start and finish dates where applicable).	Commence construction Q4 2016 (Operations H2 2017) with an operational life of more than 25 years (i.e. April 2042) and an institutional control period following this will apply.	
Details of any staging of the proposal.	Ore Processing	
	Year 1: 42,000 tpa Average over 25 years 80,000 tpa (Average growth 2%pa +/-20% annual variation) Maximum by Year 25 106,000 tpa	
	Kaolin Sold	
	Year 1: 15,000 tpa Average over 25 years 27,000 tpa (average growth 2%pa +/-20% annual variation) Maximum by Year 25: 37,000 tpa Plant will be built to a 40,000 tonne capacity. Scale up depending on demand and project economics.	
	Arid Near Surface Geological Repository	
	Year 1: 50,000 tpa Average over 25 years <66,000 tpa (average growth 2%pa +/-20% annual variation) Maximum by Year 25: 100,000 tpa Facility will be built to a 100,000 tonne capacity. Scale up depending on demand and project economics.	
What is the current land use on the property, and the extent (area in hectares) of the property?	Unallocated crown land. Exploration licence (held by Tellus) of 59.3km ² . Mining lease application pending.	
Have pre-referral discussions taken place with the OEPA? If yes, please provide the case number. If a case number was not provided, please state the date of the meeting and names of attendees.	Yes pre-referral meeting held on 26 February 2015 with Paul Vogel (Chairman of the EPA) and Anthony Sutton (Director of Assessment and Compliance). Tellus was represented by: Duncan van der Merwe (Group Managing Director) and Mike Ingram (Sandy Ridge Project Manager). Tellus's Environmental Consultants, Aurora Environmental, were represented by Noel Davies and Caitlin Dorrington.	

Proponent and/or DMA to complete	
	A second pre-referral meeting was held on 23 March 2015 with the OEPA, represented by Sally Bowman (Manager of Mining and Industrial Assessments — North) and Dr Robert Hughes (Principal Environmental Officer). Tellus was represented by Mike Ingram (Sandy Ridge Project Manager) and Tellus' Environmental Consultants, Aurora Environmental (Noel Davies and Caitlin Dorrington).
DMA (Responsible Authority) to complete	
For a proposal under an assessed scheme (as defined in <u>section 3 of the EP Act</u> , applicable only to the proponent and DMA) provide details (in an attachment) as to whether:	
 The environmental issues raised by the proposal were assessed in any assessment of the assessed scheme. 	
• The proposal complies with the assessed scheme and any environmental conditions in the assessed scheme.	

1.3 Strategic / derived proposals

Complete this section if the proposal being referred is a strategic proposal or you are seeking the proposal to be declared a derived proposal. Note: Only a proponent may refer a strategic proposal and seek a proposal to be declared a derived proposal.

Proponent to complete	
Is this referred proposal a strategic proposal?	☐ Yes ⊠ No
Are you seeking that this proposal be declared a derived proposal?	☐ Yes ⊠ No
If you are seeking that this proposal be declared a derived proposal, what is the Ministerial Statement number (MS #) of the associated strategic proposal?	MS #:

1.4 Location

Proponents and DMAs must provide spatial data. Please refer to <u>EAG 1</u> for more detail.

Proponent, DMA and Third Party to complete		
Name of the Local Government Authority in which the proposal is located.	Shire of Coolgardie	
Location: a) street address; lot number; suburb; and nearest road intersection; or b) if remote the nearest town; and distance and direction from that town to the proposal site.	The development envelope is proposed to be located approximately 75km north-east of Koolyanobbing (Figure 1) WA.	
Have maps and figures been included with the referral (consistent with EAG 1 where appropriate)? The types of maps and figures which need to be provided (depending on the nature of the proposal) include: • maps showing the regional location and context of the proposal; and • figures illustrating the proposal elements.	⊠ Yes □ No	
Proponent and DMA to complete		
Have electronic copies of spatial data been included with the referral?	⊠ Yes □ No	
NB: Electronic spatial (GIS or CAD) data, georeferenced and conforming to the following parameters:		
 GIS: polygons representing all activities and named; 		
 CAD: simple closed polygons representing all activities and named; 		
• datum: GDA94;		
 projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA); 		
 format: ESRI geodatabase or shapefile, MapInfo Interchange Format, Microstation or AutoCAD 		

1.5 Significance test and environmental factors

Proponent, DMA and Third Party to complete		
What are the likely significant environmental factors for this proposal?	Benthic Communities and Habitat	
	Coastal Processes	
	☐ Marine Environmental Quality	
	☐ Marine Fauna	
	☐ Flora and Vegetation	
	☐ Landforms	
	Subterranean Fauna	

1.6 Confidential information

All information will be made publically available unless authorised for exemption under the EP Act or subject to the Freedom of Information Act 1992.

Proponent to complete	
Does the proponent request that the EPA treat any part of the referral information as confidential?	☐ Yes ⊠ No
Ensure all confidential information is provided in a separate attachment in hard copy.	

2 REGULATORY CONSIDERATIONS

This section applies to the Local, State & Commonwealth regulatory considerations for the referred proposal.

2.1 Government approvals

2.1.1 State or Local Government approvals

DMA to complete	
What approval(s) is (are) required from you as a decision-making authority?	
Is rezoning of any land required before the proposal can be implemented?	☐ Yes ☐ No
If yes, please provide details.	

2.1.2 Regulation of aspects of the proposal

Complete the following to the extent possible.

Proponent to complete	
Do you have legal access required for the implementation of all aspects of the proposal?	□ Yes □ No
If yes, provide details of legal access authorisations / agreements / tenure. If no, what authorisations / agreements / tenure is required and from whom?	Mining lease required from Department of Mines and Petroleum. Section 79 General Purpose Lease required from the Department of Lands.

Outline both the existing approvals and approvals that will be / are being sought as a part of this proposal.

Proponent to complete			
Aspects* of the proposal	Type of approval	Legislation regulating this activity	Which State agency /entity regulate this activity?
Ongoing exploration and mine planning during feasibility studies	Exploration lease (E16/440), granted to Tellus – 5 year term	Mining Act 1978	Department of Mines and Petroleum
Potential impacts to matters of national environmental significance: • clearance of habitat that potentially supports listed threatened fauna; and • 'Nuclear action' as defined in Section 22 of the EPBC Act.	Approval by the Minister of the Environment (or delegate) under Section 133 of the Act.	Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)	Commonwealth Department of the Environment

Proponent to complete				
Aspects* of the oroposal Type of approval		Legislation regulating this activity	Which State agency /entity regulate this activity?	
Kaolin clay mining	Mining lease. Mining Proposal and Mine Closure Plan.	Mining Act 1978	Department of Mines and Petroleum	
Construction and operation of kaolin processing plant Works Approval and Licence		EP Act – Part V	Department of Environment Regulation	
Construction and operation of Class V/Class IV arid near surface geological repository and Class II waste storage facility	Works Approval and Licence	EP Act – Part V	Department of Environment Regulation	
Clearing of native vegetation (Note: exemption applies if the Proposal is formally assessed)	Clearing Permit	EP Act – Part V	Department of Environment Regulation	
Storage of radioactive material	Registration / Permit	Radiation Safety Act 1975 (WA)	Radiological Council of WA	
	Radiation Management Plan	Mines Safety and Inspection Regulations 1995 (WA)	Department of Mines and Petroleum	
Water	Licence to Take Water	Rights in Water and Irrigation Act 1914	Department of Water	
Storage of dangerous goods	Dangerous Goods Storage Licence	Dangerous Goods Safety Act 2004	Department of Mines and Petroleum	
Construction and operation Development Application/ Planning Consent and building permit applications.		Planning and Development Act 2005	Shire of Coolgardie	

^{*}e.g. mining, processing, dredging

2.1.3 Commonwealth Government *Environment Protection and Biodiversity Conservation Act 1999* approvals

Refer to the <u>assessment bilateral agreement</u> between the Commonwealth of Australia and the State of Western Australia for assistance on this section.

Pro	Proponent to complete			
1.	Does the proposal involve an action that may be or is a controlled action under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)?			
2.	What is the status of the decision on whether or not the action is a controlled action?	☐ Proposal not yet referred☑ Proposal referred, awaiting decision		

Pro	Proponent to complete			
		☐ Assessed – controlled action		
		Assessed – not a controlled action		
3.	If the action has been referred, when was it referred and what is the reference number (Ref #)?	Date: Same date as this referral (6th May 2015)		
		Ref #: to be confirmed		
4.	If the action has been assessed, provide the decision in an attachment. Has an attachment been provided?	☐ Yes ☐ No		
5.	Do you request this proposal to be assessed under the bilateral agreement?	⊠ Yes □ No		
		Note: an assessment under the bilateral agreement is preferred if the Proposal is deemed a controlled action.		
Con	Complete the following to the extent possible for the Public Comment of EPBC Act referral			

Complete the following to the extent possible for the Public Comment of EPBC Act referral documentation.

Proponent to complete				
Have you invited the public to comment on your referral documentation?	⊠ Yes □ No			
7. How was the invitation published?	□ newspaper □ website			
8. Did the invitation include all of the following?				
(a) brief description of the action	⊠ Yes □ No			
(b) the name of the action	⊠ Yes □ No			
(c) the name of the proponent	⊠ Yes □ No			
(d) the location of the action	⊠ Yes □ No			
(e) the matters of national environmental significance that will be or are likely to be significantly impacted	☐ Yes ⊠ No			
(f) how the relevant documents may be obtained	⊠ Yes □ No			
(g) the deadline for public comments	⊠ Yes □ No			
(h) available for public comment for 14 calendar days	⊠ Yes □ No			
(i) the likely impacts on matters of national environmental significance	☐ Yes ⊠ No			
(j) any feasible alternatives to the proposed action	☐ Yes ⊠ No			
(k) possible mitigation measures	☐ Yes ⊠ No			

Proponent to complete			
9.	Were any submissions received during the public comment period? <i>Not yet applicable</i>	☐ Yes ☐ No	
10.	Have public submissions been addressed? If yes provide attachment. <i>Not yet applicable</i>	☐ Yes ☐ No	

2.1.4 Other Commonwealth Government Approvals

Proponent, DMA and Third Party to complete				
Is approval require Commonwealth Gonart of the propos	overnment/s for any	☐ Yes ⊠ No If yes, please complete the table below.		
Agency / Authority	Approval required	Applic lodg		Agency / Local Authority contact(s) for proposal
		☐ Yes	☐ No	
		☐ Yes	☐ No	

3. SUPPORTING INFORMATION

Please attach copies of any relevant information on the proposal, supporting evidence and / or existing environmental surveys, studies or monitoring information undertaken and list the documents below.

Propo	Proponent, DMA and Third Party to complete				
(1)	Supplementary Referral Report Sandy Ridge Project	Aurora Environmental (May 2015)	Supporting Information to the EPA Referral		
(2)					
(3)					

PART B: ENVIRONMENTAL FACTORS

The purpose of Part B is to assist the EPA to determine the significance of the likely environmental impacts of the proposal in accordance with the EPA's *Environmental Assessment Guideline for Environmental factors and objectives* (EAG 8) and *Environmental Assessment Guideline for Application of a significant framework in the EIA process* (EAG 9). Referrers completing Part B should refer closely to EAG 8 and EAG 9.

The EPA has prepared <u>Referral of a Proposal under s38 of the EP Act EAG No.16 - Appendix A</u> (Appendix A) to assist in identifying factors and completing the below table. Further guidance can be found in the guidance and policy documents cited in Appendix A under each factor.

How to complete Part B

For each environmental factor, that is likely to be significantly impacted by the implementation of the proposal, make a copy of the table below and insert a summary of the relevant information relating to the proposal. The table can be broken down into more than one table per factor, if the need arises. For example the hydrological processes factor can be presented in two separate tables, one for surface water and one for groundwater, or similarly one for construction and one for operations.

For complex proposals a supplementary referral report can be provided in addition to the referral form. If this option is chosen the table must still be completed (summaries are acceptable) to assist the Office of the EPA with statistical reporting and filtering proposals for processing.

Proponents expecting an API level of assessment must provide information in accordance with the EPA's *Environmental Assessment Guideline for Preparation of an API-A environmental review document* (EAG 14).

For <u>each</u> of the significant environmental factors, complete the following table (Questions 1 - 10).

Proponent	Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, as defined in <u>EAG 8</u>	Terrestrial Environmental Quality	
2	EPA Objective, as defined in <u>EAG 8</u>	To maintain the quality of land and soils so that the environment values, both ecological and social, are protected.	
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	GS6 – Rehabilitation of Terrestrial Ecosystems	
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including: • anticipated level of public interest in the impact;	Refer to Table B of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>) for the outcomes of initial stakeholder consultation.	
	 consultation with regulatory agencies; and consultation with community. 	It is anticipated the level of public interest in the proposal will be high and further consultation (i.e. Tier 2) is progressing.	

Proponer	nt to complete. DMA and Third Party to complete to	the best of their knowledge.
5	Baseline information - describe the relevant characteristics of the receiving environment. This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.	Geological profile comprising topsoil, silcrete, laterite and kaolinite down to approximately 30m depth within kaolin open cut or underground mine. No significant water deposits have been found at the silcrete/clay interface or at the clay/basement interface within the vicinity of the site. See Section 3 of the Supplementary Referral Report (Aurora Environmental, May 2015).
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Long term, temporary storage, treatment, recovery and permanent isolation of intractable and hazardous wastes (i.e. Class V and IV wastes) and low level radioactive waste in an arid near surface geological repository will disturb the site. Based on the site characteristics, there is no credible exposure scenario that could pose a significant risk to human health or the environment from hazardous or intractable wastes that might be stored, treated, recovered and isolated at Sandy Ridge using internationally recognised multi barrier concept.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.

Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed:

 Avoidance - avoiding the adverse environmental impact altogether;

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- Minimisation limiting the degree or magnitude of the adverse impact;
- Rehabilitate restoring the maximum environmental value that is reasonably practicable; and
- Offsets actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.

Best practice dictates that a site should rely on not one, but several or "multiple" engineered and natural barriers as part of the safety case.

Approved multi barrier safety case and mine closure plan will ensure the EPA's objective is met.

Refer to Tellus' Storage and Isolation Safety Case (SISC) definition in See Section 2.2 and 3 of the Supplementary Referral Report (Aurora Environmental, May 2015).

Protective layers will be in place during transport, storage and backfill operations.

Waste storage cells will be covered by compacted kaolin forming engineered caps so any rainfall or surface water is shed off the structure.

Topsoil will be replaced and revegetated with species of local provenance.

Surface monitoring of rehabilitated cells will be conducted to identify any signs of surface subsidence.

Installation and monitoring of groundwater monitoring bores.

Waste will be stored long term and isolated using multiple engineered and geological barriers until feasible treatment, resource recovery technology is available, or waste is to be permanently isolated.

8	Residual impacts – review the residual impacts	The design and management
	against the EPA objectives. It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA's objective for this factor would be met if residual impacts remain. This will require: • quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions; • putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and • comparison against any established environmental policies, guidelines, and standards.	philosophy for the Sandy Ridge arid near surface geological repository is based on the use of multiple layers of engineered and geological barriers, underpinned by internationally recognised operational procedures to provide the highest level of security and containment for wastes during the transport, handling, and long term storage, treatment, recovery and following final placement in the isoaltion cells at the facility. These processes and controls contribute to the overarching goal of temporarily or permanently isolating the waste in the facility from the biosphere. Refer to section 2.2.2 & 2.2.3 of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>). Engineered long term storage and isolation cells (c40 ha) would be permanently altered and sterilised (i.e. sterilisation of this land) during the institutional period. After the institutional control period the land is returned to its current status, but with appropriate intergenerational markings to indicate the
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to EAG 9	previous use of the site. Meets the EPA's objective may meet the EPA's objective objective

Proponent	Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
10	Describe any assumptions critical to your conclusion (in Question 9). e.g. particular mitigation measures or regulatory conditions.	Given the strict controls that will be employed and Tellus' Storage and Isolation Safety Case (SISC), for the reasons outlined in Section 2.4 of the Supporting Information (Aurora Environmental, May 2015) the site is suitable for an arid near surface geological repository. Based on the site characteristics, there is no credible exposure scenario that could pose a significant risk to the environment from waste stored long term or permanently isolated at Sandy Ridge using internationally recognised multi barrier concept.	

In circumstances where there was some uncertainty on the level of significance of a particular factor it is recommended that a brief summary (no longer than 1 - 2 paragraphs) is provided on the steps taken to determine why a factor was not considered to be significant.

For <u>each</u> of the significant environmental factors, complete the following table (Questions 1 - 10).

Propone	ent to complete. DMA and Third Party	to complete to the best of their knowledge.
1	Factor, as defined in <u>EAG 8</u>	Inland Waters Environmental Quality
2	EPA Objective, as defined in <u>EAG 8</u>	To maintain the quality of groundwater and surface water, sediment and biota so that the environmental values, both ecological and social, are protected.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	Western Australian water in mining guideline (DoW, 2013).
		Operational policy no. 5.12 Hydrogeological reporting associated with a groundwater well licence (DoW, 2009).
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:	Refer to Table B of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>) for the outcomes of initial stakeholder consultation. It is anticipated the level of public interest in the
	 anticipated level of public interest in the impact; 	proposal will be high and further consultation (i.e. Tier 2) is progressing.
	 consultation with regulatory agencies; and 	
	consultation with community.	

Propone	Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
5	Baseline information - describe the relevant characteristics of the receiving environment. This may include: regional context;	No significant water deposits have been found at the impermeable 5 m thick caprock (laterite and silcrete)/ kaolin clay interface or at the kaolin clay/ granite basement interface within the vicinity of the site.	
	known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.	The dry kaolin clay bed formed approximately 20 million years ago and is part of a stable, flat 40 km by 80 km clay bed. See Section 3 of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>).	
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Failure of engineered cap covering multi-barrier long term, temporary storage, treatment and recovery business and permanent isolation cells has the potential to contaminate any local aquifer or inland waters but this is considered to be a very low probability.	
		Given the strict controls that will be employed and Tellus' Storage and Isolation Safety Case (SISC), for the reasons outlined in Section 2.4 of the Supporting Information (Aurora Environmental, May 2015) the site is suitable for an arid near surface geological repository. Based on the site characteristics, there is no credible exposure scenario that could pose a significant risk to the environment from waste stored long term or permanently isolated at Sandy Ridge using internationally recognised multi barrier concept. Adverse effects on surrounding environment of water source (note: water source yet to be determined).	
7	 Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed: Avoidance - avoiding the adverse environmental impact altogether; 	Protective layers (barriers) will be in place during transport, storage, treatment and recovery operations and permanent isolation operations as described in Section 2.2.of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>).	
	 Minimisation - limiting the degree or magnitude of the adverse impact; 	Waste storage pits will be covered by compacted kaolin forming engineered caps so any rainfall or surface water is shed from the structure of the cell.	
	Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and	Surface monitoring of rehabilitated pits will be conducted to identify any signs of surface subsidence.	
	Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.	Installation and monitoring of groundwater monitoring bores will be undertaken. Waste will be stored long term and isolated using multiple engineered and geological barriers until feasible resource recovery technology is available, or waste is to be permanently isolated.	

Fropone	nt to complete. DMA and Third Party	to complete to the best of their knowledge.
8	Residual impacts – review the residual impacts against the EPA objectives. It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA's objective for this factor would be met if residual impacts remain. This will require: • quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions; • putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and • comparison against any established environmental	No residual impacts are expected to inland waters within the development envelope. Residual impacts on the surrounding environment of the water source are unknown at this stage (note: water source yet to be determined). The design and management philosophy for the Sandy Ridge arid near surface geological repository is based on the use of multiple layers of engineered and geological barriers, underpinned by internationally recognised operational procedures to provide the highest level of security and containment for wastes during the transport, handling, and long term storage, treatment, recovery and following final placement in the isolation cells at the facility. These processes and controls contribute to the overarching goal of permanently isolating the waste in the facility from the biosphere. Refer to section 2.22 & 2.2.3 of the Supplementary Referral Report (Aurora Environmental, May 2015).
9	policies, guidelines, and standards. EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to EAG 9	
10	Describe any assumptions critical to your conclusion (in Question 9). e.g. particular mitigation measures or regulatory conditions.	Several options are being considered as potential water sources. A hydrogeological assessment will be undertaken of any identified water source in accordance with Department of Water guidance and consultation with the Department. It is expected that any abstraction of water will be licenced under the <i>Rights in Water and Irrigation Act 1914</i> administered by the Department of Water. Given the strict controls that will be employed and Tellus' Storage and Isolation Safety Case (SISC), for the reasons outlined in Section 2.4 of the <i>Supporting Information (Aurora Environmental,</i>

For \underline{each} of the significant environmental factors, complete the following table (Questions 1 – 10).

Propoi	nent to complete. DMA and Third Part	y to complete to the best of their knowledge.
1	Factor, as defined in <u>EAG 8</u>	Human Health

Proponent to complete. DMA and Third Party to con		y to complete to the best of their knowledge.
2	EPA Objective, as defined in <u>EAG 8</u>	To ensure that human health is not adversely affected.
3		Transport of Dangerous Goods by Road and Rail (Commonwealth of Australia, 2014, edition 7.3)
		National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 1998 (as amended).
	Guidance - what established policies, guidelines, and standards apply to this	Fundamentals for Protection Against Ionising Radiation (ARPANSA, 2014)
	factor in relation to the proposal?	Code of practice for the near-surface disposal of radioactive waste in Australia (1992) Note: currently under review.
		Code for the Safe Transport of Radioactive Material (ARPANSA, 2014).
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential	Refer to Table B of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>) for the outcomes of initial stakeholder consultation.
	 environmental impacts, including: anticipated level of public interest in the impact; 	It is anticipated the level of public interest in the proposal will be high and further consultation (i.e. Tier 2) is progressing.
	 consultation with regulatory agencies; and 	
	consultation with community.	
5	Baseline information - describe the relevant characteristics of the receiving environment. This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.	Refer to Section 3 of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>) where the site characteristics are summarised as; being geologically stable, providing a natural geological barrier for the long term storage and isolation of waste materials, having a semi-arid Mediterranean climate, no water table or flooding, very low rates of erosion, lack of commercial mineral deposits (other than Kaolin), flat or gently undulating topography, an absence of population centres (temporary camp 50km away), no potential for medium or high value agriculture, no special environmental features or cultural and historic significance.
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Handling and storage of intractable and hazardous (including radioactive) wastes which has the potential to impact the health of workers at the facility.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
7	Mitigation measures - what measures are proposed to mitigate the potential	Strict adherence to Waste Acceptance Criteria Protocol
	environmental impacts? The following should be addressed:	Environmental Management Plan
	Avoidance - avoiding the adverse environmental impact altogether;	Training and competency assessment for staff
	Minimisation - limiting the degree	Emergency Management Plan
	or magnitude of the adverse	Materials Monitoring Plan
	impact;	Approved Radiation Management Plan
	Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and	These will address operational aspects of hazardous waste and radiation protection safety.
	Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of	Strict environmental controls consistent with international standards and national codes for the management of radioactive waste will be implemented.
	a project or activity.	Institutional control period.
8	Residual impacts – review the residual impacts against the EPA objectives.	Implementing best practice in accordance with international and national codes and standards is unlikely to result in residual impacts.
sig ha Re	It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the	Best practice dictates that a site should rely on not one, but several or "multiple" engineered and natural geological barriers as part of the safety case.
	likely residual impacts and form a conclusion on whether the EPA's	Approved multi barrier safety case and mine closure plan will ensure the EPA's objective is met.
	objective for this factor would be met if residual impacts remain. This will	Refer to Tellus' Storage and Isolation Safety Case (SISC) definition.
	 require: quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions; 	The design and management philosophy for the Sandy Ridge arid near surface geological repository is based on the use of multiple layers of engineered and geological barriers, underpinned by internationally recognised operational procedures to provide the highest level of security
 putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and the disposal cells a 	and containment for wastes during the transport, handling, storage and following final placement in the disposal cells at the facility. These processes	
	 comparison against any established environmental policies, guidelines, and standards. 	and controls contribute to the overarching goal of permanently isolating the waste in the facility from the biosphere. Refer to section 2.2.3 of the Supplementary Referral Report (<i>Aurora Environmental, May 2015</i>).
9	EPA's Objective – from your	
	perspective and based on your review, which option applies to the proposal in	may meet the EPA's objective
	relation to this factor? Refer to EAG 9	is unlikely to meet the EPA's objective

Propo	Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
10	Describe any assumptions critical to your conclusion (in Question 9). e.g. particular mitigation measures or regulatory conditions.	Given the strict controls that will be employed and Tellus' Storage and Isolation Safety Case (SISC), for the reasons outlined in Section 2.4 of the Supporting Information (Aurora Environmental, May 2015) the site is suitable for an arid near surface geological repository. Based on the site characteristics, there is no credible exposure scenario that could pose a significant risk to human health from waste stored long term or permanently isolated at Sandy Ridge using internationally recognised multi barrier concept.	

In circumstances where there was some uncertainty on the level of significance of a particular factor it is recommended that a brief summary (no longer than 1 - 2 paragraphs) is provided on the steps taken to determine why a factor was not considered to be significant.

For <u>each</u> of the significant environmental factors, complete the following table (Questions 1 - 10).

Pro	Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, as defined in <u>EAG 8</u>	Rehabilitation and Decommissioning	
2	EPA Objective, as defined in <u>EAG 8</u>	To ensure that premises are decommissioned and rehabilitated in an ecologically sustainable manner.	
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	Joint Guidelines for Preparing Mine Closure Plans (EPA and DMP, 2011).	
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:	Refer to Table B of the Supplementary Referral report (<i>Aurora Environmental, May 2015</i>) for the outcomes of initial stakeholder consultation. It is anticipated the level of public interest in the	
	anticipated level of public interest in the impact;	proposal will be high and further consultation (i.e. Tier 2) is progressing.	
	consultation with regulatory agencies; and		
	consultation with community.		
5	Baseline information - describe the relevant characteristics of the receiving environment.	Baseline soils assessment is currently underway. Geological profile comprising topsoil, silcrete, laterite and kaolinite down to approximately 30m depth within kaolin open cut mine.	
	This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of	No groundwater or surface water is understood to be present in the development envelope.	
cumulative impacts.		Flat or gently undulating topography	
		No potential for medium or high value agriculture use	
		No special environmental features or cultural and historic significance	

Proponent to complete. DMA and Third Party to complete to the best of their knowled		
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Exposure of people and the environment to wastes, which may lead to health or environmental issues.
7	 Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed: Avoidance - avoiding the adverse environmental impact altogether; Minimisation - limiting the degree or magnitude of the adverse impact; Rehabilitate - restoring the maximum environmental value that is reasonably practicable; and Offsets - actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity. 	Safety Case and Mine Closure Plan developed to include "post closure period" During operations: Dome shedding engineered water caps will be created on completed storage and isolation cells. Baseline soils assessment (in progress) to recommend soil and erosion management measures to be implemented. Adherence to approved operational management plans and procedures underpinned by Certified Management System. Post-mine management: Implementation of approved mine closure plan. Long-term management: Monitoring in accordance with approved mine closure plan. Institutional control period.
8	Residual impacts – review the residual impacts against the EPA objectives. It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA's objective for this factor would be met if residual impacts remain. This will require: • quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions; • putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and • comparison against any established environmental policies, guidelines, and standards.	No further use of the engineered isolation cells for any other activities (i.e. sterilisation of this land) during the institutional period. After the institutional control period the land is returned to its current status, but with appropriate intergenerational markings to indicate the previous use of the site.
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? <i>Refer to</i> <u>EAG 9</u>	

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.			
10	Describe any assumptions critical to your conclusion (in Question 9). e.g. particular mitigation measures or regulatory conditions.	Implementation of an approved closure plan and international best practice for closure of waste storage and isolation facilities will ensure the EPA's objective is met.	

In circumstances where there was some uncertainty on the level of significance of a particular factor it is recommended that a brief summary (no longer than 1 - 2 paragraphs) is provided on the steps taken to determine why a factor was not considered to be significant.