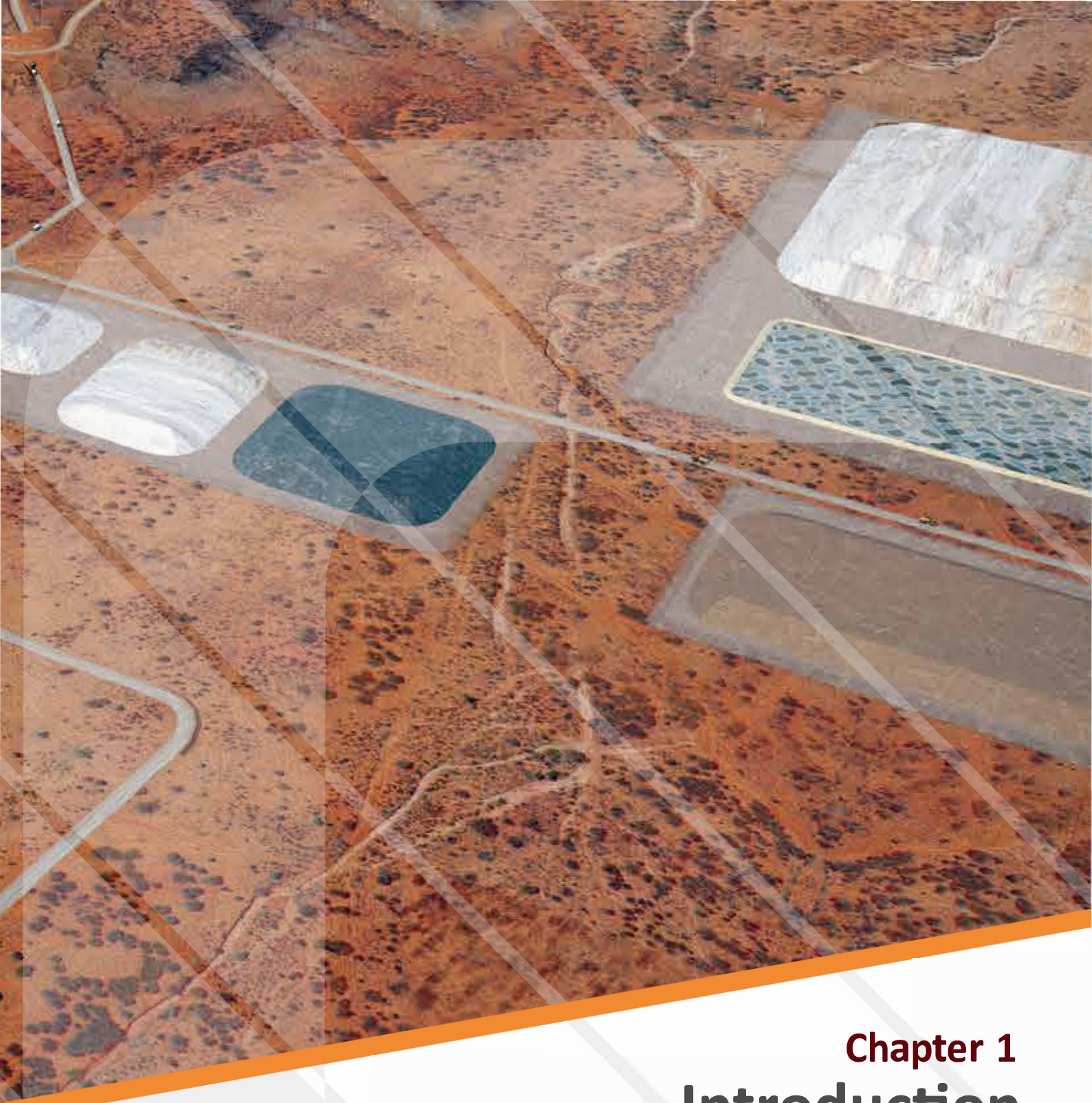




Chapter 1

Introduction



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Abbreviations

EA Act	<i>Environmental Assessment Act</i>
EIS	Environmental Impact Statement
MM Act	<i>Mining Management Act</i>
NT	Northern Territory
WMPC Act	<i>Waste Management Pollution Control Act</i>



1 INTRODUCTION

1.1 Overview

Tellus Holdings Ltd (Tellus) is an infrastructure project development company in the business of creating economic, social and environmental value from waste, clay and salt resources. This dual revenue model involves mining the commodities rock salt and kaolin clay in thick dry remote beds which creates world's best practice geological repositories. The voids created by mining are then used to store equipment, archives or waste using a multi barrier system as part of an overall safety case.

Tellus (also referred to as 'the proponent') propose to construct and operate an underground rock salt mine and storage, recovery and permanent isolation facility (herein referred to as the 'Chandler Facility'). A rail siding and temporary surface storage and transfer facility (herein referred to as the 'Apirnta Facility') is also proposed. A private haul road linking the two facilities (herein referred to as the 'Chandler Haul Road') would be constructed. A private access road (herein referred to as 'Henbury Access Road'), would be constructed to link the proposed Apirnta Facility with the Stuart Highway. Collectively, the two proposed facilities and the haul and access roads are referred to as 'the Proposal'.

If approved, the Chandler Facility and the majority of the Chandler Haul Road would be located within a pastoral lease (Maryvale Station) approximately 120 kilometres south of Alice Springs and about 25 kilometres by road from the community of Titjikala in the Northern Territory (NT) (refer to Section 1.3). The Apirnta Facility, Henbury Access Road and a portion of the Chandler Haul Road would be located to the west of the proposed Chandler Facility, also on a pastoral lease (Henbury Station).

This Environmental Impact Statement (EIS) has been prepared by Tellus to support key approvals under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the NT *Mining Management Act* (MM Act), the NT *Environmental Assessment Act* (EA Act) and the NT *Waste Management Pollution Control Act* (WMPC Act) for the construction, operation, and closure and decommissioning of the Proposal. The EIS has been prepared to address the requirements set out in the *Terms of Reference for the Preparation of an Environmental Impact Statement – Chandler Salt Mine* (the 'Terms of Reference') issued by the NT Environment Protection Authority (NT EPA) on 23 September, 2016, under the EA Act.

A copy of the Terms of Reference is provided in Appendix A. A table that lists the requirements as set out in the Terms of Reference with a reference to the chapter/section of the EIS that deals with that requirement is also presented in Appendix A.

A list of people involved in the preparation of the EIS is provided in Appendix B.



1.2 Objectives of the Proposal

There are two primary objectives of the Proposal. These are:

1. To mine rock salt for industrial and edible uses that would be exported to Asia, with some salt available for use in Australia.
2. The void spaces left from the salt mining operations, would be used to store equipment and archives and also store, recover or permanently isolate hazardous waste materials.

The concept of underground mining and using the voids created by the mining operations for storage is not new. The use of underground salt mines for the storage of equipment, archives and waste has been widely accepted in many countries as a preferred medium for the storage, recovery and permanent isolation of materials. Similar salt mine and complementary storage facilities operate safely in Europe, the United Kingdom, the United States and Canada.

1.2.1 Salt mining and processing

The Chandler Formation contains world class deposits of naturally occurring halite (sodium chloride or rock salt). The salt beds would be mined and used for various industrial applications (for example, chloralkali and synthetic soda ash production) and for human consumption (food or food processing).

With an expected initial mine life of about 25 years of full operations, the resource could possibly support Australia's longest life mine as evidenced in Europe where salt mines with similar resources have been mined for hundreds of years. There is growing demand (particularly in Asia) for salt and associated minerals (for example, magnesium) and a constrained supply.

1.2.2 Storage of materials (equipment, archives, etc.) and storage, recovery and permanent isolation of hazardous waste materials

A range of materials could be safely and securely stored (either temporarily or permanently) inside the void spaces that are left behind from the salt mining operations at the proposed Chandler Facility. The space mined affectively acts as a safe dry underground warehouse in salt. Typical materials that may be stored (and retrieved at a later date) include document archives, film archives, museum artefacts, computer servers, and a host of other valuable documents and equipment.

A range of hazardous wastes produced mostly by the mining, oil and gas, chemical, manufacturing, agricultural, site remediation, utilities (power, water and waste which also captures household collection) and government (State Emergency Service - man made or natural disaster) industries could be stored either temporarily (until recovery and treatment is possible) or permanently inside the void spaces left from the salt mining operations at the proposed Chandler Facility. These same waste materials could also be stored temporarily at the Apirnta Facility prior to being transported to the Chandler Facility.

Waste Acceptance Criteria (WAC) have been established for the Proposal to determine waste types which could and could not be accepted in order to achieve safe operation and environmental protection in the longer term at the proposed Chandler Facility. The facility has been designed and



would be located in a host geological environment that would be capable of storing and disposing of the majority of the NEPM¹ 75 chemical wastes subject to them meeting strict WAC. These criteria were developed following internationally recognised best practice and set out waste characteristics that would be not be suitable for storage or disposal in a geological repository.

Wastes that are gases, highly corrosive, highly oxidising, infectious or uncertified would not be accepted under any circumstances. Wastes that are liquids or sludges, explosive, flammable liquids or solids, self-combusting, generate a gas-air mixture which is toxic or explosive, biodegradable, tyres, could release free liquid or react with the host geology would not normally be accepted unless they could be stabilised, solidified or modified in such a way that they would not affect the operational or post closure safety of the proposed Chandler Facility.

Nuclear and uranium mining waste would not meet the WAC and, therefore, *would not be stored* at either the Chandler Facility or the Apirnta Facility. However almost everything in nature has some small amount of natural radioactivity and processing concentrates it. The proponent is planning to accept Naturally Occurring Radioactive Material (NORM) up to Exemption Level² (EW) activity content, which is the lowest activity level on the waste classification scheme.

The industries that generate NORM are usually those that refine raw materials and have a waste by-product that is concentrated. This includes utilities such as water treatment plants, ceramic industry and resource sector refineries. Exempt waste contains such small concentrations of radionuclides that it does not require provisions for radiation protection, irrespective of whether the waste is disposed of in conventional landfills or recycled. Such material is exempt from regulatory control and does not require any further consideration from a regulatory control perspective.

Typical waste types accepted (and not accepted) at both facilities are listed in Table 1-1 with further detail provided in Chapter 3.

¹ National Environment Protection (Movement of Controlled Waste between States and Territories) Measure

² 2 Classification of Radioactive Waste – RPS20, Schedule 4 of the NDRP (ARPANSA 2010)



Table 1-1 Hazardous waste accepted and not accepted for underground storage, disposal and permanent isolation

Type of hazardous chemical wastes	Accepted on-site for surface storage ¹	Accepted in underground voids ¹
Chemical wastes listed under the National Environment Protection Measures (NEPM) (refer to Schedule A List 1: Waste Categories) and under Schedule 2 of the NT Waste Management and Pollution Control (Administration) Regulations	✓	✓
Liquid and sludges	✓	✓ ¹
Explosive wastes	✗	✗
Flammable liquids or solids	✗	✗
Self-combusting wastes or wastes that can generate a gas-air mixture which is toxic or explosive	✗	✗
Highly corrosive or oxidizing	✗	✗
Gases	✗	✗
Clinical waste (infectious hospital waste and body parts)	✗	✗
Municipal solid waste (putrescible household and commercial waste)	✗	✗
Putrescible waste (household rubbish that can rot)	✗	✗
Uncertified waste (which cannot be identified or has not undergone characterisation testing)	✗	✗
Reacts with the repository geology (such as dissolving it or producing a gas)	✗	✗
NORM²	✓	✓
Low level radioactive waste (e.g. smoke detectors, exit signs, industrial gauges and medical isotopes)	✗	✗
Intermediate level radioactive waste (e.g. reprocessed spent nuclear fuel and components with high levels of radioactivity)	✗	✗
High level radioactive waste (e.g. from power generation and defense use)	✗	✗

Note: ✓ = accepted, ✗ = not accepted, ✓¹ = normally excluded but could be used in hydraulic backfill processing. ² Exemption activity levels defined as per *The National Directory for Radiation Protection, February 2014 (RPS 6)*.

1.3 Location of the Proposal

The proposed Chandler Facility would be located within NT Mineral Lease (ML) 30612.

The proposed Chandler Facility and most of the Chandler Haul Road would be located within Maryvale Station (NT Portion 810), approximately 120 kilometres south of Alice Springs and 25 kilometres by road from the community of Titjikala. The proposed Apirnta Facility, Henbury Access Road and a portion of the Chandler Haul Road would be located within Henbury Station (NT Portion 657), to the west of the proposed Chandler Facility (refer to Figure 1-1).



Land within Maryvale Station and Henbury Station is pastoral lease land governed under the NT *Pastoral Land Act*. As such, land within Maryvale Station and Henbury Station is used for pastoral activities (specifically for grazing cattle).

The closest community to the proposed Chandler Facility is the community of Titjikala. Titjikala has a population of approximately 250-300 residents, the majority of which are Aboriginal whose primary language is Luritja, Arrernte or Pitjantjatjara. Other larger communities surrounding the Proposal include Amoonguna to the north, Santa Teresa to the east, Finke to the south, Imanpa to the south-west and Orange Creek to the north-west. All of these communities are located within the MacDonnell Regional Council Local Government Area.

The Hugh River is located approximately 20 kilometres to the north-east of the proposed Chandler Facility and the Finke River is located approximately 25 kilometres to the south of the proposed Chandler Facility (refer to Figure 1-1). Chambers Pillar and the Chambers Pillar Nature Reserve are located approximately 30 kilometres to the west and the Rainbow Valley Nature Reserve is located approximately 54 kilometres to the north of the proposed Chandler Facility.

The Central Australian Railway is located approximately 30 kilometres to the west of the proposed Chandler Facility. The proposed Apirnta Facility would be located adjacent to the Central Australian Railway (refer to Figure 1-1). The Stuart Highway is located approximately 60 kilometres to the west of the proposed Apirnta Facility and 90 kilometres to the west of the proposed Chandler Facility.

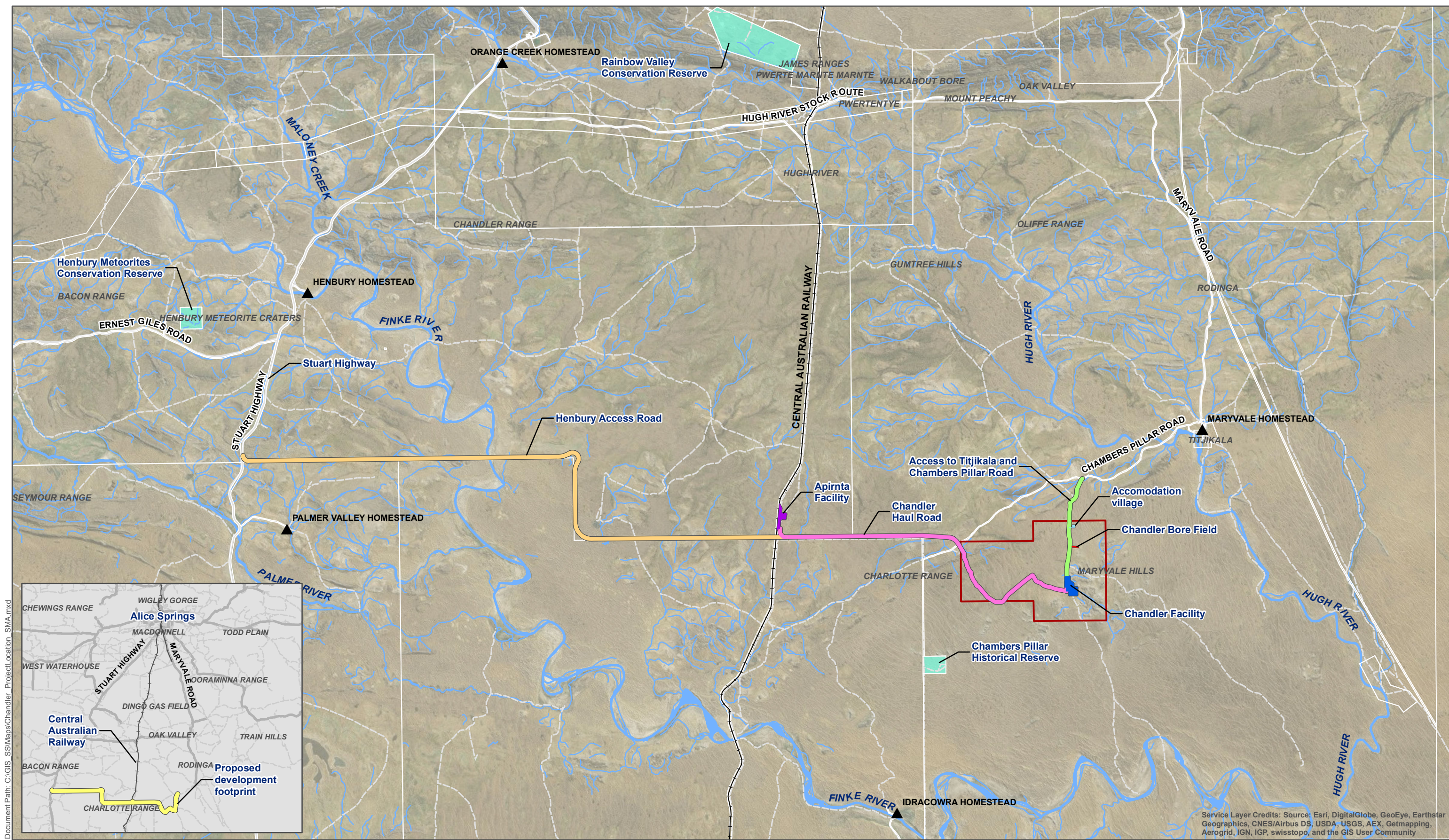
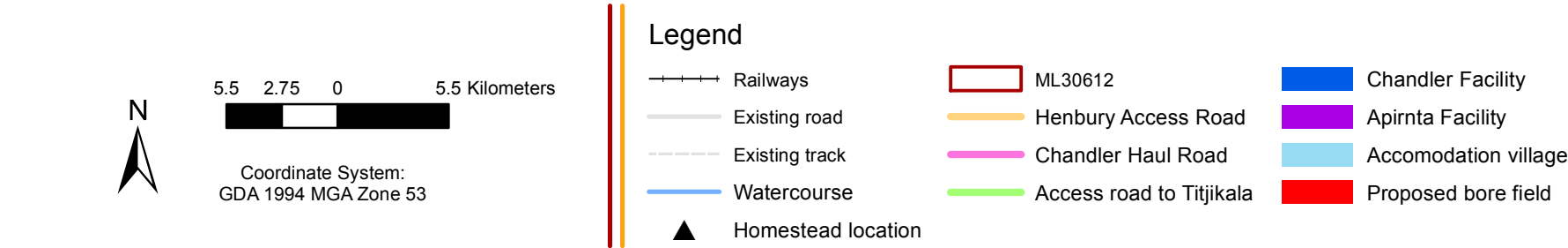


Figure 1-1
Regional location of the Proposal





1.4 Key features of the Proposal

The Proposal includes an underground rock salt mine and a storage, recovery and permanent isolation facility (the Chandler Facility), as well as a supporting rail siding and surface storage and transfer facility (the Apirnta Facility) and haul and access roads (the Chandler Haul Road and the Henbury Access Road). A description of the facilities and roads is provided below. Further detail is provided in Chapter 3.

1.4.1 Chandler Facility

Tellus propose to develop a new underground rock salt mine and complementary storage business with supporting aboveground infrastructure that would export up to 750,000 tonnes of salt product per annum. The facility would also provide for the safe and secure storage, recovery and permanent isolation of up to 400,000 tonnes of waste per annum, although average volumes are expected to be significantly less than this amount (year 1 one 30,000 tonnes, average 340,000 tonnes per annum). The rock salt mine and complementary storage facility is referred to as the Chandler Facility. A graphical representation of the proposed Chandler Facility is provided in Figure 1-2.



Figure 1-2 The proposed Chandler Facility. Aboveground infrastructure shown above and underground infrastructure shown below

Salt mining and storage/permanent isolation of materials

Salt mining activities would involve:

- Deep mining of rock salt using a 'room and pillar' system of mining.
- Transport of salt via shaft hoisting to the surface.
- Stockpiling of rock salt for processing and packaging.
- Transport of rock salt to domestic and overseas market:
 - Domestic market (via road and rail) - road transport via truck on federal and state highways. Rail transport via a proposed new railway siding located at the Apirnta Facility.



- Overseas market (via rail) - rail transport also via the proposed new railway siding located at the Apirnta Facility, predominantly south to a port facility in Adelaide. From there, rock salt would be shipped to overseas markets predominantly in Asia.

Storage, recovery and permanent isolation of materials would involve:

- Transport of materials (equipment, archives, etc.) and waste, predominantly by rail, for receipt and temporary storage at the Apirnta Facility.
- Transfer of materials by truck from the Apirnta Facility to the Chandler Facility via the proposed Chandler Haul Road.
- Transport of packaged materials via mine access decline or via hydraulic backfill into the voids created by the salt mining operation:
 - Waste would be permanently isolated in line with operational management plans and a strict Waste Acceptance Criteria (WAC).
 - Materials such as equipment and archives would be stored separately for future retrieval.
- Once full, sealing the underground voids permanently with an engineered barrier.

The facility would be designed and managed to allow for future waste recovery opportunities, that is, wastes would be stored like-with-like and the final disposal locations of all waste would be tracked and logged for future reference. At some point in the future, a technology recovery park would be established to support research and development into ways to release waste materials back into the circular economy. This would be subject to separate regulatory approvals.

The salt would be mined from the Chandler Salt Bed which is located approximately 850 metres below the surface. Materials stored within the voids left from the mining operation would be situated within a salt bed approximately 250 to 300 metres thick allowing the waste to be permanently removed from the biosphere in a stable and dry environment.

Key infrastructure

The key underground infrastructure at the proposed Chandler Facility would include:

- Underground mine.
- Mine access decline.
- Two ventilation shafts (one allowing for salt hoisting and personnel riding as well as downcast ventilation, and one for upcast ventilation).

The key aboveground infrastructure at the proposed Chandler Facility would include:

- Salt processing facilities.
- Waste unloading area.
- Waste storage warehouse.
- Vertical shaft headframe.
- Surface hydraulic backfill plant and underground reticulation.
- Salt and overburden stockpiles.
- Maintenance buildings.
- Administration building.



- Worker accommodation.
- Solar/diesel hybrid power plant.
- Clean and raw water dams.
- Water and sewage treatment.
- Fuel storage facility.
- Utility reticulation.
- Internal roads.
- Compressor building.
- Bore field.
- A future technology recovery park.

1.4.2 Apirnta Facility

The Chandler Facility would be supported by a proposed new, off-site rail siding and surface storage and transfer facility referred to as the Apirnta Facility. The Apirnta Facility would include two key pieces of infrastructure:

1. A rail siding approximately two kilometres in length.
2. A laydown area that would support the temporary storage of waste.

The purpose of the surface storage and transfer facility would be to provide a licensed facility that safely allows for the temporary storage of waste products prior to being transported by road for storage and/or permanent isolation at the proposed Chandler Facility.

The surface storage and transfer facility would provide for the temporary storage of up to 400,000 tonnes of waste per annum, although average volumes are expected to be significantly less than this amount (year one 30,000 tonnes, average 340,000 tonnes per annum), although average volumes are expected to be less than this amount. The waste would be stored either in a warehouse, within an open storage yard or within a liquid storage tank. A graphical representation of the proposed Apirnta Facility is provided in Figure 1-3.



Temporary storage

The proposed surface storage and transfer facility would receive waste materials transported, predominantly by rail, from reputable companies licenced to transport dangerous goods. Waste arriving would be inspected, sampled, unloaded and appropriately stored in line with a strict WAC (refer to Appendix C) and in accordance with appropriate standards, codes and regulations.

Waste materials stored in the warehouse would be sealed in storage containers and wrapped in plastic on wooden pallets and stacked in high-bays. The storage yard would be used for the temporary storage of waste materials that would be sealed in shipping containers. The liquid storage tank would be used to store a variety of liquid wastes.



Figure 1-3 The proposed Apirnta Facility. Aerial view (top) and proposed warehouse (bottom)



Key infrastructure

The key infrastructure at the proposed Apirnta Facility would include:

- Rail siding and laydown area.
- Storage areas for dry and solid waste materials; a steel-framed warehouse and open storage yard.
- A liquid storage tank to store a variety of liquid wastes.
- A quarantine zone.
- Laboratory, office and maintenance and storage shed.
- Internal roads and car parking.
- Loading bay, weighbridge and vehicle washdown facility.
- Truck driver amenities.
- Security gates, fencing, cameras and lighting.
- Bunding and stormwater drainage.
- Electricity, water and sewerage services.

1.4.3 The Chandler Haul Road and Henbury Access Road

Haul and access roads would be constructed as part of the Proposal. The proposed Chandler Haul Road would be approximately 30 kilometres long and would connect the Chandler Facility to the Apirnta Facility. It would provide for the movement of salt from the Chandler Facility to the rail siding at the Apirnta Facility. It would also provide for the movement of waste temporarily stored at the Apirnta Facility to the Chandler Facility.

The proposed Henbury Access Road would be approximately 60 kilometres long and would connect the Apirnta Facility to the Stuart Highway. It would provide for the movement of workers and delivery vehicles to and from the Stuart Highway to the Apirnta Facility and through to the Chandler Facility. The Henbury Access Road would be constructed once mining operations have begun. During construction, all workers, equipment and delivery vehicles would access the Chandler Facility via the existing Maryvale Road (a public road).

Both roads would be unsealed and designed and constructed to appropriate industry standards and their proposed use.



1.5 The proponent

Tellus is the proponent for the Proposal. Tellus is an infrastructure development company in the business of creating economic, social and environmental value from salt, clay and waste resources. The dual revenue model for the Proposal involves mining rock salt in a remote arid area which creates excellent opportunities for world's best practice in deep geological repositories. The voids created by mining are then used to store equipment, archives or waste using a multi barrier system as part of an overall safety case.

Tellus plan to permanently isolate hazardous waste using environmentally sound management principles that protect the environment and human health. Tellus also supports the circular economy using long term storage by placing like-with-like materials for operational safety reasons and to create opportunities for the future recovery of valuable materials.

Tellus' business model mirrors international solutions operating in the United Kingdom, Europe and North America. Tellus is developing the proposed Chandler Facility in the NT (which has been awarded Major Project Status by the NT Government) and also the proposed Sandy Ridge Facility in Western Australia.

The company details are as follows:

Tellus Holdings Ltd
Suite 2, Level 10
151 Castlereagh Street
Sydney NSW 2000.
ABN 97 138 119 829

The key contact for the EIS is:

Mr Richard Phillips
Environment and Approvals Manager
Tellus Holdings Ltd
Email: info@tellusholdings.com
Office: +61 2 8257 3395

Further information regarding the proponent is provided on their website at the following address: www.tellusholdings.com.au. The proponent's environmental record is provided in Appendix D.



1.6 Background

Investigations into the possibility of a salt mine and complementary storage business within Australia have been undertaken by the proponent since 2010. A summary of these investigations is presented in Table 1-4.

Table 1-2 Summary of investigations undertaken by the proponent (2010-2016)

Exploration and mineral leases/licences	Year	Resource and environmental baseline studies
Proponent applies for, and is granted, five exploration licences (or tenements)	2010	Regional desktop assessment undertaken of provinces on a geological basin level across Australia. Amadeus Basin located in central Australia identified as the most appropriate geological resource for a salt mine and complementary waste storage, recovery and permanent isolation business.
	2011	Nine sites investigated within the Amadeus Basin. Three suitable sites shortlisted and investigated within Charlotte North, all located within the Chandler Formation.
Proponent applies for four additional exploration licenses. Proponent relinquishes two tenements and partially relinquishes one.	2012	- Charlotte North selected as preferred location, Mt Charlotte as alternate location. - Prefeasibility baseline studies begin including aerial surveys, a soils assessment, geological and geotechnical assessments, biodiversity surveys and a high level visual impact assessment within Charlotte North. - Findings and conclusions of study used by integrated team of experts to prepare a site-specific geological drilling program.
	2013	- Seasonal ecological field surveys commence in the vicinity of the proposed Chandler Facility. - Soil surveys commence across the proposed mine infrastructure area and haul roads.
Proponent partially relinquishes four tenements.	2014	- Geological drilling commences. Deep core holes are drilled to a depth of approximately 1,084 metres. Chandler Formation is intersected at approximately 772 and 825 metres below ground level. - Information is compiled into a resource statement compliant with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC). - Water quality stations are constructed upstream and downstream of the proposed Chandler Facility. Water quality monitoring commences.

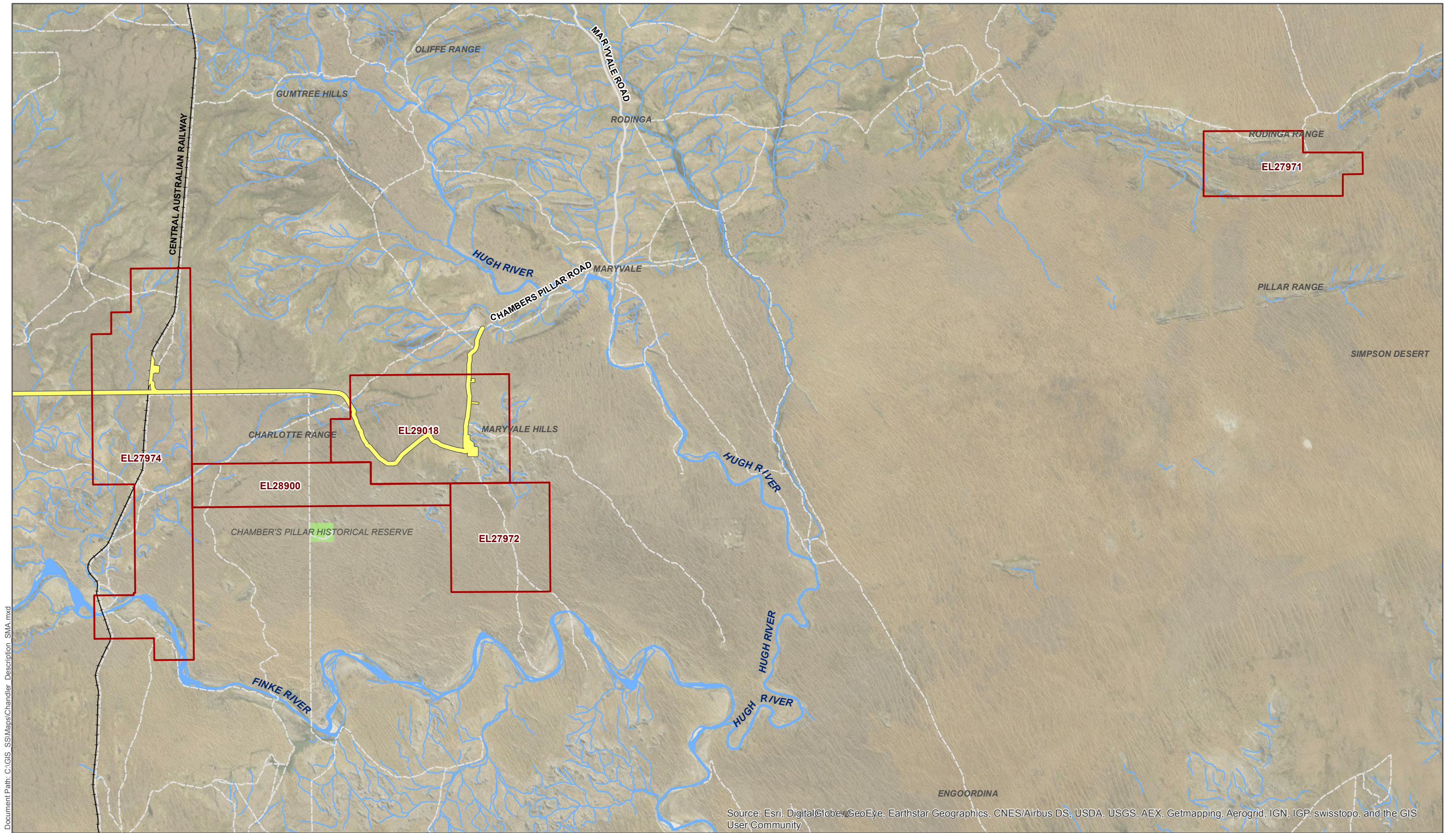


Exploration and mineral leases/licences	Year	Resource and environmental baseline studies
Proponent lodges a Mineral Lease Application (MLA 30612) for Charlotte North.	2015	- Detailed water drilling program commences over three months to improve the understanding of groundwater conditions in the vicinity of the proposed Chandler Facility. - Baseline studies continue including land and aerial surveys, seasonal biodiversity surveys, cultural heritage surveys (involving traditional land owners), visual assessments. - Seasonal ecological field surveys extend to the proposed Chandler Haul Road, Apirnta Facility and Henbury Access Road. - Chandler's two pilot projects (USA - wet processing and Germany -dry processing) and marketing of the product in Asia to date has demonstrated a high-grade salt deposit.
Proponent relinquishes two tenements.	2016	- Baseline studies continue including air quality, human health, surface water, groundwater, cultural heritage, soils, biodiversity, economic and social impact studies. - Updated prefeasibility study is undertaken to identify the preliminary infrastructure requirements, mining methods, production schedule, mining hazards and legislative environmental requirements for commercialising the Proposal.

Details of the current tenements are provided Table 1-5. The location of the tenements is shown in Figure 1-4.

Table 1-3 The proponent's current tenements within the NT

Tenure	Name	Effective date	Expiry date	Sub blocks	Status
EL 29018	Charlotte North	12-Apr-12	11-Apr-18	41	Grant
EL 27972	Mt Charlotte	20-Oct-10	Renewal pending	25	Renewal pending
EL 27971	Bluebush	20-Oct-10	Renewal pending	20	Renewal pending
EL 27974	Central Railroad	20-Oct-10	Renewal pending	72	Renewal pending
EL 28900	Eastern railroad	05-Mar-12	04-Mar-18	22	Grant
ML30612	Chandler	-	-	9978 ha	Application



Legend

- Proposed development footprint
- Mineral titles exploration license - granted (Tellus Holdings Ltd)
- Existing road
- Existing track
- Watercourse



4 2 0 4 Kilometers

Coordinate System:
GDA 1994 MGA Zone 53

Figure 1-4
The proponent's tenements within the NT





1.7 Overview of approvals and environmental impact assessment process

An overview of the approval requirements and environmental assessment process is provided below.

1.7.1 Approval requirements

The Proposal will require planning approval, licenses and permits from both the Australian Government and from the NT Government (refer to Chapter 4 for more information on the approvals pathway).

The key approvals and licenses will be sort from:

- The Australian Minister for the Environment under the provisions of the EPBC Act and Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations). The EPBC Act and EPBC Regulations are administered by the Commonwealth Department of the Environment and Energy (DoEE).
- The NT Minister for Mines and Energy under the provisions of MM Act and the Mining Management Regulations (MM Regulations). The MM Act and MM Regulations are administered by the NT Department of Primary Industry and Resources (DPIR).
- The NT Minister for the Environment under the following legislation:
 - EA Act and the Environmental Assessment Regulations (EA Regulations) and Environmental Assessment Administrative Procedures (EA Procedures) administered by the NT EPA.
 - WMPC Act and Waste Management Pollution Control Regulations (WMPC Regulations) also administered by the NT EPA.

Overall approval is sought under the EPBC Act and EPBC Regulations (administered by the DoEE) and the EA Act, EA Regulations and EA Procedures (administered by the NT EPA) via a bilateral agreement between the Australian Government and the NT Government. If approved, the salt mining operations would be regulated under the MM Act and MM Regulations administered by the DPIR. The storage, recovery and permanent isolation of waste within the salt mining voids would be regulated under the WMPC Act and WMPC Regulations administered by the NT EPA.

1.7.2 Environmental impact assessment process

In November 2012, a Notice of Intent for the Proposal was submitted to the NT EPA. In March 2013, the NT EPA determined that the Proposal required assessment under the EA Act at the level of an EIS. *Final Guidelines for the Preparation of an Environmental Impact Statement* (referred to as the 'EIS Guidelines') were issued by the NT EPA on 19 July, 2013. A period of three years was set to submit the EIS.



The Proposal was also referred to the DoEE in December 2012 due to the potential for the proposed action (the Proposal) to have a significant impact on Matters of National Environmental Significance (MNES). In February 2013, the DoEE determined that the proposed action was a controlled action and required assessment under the EPBC Act. The controlling provision was listed threatened species and communities (sections 18 and 18A of the EPBC Act). The DoEE also determined that the Proposal will be assessed by accredited assessment at the level of an EIS under the EA Act.

In September 2014, the Proposal was awarded “Major Project Status” by the NT Government.

In April 2016, both the NT EPA and DoEE were notified that changes had been made to the Proposal. The changes involved the removal of some previously proposed infrastructure (mine site surface processing plant; airstrip; specialty salt processing and packing plant with training school and visitor centre; crystallisation and evaporative ponds; wet processing of salt; and storage and transfer facilities in Darwin and Alice Springs) reducing the footprint of the Proposal.

The changes also involved a change to, or addition of, the following infrastructure:

- Change of access from the Stuart Highway to the proposed rail siding (and proposed Apirnta Facility). Rather than using Maryvale Road, an existing access road located on the Henbury Station would be upgraded and used as the primary access road to the Apirnta Facility from the Stuart Highway (the Henbury Access Road). This change in access was made due to significant health and safety concerns regarding the use of Maryvale Road.
- Change to storage processing (in addition to the emplacement of solid wastes, it is proposed to permanently isolate some waste types by hydraulic backfill).
- Addition of a helicopter pad (a helicopter pad would be constructed in lieu of the previously proposed airstrip).
- Addition of a surface storage and transfer facility located adjacent to the proposed rail siding (the Apirnta Facility) capable of storing approximately 400,000 tonnes of waste.

In May 2016, the NT EPA determined that the changes to the Proposal were broadly allowed for by the EIS Guidelines issued in July 2013. Several additional matters pertaining to the proposed hydraulic backfilling method, the rail siding and the Apirnta Facility were, however, required to be addressed. This decision was supported by the DoEE in June 2016.

In June 2016, an extension was requested on the timeframe for submitting the EIS. This extension was granted with the proviso that new guidelines (now referred to as ‘terms of reference’) would be issued and subject to public exhibition. In September 2016, the *Terms of Reference for the Preparation of an Environmental Impact Statement – Chandler Salt Mine* (the ‘Terms of Reference’) were issued by the NT EPA (refer to Appendix A).

Once submitted to the NT EPA, the draft EIS will be advertised for public comment and circulated to the relevant government advisory bodies for review for a minimum of 28 days. Comments will be forwarded by the NT EPA to the proponent. The proponent will then be required to prepare a Supplement to the draft EIS addressing the comments. The Supplement to the draft EIS will be



submitted to the NT EPA and then circulated to government and advisory bodies for review and comment within 14 days. During the first 21 days from the receipt of the Supplement to the draft EIS, the NT EPA may call for further information from the proponent.

Assuming no further information is requested, an Assessment Report is prepared by the NT EPA for the Responsible Minister for a decision under the EA Act within 35 days of receiving the Supplement to the draft EIS. The NT EPA also provides a copy of the Assessment Report to the Australian Minister for the Environment for a decision under the EPBC Act on MNES.

1.8 Purpose and structure of this environmental impact assessment

This document includes a detailed consideration of the environmental, social and economic consequences of the Proposal. It is presented in seven volumes, as described in Table 1-4. Various sections of the document have been prepared by external sub consultants and have also been peer reviewed by international experts. A list of contributors is provided after the table of contents.



Table 1-4 Document structure

Volume	Scope
Executive Summary	The executive summary provides an overview of all aspects of the environmental impact assessment for the Proposal.
Volume I – Background	Volume I provides the context to the Proposal. It includes three parts: • Part A – Introduction - o Chapter 1. Introduction - o Chapter 2. Proposal Need, Alternatives and Benefits • Part B – Proposal Description - o Chapter 3. Proposal Description
Volume II – Approvals and Stakeholder Engagement	Volume II provides information regarding the approvals required for the Proposal. It also outlines the stakeholder engagement and consultation undertaken during the preparation of the EIS. It includes one part: • Part C – Regulatory Framework and Engagement - o Chapter 4. Approvals Pathway - o Chapter 5. Stakeholder Engagement and Consultation
Volume III – Environmental Impact Assessment	Volume III provides a detailed environmental impact assessment of the Proposal. It includes three parts: • Part D – Approach to Impact Assessment - o Chapter 6. Environmental Risk Assessment • Part E – Environmental Assessment - o Chapter 7 Biodiversity - o Chapter 8 Groundwater - o Chapter 9 Surface Water - o Chapter 10 Historic and Cultural Heritage - o Chapter 11 Human Health and Safety



Volume	Scope
	- o Chapter 12. Economic and Social - o Chapter 13. Closure and Rehabilitation • Part F – Assessment of Other Issues - o Chapter 14 Bushfire - o Chapter 15 Air Quality - o Chapter 16. Noise and Vibration - o Chapter 17 Visual Amenity - o Chapter 18 Other Risks - o Chapter 19 Cumulative Impacts
Volume IV – Health, Safety and Environmental Management	Volume IV provides details regarding the environmental management of the Proposal. It includes one part: • Part G – Environmental Management - o Chapter 20 Environmental Management
Volume V – Proposal Justification and Conclusion	Volume V presents the justification for undertaking the Proposal and the conclusion of the environmental impact assessment of the Proposal. It includes one part: • Part H – Justification and Conclusion - o Chapter 21 Justification - o Chapter 22 Conclusion and Recommendations
Volume VI – References	Volume VI presents a list of references cited within the EIS. It includes one part: • Part I – References - o Chapter 23. References
Volume VII – Appendices	The appendices contain information related to the environmental impact assessment including detailed specialist studies that have been completed to inform the consideration of impacts as part of the environmental assessment process. The appendices include: • Appendix A: Terms of Reference



Volume	Scope
	• Appendix B: Study Team • Appendix C: Waste Acceptance Documentation • Appendix D: Proponent Environmental Record • Appendix E: Soils Report • Appendix F: Listed Waste Inventory • Appendix G: Waste Management Plan • Appendix H: Risk Assessments • Appendix I Hydraulic Backfill Report • Appendix J: Rehabilitation and Closure Plan • Appendix K: Geological and Geotechnical Assessment • Appendix L: Outline Sedimentation and Erosion Management Plan • Appendix M: Outline Environmental Management Plan • Appendix N: Risk Matrix • Appendix O: Biodiversity Assessment • Appendix P: Groundwater Assessment • Appendix Q: Outline Water Management Plan • Appendix R: Surface Water Assessment • Appendix S: Historic and Cultural Heritage Assessment • Appendix T: Outline Emergency Response Management Plan • Appendix U: Economic and Social Impact Assessment • Appendix V: Social Impact Management Plan • Appendix W: Draft Bushfire Management Plan • Appendix X: Air Quality Risk Assessment