

EL 27974 "CENTRAL RAILROAD" FINAL AND ANNUAL TECHNICAL REPORT 20 OCTOBER 2010 TO 19 OCTOBER 2020

18th December 2020



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DET	AILS OF AUTHORITY
Titleholder:	Tellus Holdings Ltd
Operator:	Tellus Holdings Ltd
Tenements:	EL27974
Project Name:	"Central Railroad" Chandler Project
Report Title:	EL 27974 Final and Annual Technical Report for the period 20 October 2010 to 19 October 2020
Author:	Drew Smith
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250K Map Sheet:	SG5302 Rodinga
100K Map Sheet:	5468 Charlotte, 5748 Rodinga
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DOCUMENT CONTROL

EL 27974 Final and Annual Technical Report for the period 20 October 2010 to 19 October 2020 prepared for the Department of Industry, Tourism and Trade.

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This Final and Annual Technical Report relates to EL 27974, which was relinquished by Tellus Holdings Ltd ("**Tellus**") upon expiry on 19 October 2020.

EL 27974 was one of five exploration licences wholly owned by Tellus which comprised the Chandler Project, located in the Amadeus Basin, approximately 130km south of Alice Springs.

The Chandler Project is targeting subsurface salt deposits to assess potential evaporitic mineralisation within the Amadeus Basin. Two known salt units are present in the Chandler project area, namely the Chandler Formation and the deeper Gillen Salt Member.

Detailed information regarding work undertaken on EL 27974 since grant are detailed in previous GR225 Amalgamated Group Reports and are summarised in this Final Report.

Activities undertaken during the 2019 – 2020 period were limited to desktop studies, regional water studies and approval activities. Negotiations with the new landholder as well as negotiations for an Indigenous Land Use Agreement for the remaining tenements are ongoing. Work during the 2019 - 2020 was impacted by the COVID-19 pandemic and subsequent border closures.

The major area of interest in the Chandler Salt project is located further to the east, it was decided that this tenement was not required for the further development of the project. Consequently, the tenement is now relinquished.



1 INTRODUCTION AND PROJECT DESCRIPTION

EL 27974 was one of five exploration licences wholly owned by Tellus which comprise the Chandler Project, located in the Amadeus Basin, approximately 130km south of Alice Springs.

The Chandler Project is targeting subsurface salt deposits to assess potential evaporitic mineralisation within the Amadeus Basin. Two known salt units are present in the Chandler project area, namely the Chandler Formation and the deeper Gillen Salt Member.

Exploration activities to date indicate a significant thickness of massive to semi massive halite exists within the Chandler Formation at a depth of approximately 700-1000m. Exploration activities by Tellus over the Chandler Project have included:

- Initial assessment of open file geochemical and geophysical data,
- Detailed review of petroleum well data,
- Seismic interpretation and modelling,
- Geochemical analysis and mineralogical investigation of core samples from previously drilled petroleum wells and from two drillholes completed by Tellus in 2013-2014.

Tellus has progressed feasibility and environmental activities, to support mine planning studies and environmental impact statement (EIS) studies in support of MLA30612 (located within EL29018), which falls within the Chandler Project.

Tellus proposed development of the Tellus Chandler Facility, located within MLA30612 received the NT EPA assessment report and recommendations in November 2017 and approval (EPBC2012/6684) from the Australia Government Department of the Environment and Energy in September 2018.

The next phase of the Chandler project is to complete the Bankable Feasibility study, which will include geological, geophysical and geotechnical field programs. The results of this work will add to the knowledge of the Chandler salt formation within the southern Amadeus basin. The data collected will be used to update geological and geophysical interpretation of the salt unit across the project area and allow for reinterpretation and aid planning for future proposed exploration activities within the tenement.

2 LOCATION AND ACCESS

The Chandler Project is located in the southern part of the Northern Territory. Alice Springs is the nearest major town, situated approximately 130 km north along the Stuart Highway. The area can be accessed via unsealed graded roads running east from the highway, as well as station tracks to water bores and boundary fences. The Central Australian Railway runs through the middle of EL27974, see Figure 1. The tenements occur on the 1:250,000 sheet area Rodinga SG5302 and on the 1:100,000 sheet areas Charlotte (5648) and Rodinga (5758).

EL 27974 falls within the pastoral leases of Idracowra Station and Henbury Station, land parcel numbers 2958 and 657 respectively. EL 27974 falls within the area of the Central lands Council. Steps are being taken by Tellus to negotiate access arrangements and land use agreements with the landholders and traditional owners for the development of the Chandler Project.



3 TENURE HISTORY

EL 27974 "Central Railroad" was granted to Tellus Holdings Ltd on the 20th October 2010 for a six year period (Table 1). EL 27974 was partially relinquished in October 2012 reducing from 285 to sub-blocks to 143 sub-blocks and in October 2014 reducing to 72 sub-blocks. In 2016, EL 27974 was renewed for a further two-year period and then subsequently renewed in 2019 for the period 2018-2020. EL 27974 was subsequently relinquished by Tellus upon expiry on 19 October 2020.

TENURE	NAME	STATUS	GRANT DATE	EXPIRY DATE	SUBBLOCKS
EL 27974	CENTRAL RAILROAD	EXPIRED	20/10/2010	19/10/2020	72

Table 1: Tenure History



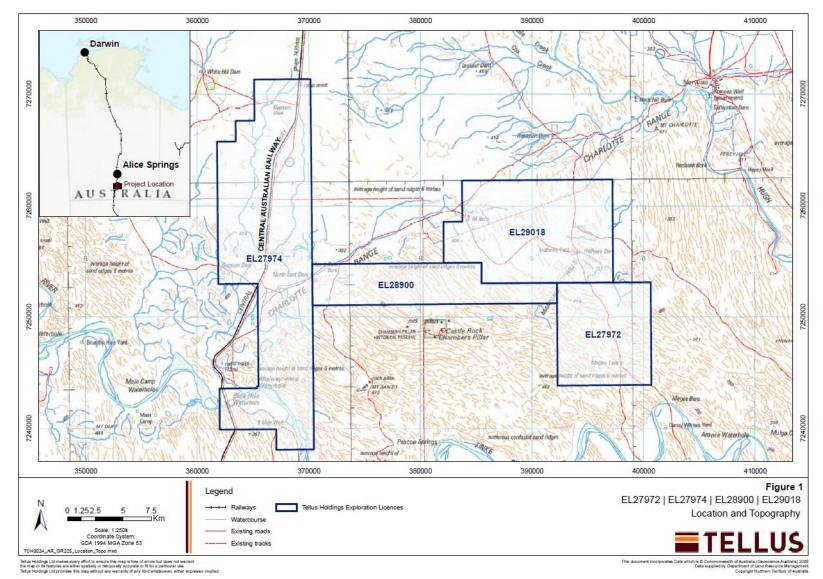


Figure 1: EL 27974 and Chandler Project Location and Topography



4 GEOLOGICAL SETTING

Regional Geology

The Amedeus Basin is an asymmetrical, east-west trending, intracratonic depression covering 155,000 square kilometres of central Australia (See Figure 2).

The oldest elements of the Amedeus Basin are Neo-Proterozoic units having a very restricted known extent. These units consist of clastic sedimentary rocks and basalts along the south western margin of the basin (Mount Harris Basalt, Bloods Range Beds, Dixon Range Beds) and an unnamed succession of sedimentary rocks, basalt and dacite near Kintore in the north-west. The units have been interpreted as a rift sequence marking the opening of the Amadeus Basin (Lindsay and Korsch, 1989).

The fluvio-volcanic rift sediments are unconformably overlain by epeirogenic clastics of the Heavitree/Dean quartizes, followed by carbonates and evaporites of the Bitter Springs Formation. The Bitter springs Formation is terminated by an erosional surface upon which shallow marine and glacigene sediments of the Inindia Beds and its equivalents in the northern Amadeus Basin were deposited. An unconformity surface within the Bitter Springs Formation at or near the top of the Gillen Member has wide extent and can be used as a seismic marker.

The top of the Inindia Beds is marked by a flooding surface upon which deeper water pelagic and turbidictic sediments accumulated. This deeper marine sequence is known as the Winnall beds in the south and the Pertatataka Formation in the north. It shallows upward into shallow marine and fluvial clastics in the south west and oolitic platform carbonates of the Julie Formation in the north. The Inindia Beds are thickest in the west and centre of the basin and are absent from the eastern margin of the basin.

The Late Proterozoic phase of deposition was determined in the south by the Petermann Ranges Orogeny, a period of mountain building, recumbent folding and northward overthrusting (Wells et al. 1970). Molasse sediments were shed north and nort-east from uplifted areas and accumulated in a foreland style basin before the rising orogen (Mt Currie Conglomerate, Ayers Rock Arkose), bypassed the middle and eastern fringes of the basin, and accumulated as a prograding deltaic sequence in the north (Arumbera Sandstone).

The Petermann Ranges Orogeny shaped the framework of the Palaeozoic basin, and a northern trough initiated at this time persisted through most of the Palaeozoic. The southern central and south eastern parts of the basin remained uplifted. Palaeozoic sequences in these areas are generally thin with common significant breaks in accumulation.

During the early Cambrian, continental sedimentation persisted in the noth-west (Cleland Sandstone), while shallow marine shales, carbonates and evaporites were deposited in the north-east (Shannon, Giles



Creek and Chandler Formations). A widespread transgressive cycle in the Late Cambrian resulted in the deposition of the Goyder Formation.

Two transgressive cycles during the Ordovician resulted in the altering deposition of tidal flat/barrier bar sands and deeper marine, euxinic muds and silts (Pacoota Sandstone, Horn Valley Siltstone, Stairway Sandstone, Stokes Siltstone). These sediments form the source-reservoir-seal sequence of the Mereenic and Palm valley hydrocarbon fields in the north0western Amadeus Basin. Of this Larapinta Group, only the Stairway Sandstone persists into the centre and southeast of the basin.

Marine deposition was terminated by the Late Ordovician Rodingan Movement. Uplift of the north-eastern basin resulted in the erosion of up to 3000m of Cambro-Ordovician sediments. This area became the source region for the Early Devonian Carmichael and Mereenis Sandstone. Arid climatic conditions prevailed with sediments transported by both aelian and fluvial action into a shallow sea transgressing from the west.

Major uplift of the Arunta block along the present northern margin of the basin commenced in the Middle Devonian. Continental deposition continued as thick molasse sediments accumulated south of the uplifted area. High depositional loading at this time contributed to movement of the Bitter Springs Formation and Chandler Formation evaporites.

A lacustrine siltstone (Parke Siltstone) was laide down conformably on the Meerenie Sandstone, and after uplift, coarser sediments were deposited (Hermannsburg Sandstone, Brewer Conglomerate). These three units, comprising the Pertnjara Group thin and become finer grained to the south.

Uplift of the Musgrave Province and deformation of the southern Amadeus sequence culminated in the Early-Middle Devonian Finke Movement (Pilly Conglomerate), after which fluvial sands of the Langra Formation and estuarine silts of the Horsehow Bend Shale accumulated. These sediments comprise the Finke Group, which is the southern time equivalent of the Pertnjara Group, although the former sequence fines upward in contrast.

Regional deposition was terminated in the Late Devonian – Early Carboniferous by the Alice Springs Orogeny. Some earlier structures were reactivated during this period of deformation. Substantial uplift of the basement Arunta block along the current northern margin initiated movement of thrust sheets in the Alice Springs and Altunga regions and resulted in significant structing of the basin. North over south thrusting and reverse faulting is typical of Alice Springs orogeny deformation.

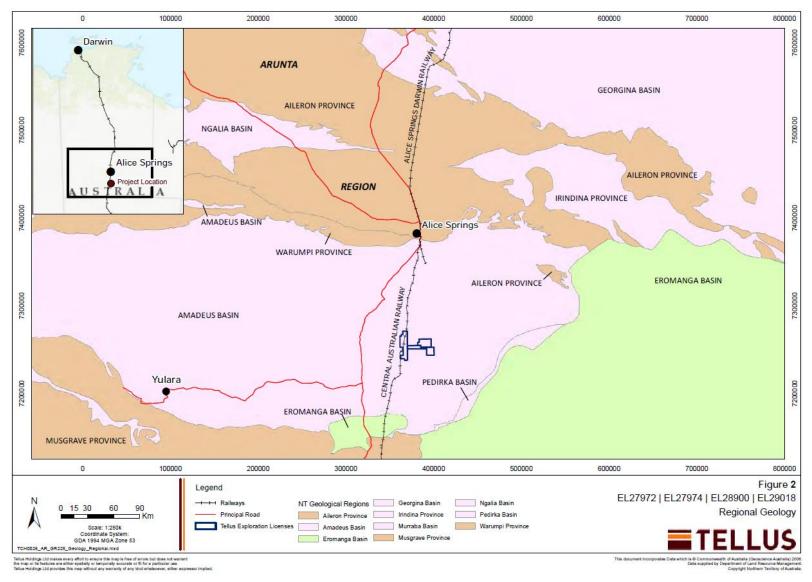


Figure 2: Regional Geology



Local Geology

The project area overlies 1:250K map sheets Rodinga which was geologically mapped in 1964 by the Bureau of Mineral Resources. Surface geology is shown in Figure 3 and stratigraphy is included at Figure 4.

The stratigraphy within the Charlotte Range and Maryvale Hills has been well defined from drilling of petroleum wells at Mount Charlotte 1 and Magee 1, the generalised local stratigraphy is given in Table 2 below, and published correlation across the Southern Amadeus basin is shown in Figure 5. The location of the Chandler Formation was confirmed by two diamond drillholes completed by Tellus in 2013. The Chandler Formation has a top depth of approximately 700-800 m below ground level and an average thickness of 300m. To the northeast, an increase in thickness was recorded by wireline survey in Bluebush 1 petroleum well (670m), due to halotectonic movement and formation of a salt dome. The Chandler Formation is widespread, and in other parts of the Basin, lacks salt.

AC	GE		STRA	TIGRAPHY	
Cainozoic	Quaternary		undifferentiated		
Calliozoic	Tertiary		undifferentiated		
		Santo Sandstone			
	Devonian	Finke Group			
		Pertnjara Group	Pertnjara Formation		
Palaeozoic Ordovician	Larapinta Group	Stairway Sandstone			
		Pertaoorrta	Jay Creek Limestone		
	Cambrian		Chandler Formation		
		Group	Arumbera Formation		
			Winnall Beds	Pertatataka Formatio	on
	Upper Bitter Springs Gillen Member			Loves Creek Member	
			Bitter Springs		Upper Gillen
Precambrian		Gillen Member	Gillen Salt		
Precamprian					Lower Gillen
			Heavitree Quartzite		
	Middle Proterozoic	Musgrave Block	Arunta Complex		

Table 2: Generalised stratigraphy for the Chandler Project area

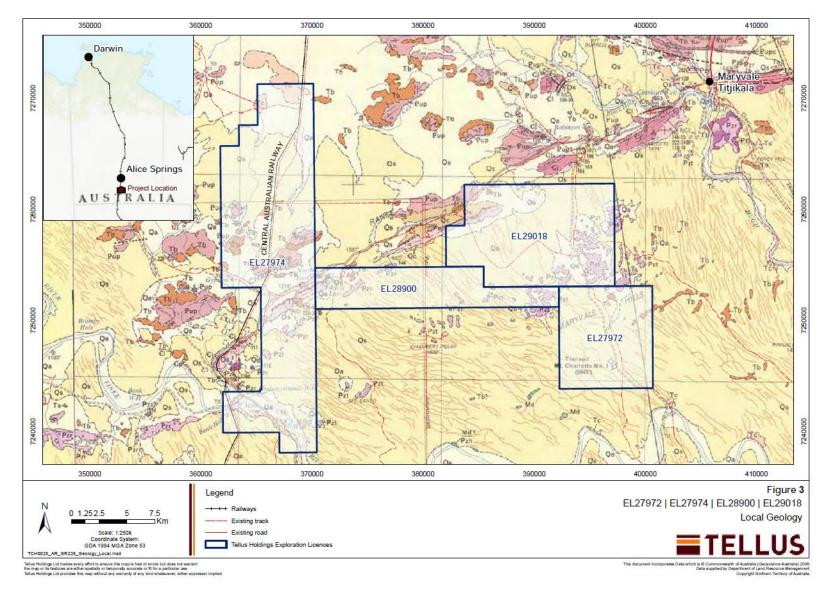


Figure 3: Local Geology

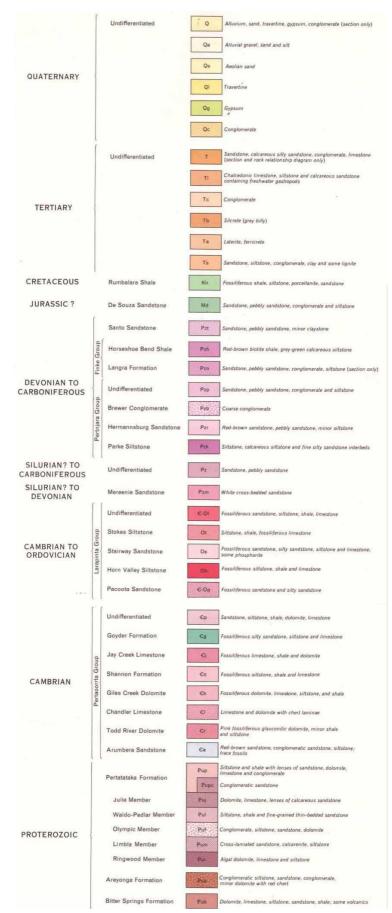


Figure 4: Stratigraphy (from Rodinga SG5302 1:250K map sheet)

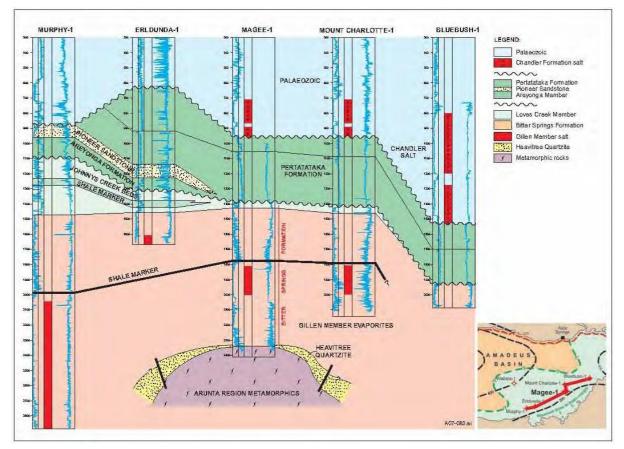


Figure 5: Correlation between wells (from Young and Ambrose, 2007)

5 HISTORICAL EXPLORATION

Historical tenements which existed in the area of EL 27974 are outlined below, including information from publicly available reports:

Title Reference	Holder	Grant	Expiry
EL6950	Not Recorded	13/09/1990	11/04/1991
EP 82	Santos QNT Pty Ltd & Helium Australia Pty Ltd	02/09/2005	01/09/2010
EL25051	Nova Energy Pty Ltd	11/09/2006	11/08/2009
EP38	Not Recorded	21/03/1991	19/10/1994
EP134	Tri-Star Energy Company	26/02/2008	25/02/2013
EP26	Not Recorded	07/10/1988	06/10/1993
EL747	Not Recorded	20/11/1972	19/02/1977
EL30358	Jiaaojia Pty Ltd	18/02/2015	30/03/2017
EP125	Ordiv Petroleum Pty Ltd &	08/12/2005	06/12/2011
	Santos QNT Pty Ltd		
EL27047	Vedant Minerals Ltd	20/08/2009	20/01/2010

During the first and only year of tenure, research into the geology of the tenement EL 27047, five surrounding tenements and potash potential of the Amadeus Basin was carried out. No joint venture partner could be found to fund deep drilling and seismic programs, therefore in the best interests of shareholders the tenement EL 27047 were relinquished. No on-ground exploration was carried out during the first year of tenure.

The following work was undertaken on EL25051: compilation of historical geological and geophysical data, Database generation, Site visit to inspect target host lithologies and radiometric anomalies, MMP approved, CLC - Aboriginal Heritage Site clearance. CLC clearances were carried out but access to Toro was denied by the owners of Idracowra. Given Toro had more prospective ground elsewhere, it was decided that EL 25051 should be surrendered.

6 PREVIOUS EXPLORATION CONDUCTED BY TELLUS

2010 - 2011

Exploration activities were carried out by Terra Search for Tellus. Initial activities included geophysical review of open file datasets, seismic interpretation and modeling and visit to NTGS core facility to collect samples from previously drilled petroleum wells. Drill samples were analysed by portable XRF, geochemical analysis and mineralogical investigation.

2011 – 2013

During this period, Tellus completed the requirements for the Mine Management Plan ("MMP") for exploration operations for the Chandler Project. The MMP was approved in August 2012.

Tellus also signed an exploration agreement with traditional owners through the Central Land Council ("CLC") and obtained a CLC Sacred Site Clearance Certificate for proposed seismic and drilling activities and track clearing.

Tellus commissioned URS to complete a Pre-Feasibility Study on the Chandler Salt Mine Project

which was finalized in June 2012. A definitive feasibility study commenced in 2013 to look at all aspects of the project, such as best mining methods, logistics, costs and technical aspects of the project.

Tellus conducted a thorough review of all target sites, short listing the prospective sites for a mine site and recommending the least prospective for relinquishment. Part of EL 27974 was relinquished at this time.

A site visit was conducted on 25 – 26 February 2013 by Duncan van der Merwe and Joe Luxford from Tellus and John Braybrooke from Douglas Partners Pty Ltd. The aim of the visit was to assess the geology and ground conditions to assist with drill planning. As part of the ongoing studies for the project, Douglas Partners completed a brief report describing the likely geotechnical properties of the rock formations in the area.

Tellus also commission RPS Group Canada to review available open file 2D seismic data to assess salt extent and thickness of the Chandler Formation within the project area. It was concluded that:

- Average Chandler Isopach 200m 250m thick.
- Calculated Chandler Isopach ranges from 0m 380m thick.
- Chandler Formation flat laying with an average dip of less than one degree regionally.

During the 2013 – 2014 period, work was primarily focused on drilling targets on EL29018 and related sampling activities.

2014 - 2015

Four seismic lines are within the area of EL 27974. RPS Canada reviewed drillhole and wireline data. The full wave sonic data was used to tie the drillhole to the seismic survey lines. The time – depth relationship was calculated for intersected marker beds and used to convert the seismic from time domain to depth domain. The interpretative geological model over the Chandler Project area was updated and refined (see Figure 6).

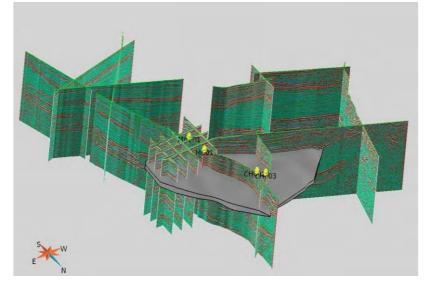


Figure 6: seismic modelling of Chandler Formation extent

Salt pilot processing test work commenced to trial wet and dry salt processing flow sheets. Dry processing test work has been completed in Australia and Germany, using optical sorting technology. Tellus commissioned Veolia HPD in the USA to conduct a wet processing pilot study using a closed loop crystallisation system.

Tellus progressed definitive feasibility (FEL2) studies for the Chandler Project. This included site reconnaissance of ground adjacent to the Central Australian railway, within EL27974. The site was assessed for potential suitability for proposed development of a rail siding location. Site visits were undertaken with representatives from the Department of Environment (Federal) and Department of Transport (NT) (Figure 7).



Figure 7: Site visit to EL27974 with representatives from Department of Environment

2015 – 2016

A reconnaissance survey of water and exploration bores located on Maryvale Pastoral Station was conducted on behalf of Ride Consulting from 25th to 27th April 2015. Details of the survey are not included here as they were not undertaken on EL27974 specifically. Please refer to GR225 Annual Report for further information.

Electroseismic surveying was conducted in conjunction with electrotelluric data on the project site on the 22nd of September 2015. The survey was aimed at mapping areas of high groundwater potential and to identify the geological controls on regional aquifer development.



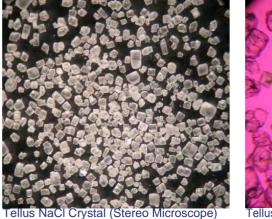
Figure 8: Electroseismic survey at Chandler project site

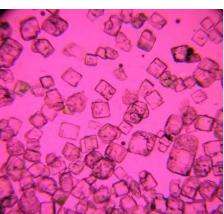
Endeavour Geophysics completed a seismic interpretation of all existing seismic, drilling and wireline data over the Chandler project site. The interpretation has been used by Tellus to enhance the regional knowledge of the project site.

Low Ecological conducted seasonal flora and fauna surveys were undertaken in support of the EIS.

Tellus commissioned Veolia Water Technologies to design and perform a bench scale crystallisation process, using HDP® evaporation technology at their Illinois testing centre, USA.

Veolia were provided with salt samples obtained from Tellus' previous drilling program. The main objectives were to perform a brine dissolution test and then crystalize the sodium chloride material and determine crystal size distribution, crystal habit, and crystal purity before and after re-slurrying/decanting.





Tellus NaCl Crystal (Polarized Light Microscope)

Figure 9: Tellus Microscopy of NaCl Crystals

Tellus considered the results during subsequent feasibility and value engineering studies and has taken the test work onto the next stage.

Tellus commissioned TOMRA sorting to conduct optical sorting process test work. The samples were sorted by automated ore sorters at the TOMRA Sorting test facility in Wedel, Germany.

The bulk test work was performed on samples from the Chandler salt formation and included five
classes of material: High grade product, Transitional product, Transitional waste, Marginal reject and
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reject (Figure 10). The objective of the performed tests was to detect and separate the High grade and Transitional salt products from the bulk sample mix.

The test work was successful, concluding that the dark-colour material can be effectively separated from light and transparent material. All samples showed very good upgrade potential with mass reduction up to 42%, up to 98% high grade salt retention and up to 90% insoluble content mass reduction.



Figure 10: Tellus salt sample classes, transmission light and simulated sorting images



2016 - 2017

Tellus completed a value engineering study in June 2016. A number of major project definition, capital and operating cost improvements were identified were carried forward into the next phase of feasibility.

Tellus submitted the draft EIS to the NT EPA on the 10th February 2017, with the document available for public consultation for a six-week period between the 18th February and 31st March 2017. As part of the formal environmental impact assessment ("EIA") process, the regulatory authorities and the public had the opportunity to review the proposal's EIS and the proposal's environmental, social and economic benefits and impacts and submit comments. The EIA process requires the project proponent to provide a response to the submissions.

An EIS Supplement Report was prepared in response to the public submissions received on the draft EIS. Tellus submitted the Supplement Report to the NT EPA on the 24th July 2017. The NT EPA accepted the "EIS" report (both Draft EIS and the EIS Supplement Report combined) on the 21st August 2017.

Ongoing monitoring of regional groundwater, surface water, flora and fauna continued in line with the proposed mitigation outlined within the draft EIS. The draft EIS can be accessed via the NT EPA website or via the Tellus Holdings website:

<u>https://ntepa.nt.gov.au/environmental-assessments/register/chandler-facility/draft-eis</u> <u>http://www.tellusholdings.com/project_chandler_environmental_impact_statement.html</u>.

Regional groundwater quality analysis has been the primary focus to enhance Tellus' knowledge of the regional water movements and the potential effects on the Chandler project and the surrounding area.

River cross sections and environmental traverses were completed in February 2017 and June 2017 at key locations to increase the knowledge of baseline hydrological conditions for the EIS process. Ride Consulting completed fieldwork on behalf of and with Tellus Staff.

Regional flora and fauna field surveys were carried out as part of the preparation of the Draft EIS. The surveys confirmed that none of the habitats within the proposed development footprint were identified as of national significance.

Post submission of the EIS, additional field surveys for Slaters skink and thick billed grasswren were undertaken by Low Ecological Surveys in April 2017 in preparation for the supplement EIS report. No sign of either species was recorded.

Fieldwork included mapping the distribution of terrestrial fauna and flora across the project area, the distribution of land systems and distribution of vegetation communities.

Tellus also applied for a Sacred Site Clearance Certificate through the CLC for ongoing feasibility works.

2017 – 2019

During the 2017 – 2019 period, activities were limited to desktop studies, regional water

studies and approval activities related to the application ML 30612.

Maryvale Station, which is were most of the project area is located, except EL 27974, was subject to a land sale during the 2017 – 2018 period, and landholder negotiations commenced during 2018 – 2019, with agreement sought to support land access and MMP authorization requirements. Negotiations related to developing an Indigenous Land Use Agreement were also under way.

7 EXPLORATION UNDERTAKEN DURING THE REPORTING PERIOD

Activities undertaken during the 2019 – 2020 period were limited to desktop studies, regional water studies and approval activities. Negotiations with the new landholder as well as negotiations for an Indigenous Land Use Agreement for the remaining tenements are ongoing.

Work during this period was impacted by the COVID-19 pandemic and subsequent border closures.

8 CONCLUSION AND RECOMMENDATIONS

The major area of interest in the Chandler Salt project is located further to the east, it was decided that this tenement was not required for the further development of the project. Consequently, the tenement is now relinquished.

9 REFERENCES

https://tellusholdings.com/wp-

content/uploads/2019/12/2019_Sep_05_Tellus_Holdings_Chandler_Project_Update_Mining _the_Territory_Conference_Darwin.pdf