



FOURTH ANNUAL
AND FINAL REPORT
EL29017 FOR PERIOD ENDING
11TH APRIL 2016

| **2nd June 2016**



Titleholder:	Tellus Holdings Ltd
Operator:	Tellus Holdings Ltd
Tenements:	EL29017 East Charlotte
Project Name:	Chandler Project
Report Title:	Fourth Annual and Final Report for EL29017 "East Charlotte", Chandler Project for the period 12 April 2015 to 11 April 2016
Author:	Jaime Livesey
Target Commodity:	Halite (Sodium chloride) and trace minerals
Date of Report:	2 June 2016
Datum/zone:	GDA94 / zone 53
250K map sheet:	SG5302 Rodinga
100K map sheet:	5648 Charlotte, 5748 Rodinga
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EXECUTIVE SUMMARY

The Chandler Project consists of six exploration licenses held by Tellus Holdings Ltd (“Tellus”), located in the Amadeus Basin, approximately 130km south of Alice Springs. This final annual report relates to one of the exploration licenses; EL29017 East Charlotte for the reporting period ending 11th April 2016.

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. Tellus are targeting the Chandler Salt Formation.

Tellus completed a diamond drilling program on nearby tenement EL29018. Core sampling collection and wireline logging were completed. Geochemical and mineralogical analysis results were positive confirming massive halite unit.

During the reporting period environmental studies continued over the Chandler project site, including water investigation studies, water bore drilling, flora and fauna surveys and soil assessment to support the EIS for MLA30612. The wireline and stratigraphic information resulting from the drilling program were used to update the seismic interpreted geological model over the project area and assist in mine planning studies.



1 INTRODUCTION

The Chandler Project is located in the Amadeus Basin, approximately 130km south of Alice Springs. This final annual report relates to granted exploration licence EL29017 East Charlotte exploration licence, which is one of six licences held by Tellus which are collectively referred to as the Chandler Project.

2 PROJECT DESCRIPTION

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 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.

3 LOCATION

The tenement is located in the southern part of the Northern Territory. Alice Springs is the nearest major town, situated approximately 130km north of EL29017. The area can be accessed via graded roads and station tracks (figure 1). The Central Australian Railway runs to the west of EL29017. The tenement lies within 1:250,000 sheet area Rodinga SG5302 1:100000 sheet area Charlotte (5648) and Rodinga (5748).

4 TENURE

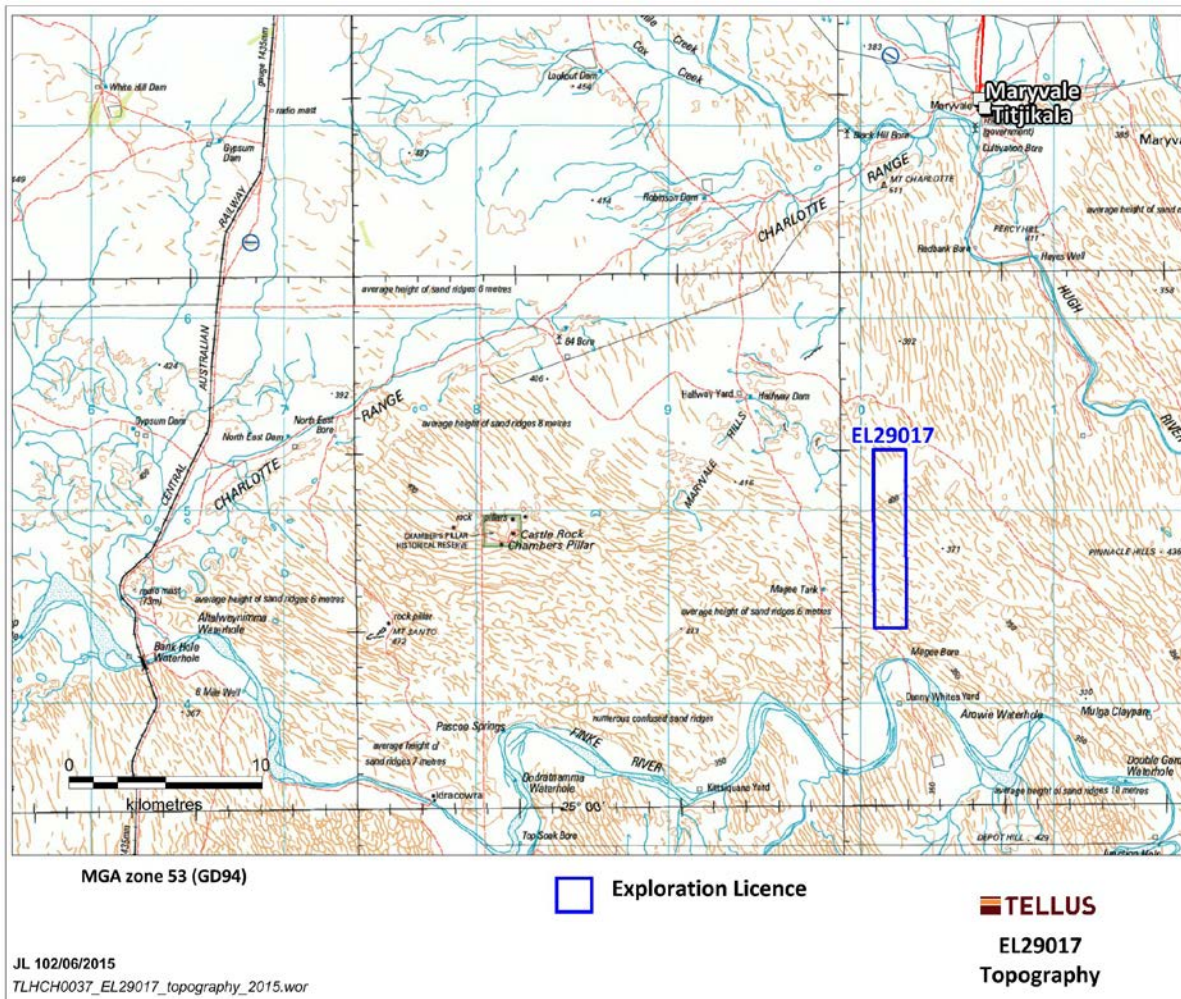
Exploration licence EL29017 “East Charlotte” was granted to Tellus Holdings Ltd on the 12th April 2012 for a six year term (table 1).

Table 1: Details of Exploration Licence EL29017 held by Tellus Holdings

TENURE	NAME	STATUS	EFFECTIVE_DATE	EXPIRY_DATE	SUBBLOCKS
EL29017	East Charlotte	Grant	12/04/2012	11/04/2018	5



Figure 1: Project Location and Topography





5 REGIONAL GEOLOGY

The Amadeus Basin is an asymmetrical, east-west trending, intracratonic depression covering 155000 sq km of central Australia (Figure 2).

The oldest elements of the Amadeus 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 quartzites, 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 glacial 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 turbiditic 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 terminated 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 north-east from uplifted areas and accumulated in a foreland style basin immediately 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 north-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 alternating 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 Mereenie and Palm valley hydrocarbon fields in the north-western 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 Mereenie Sandstone. Arid climatic conditions prevailed with sediments transported by both aeolian 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.

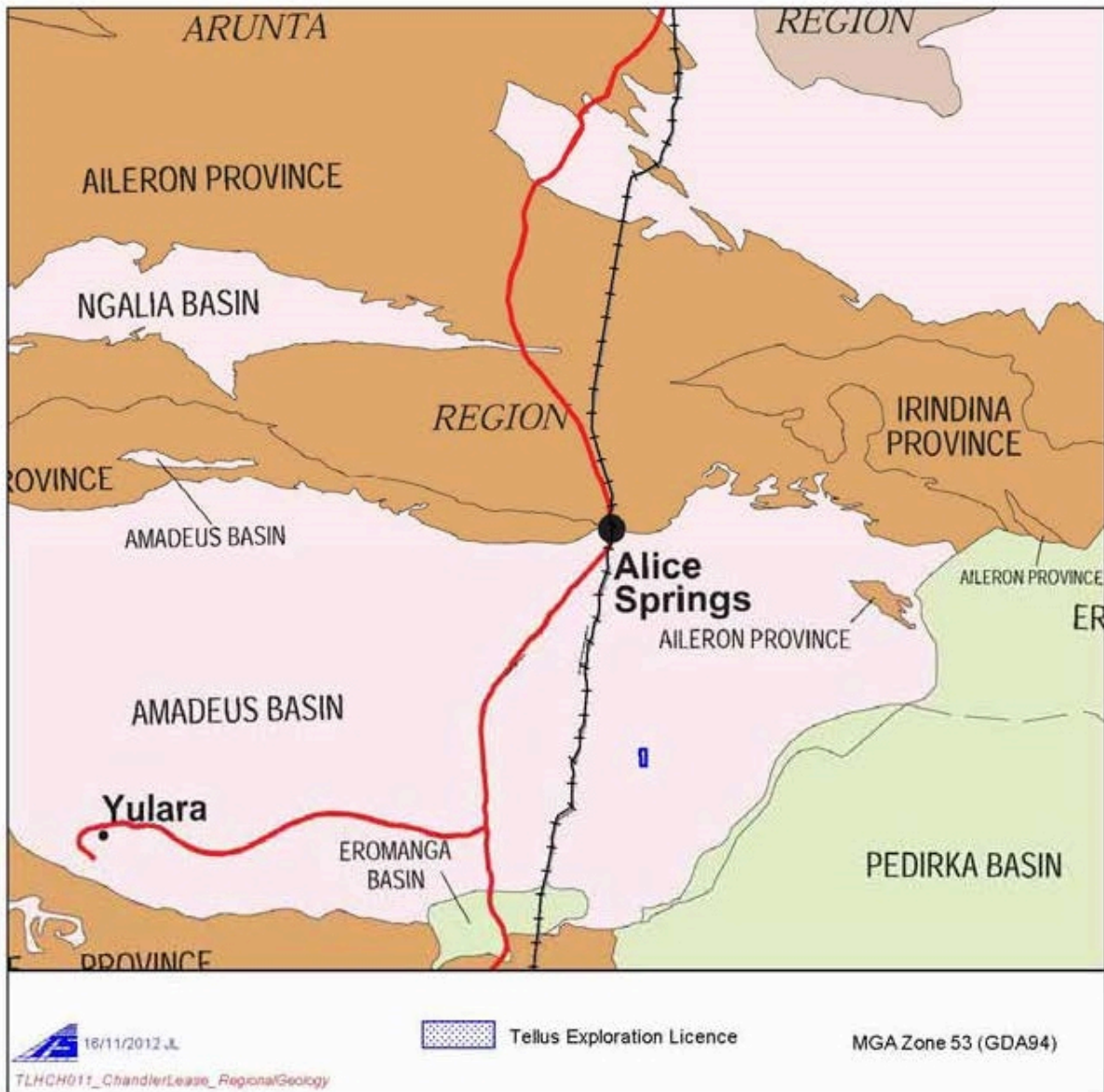
A lacustrine siltstone (Parke Siltstone) was laid down conformably on the Meerenie Sandstone, and after uplift, coarser sediments were deposited (Hermannsburg Sandstone, Brewer Conglomerate). These three units, comprising the Pertnjara Group, thin and become finer grained to the south.

Uplift of the Musgrave Province and deformation of the southern Amadeus sequence culminated in the Early-Middle Devonian Finke Movement (Polly Conglomerate), after which fluvial sands of the Langra Formation and estuarine silts of the Horseshoe 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 structuring of the basin. North over south thrusting and reverse faulting is typical of Alice Springs orogeny deformation.



Figure 2: Geological Regions of Northern Territory (adapted from NTGS, 2006)



6 LOCAL GEOLOGY

The project area overlies 1:250K map sheet Rodinga. Majority of the area lies within the Rodinga mapsheet, which was geologically mapped in 1964 by the Bureau of Mineral Resources. Surface geology is shown in figure 3 and stratigraphy is included as figure 4.



The stratigraphy within the Charlotte area has been well defined from drilling of petroleum wells Mt Charlotte 1 and Magee 1, the generalised local stratigraphy is given in Table 2 and published stratigraphic correlation across the Southern Amadeus basin is shown in figure 5.

Figure 3: Local Geology over EL29017

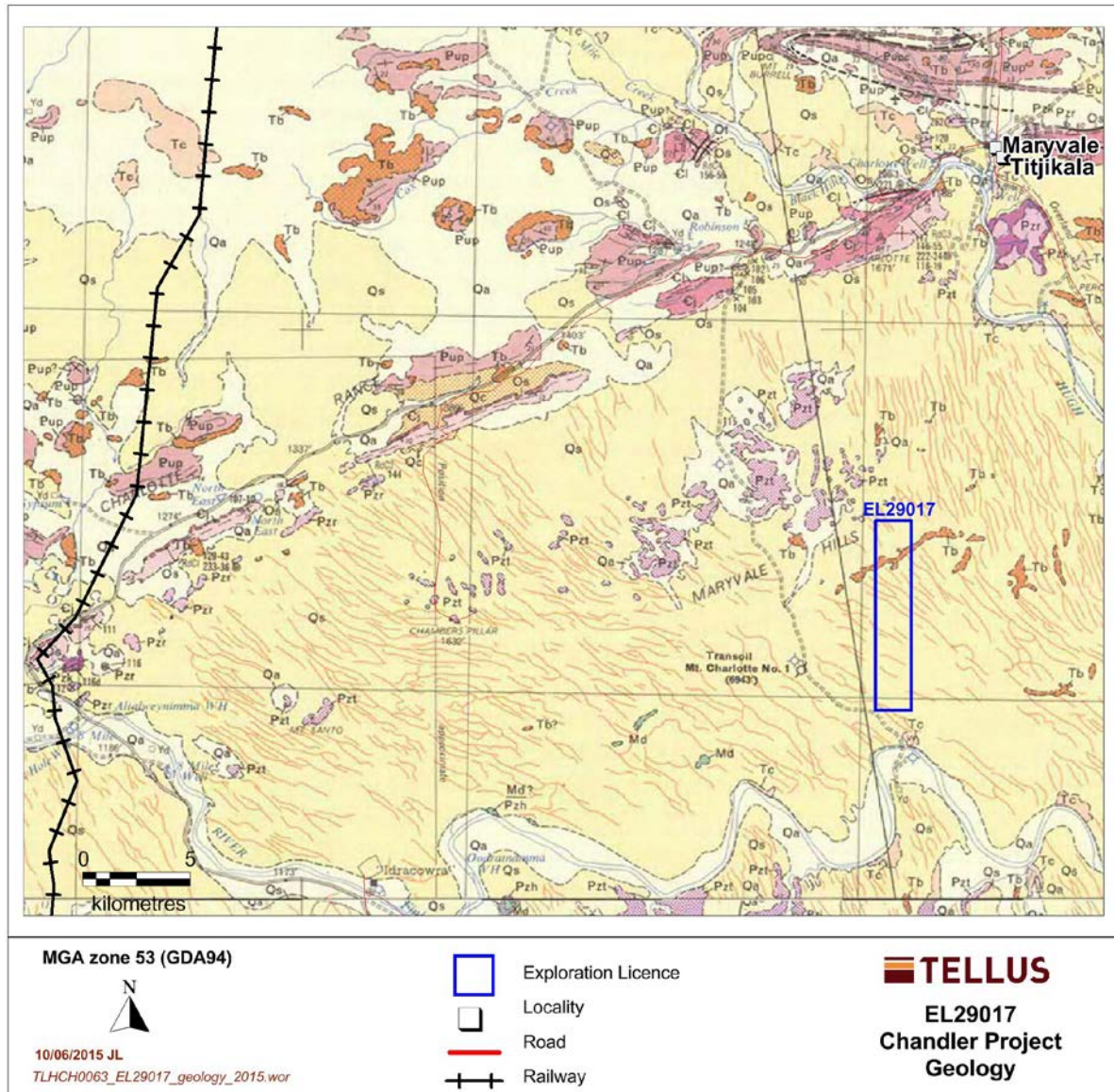




Figure 4: Stratigraphy (from Rodinga SG5302 1:250K map sheet)

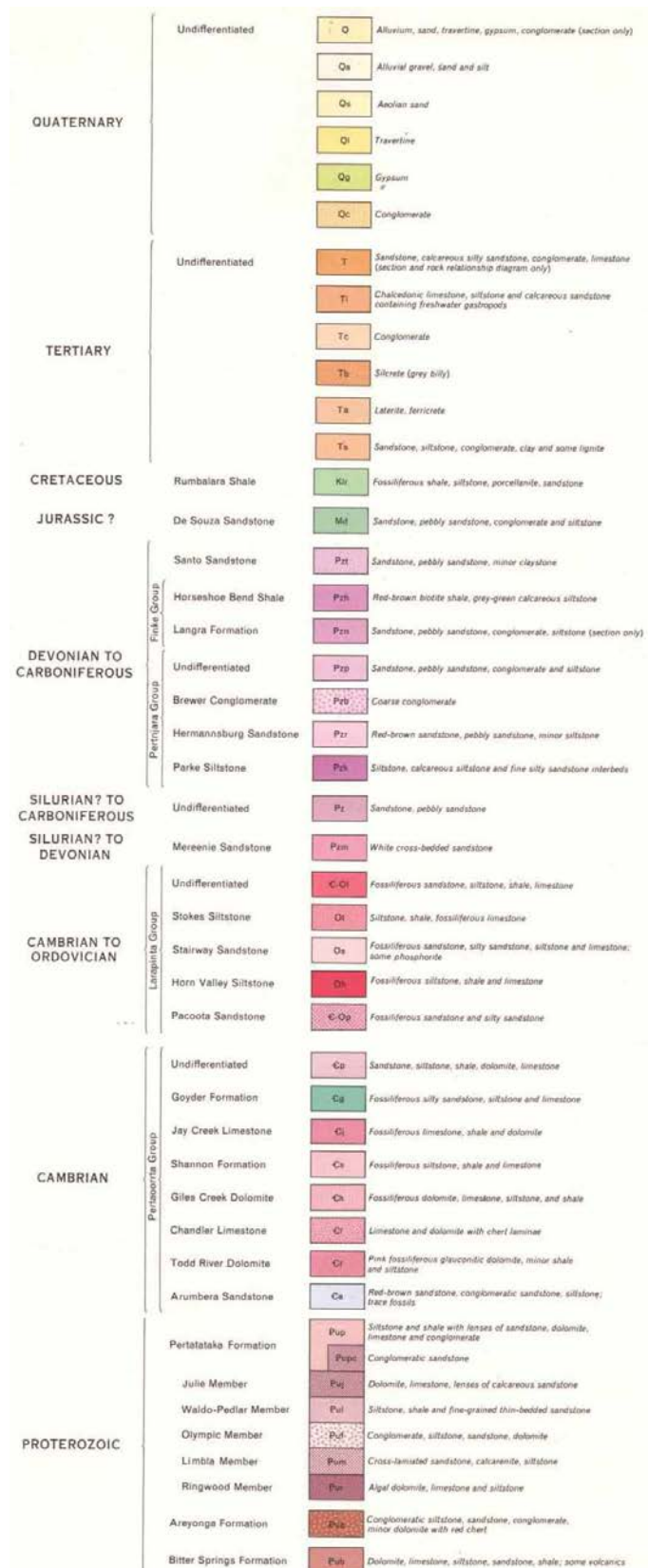
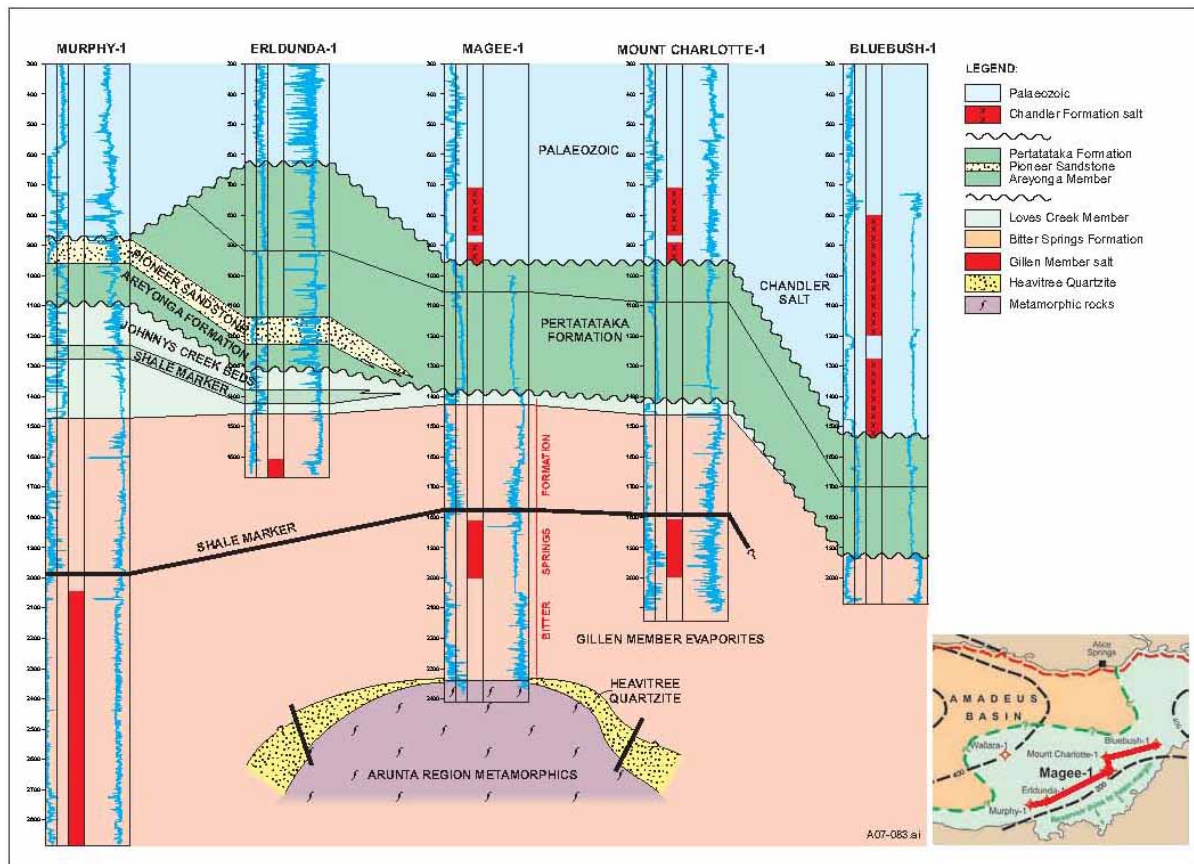




Table 2: Generalised stratigraphy for the Chandler Project area

AGE		STRATIGRAPHY		
Cainozoic	Quaternary		undifferentiated	
	Tertiary		undifferentiated	
Palaeozoic	Devonian		Santo Sandstone	
		Finke Group		
		Pertnjara Group	Pertnjara Formation	
	Ordovician	Larapinta Group	Stairway Sandstone	
	Cambrian	Pertaorrtta Group	Jay Creek Limestone	
			Chandler Formation	
		Arumbera Formation		
Precambrian	Upper Proterozoic	Winnall Beds	Pertatataka Formation	
		Bitter Springs Formation	Loves Creek Member	
			Gillen Member	Upper Gillen
				Gillen Salt
				Lower Gillen
	Middle Proterozoic	Musgrave Block	Arunta Complex	
			Heavitree Quartzite	

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





7 EXPLORATION ACTIVITIES CONDUCTED 2012-2013

7.1 Mine Management Plan for Exploration Operations

Tellus completed the requirements for the Mine Management Plan (“MMP”) for exploration operations for the Chandler Project. The MMP was approved in August 2012 for proposed seismic and drilling over target areas within the Bluebush sub-project (EL27971) and within the Charlotte sub-project (EL27972 and EL29018).

7.2 Exploration Agreement with Central Land Council on behalf of Traditional Owners

Tellus has signed an exploration agreement with traditional owners, through the Central Land Council (“CLC”). Tellus was granted sacred site clearance certificate from the CLC for exploration activities including track clearing and drilling.

7.3 Prefeasibility Study

Tellus completed a prefeasibility study for the Chandler Salt Project. The definitive feasibility study commenced during 2013 to look at all aspects of the project, such as; best mining method, logistics, costs and technical aspects of the project.

7.4 Onsite Geological and Geotechnical Assessment

A site visit was conducted on 25th to 26th 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 on-going studies for the project Douglas Partners completed a brief report describing the likely geotechnical properties of the rock formations in the area of the Charlotte Range and Maryvale Hills, Southeast Amadeus Basin, Northern Territory.

7.5 Chandler Seismic Review

Tellus commissioned RPS Group Canada to review available open file 2D seismic data to assess salt extent and thickness of the Chandler Formation, within the Tellus project area.

RPS concluded that;

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



8 EXPLORATION ACTIVITIES CONDUCTED 2013-2014

8.1 Drilling program on nearby tenement EL29018

To confirm the depth and thickness of the Chandler salt Formation over the project area, two deep diamond drillholes (CH001A, CH003) were completed on nearby tenement EL29018 (Figure 6). The locations were selected based on combination of factors included proximity to existing seismic lines, interpreted depth and thickness of Chandler Formation. The drilling program took place from November 2013 to January 2014. The Chandler Formation was intersected in both drillholes, with high recovery of core achieved. Samples were sent for chemical and mineralogical analysis, results were positive confirming high grade halite.

8.2 Wireline Survey

A downhole wireline survey was run on drillhole CH001A, with data collected from the depth interval 316m – 1089m. The following down hole acquisition took place;

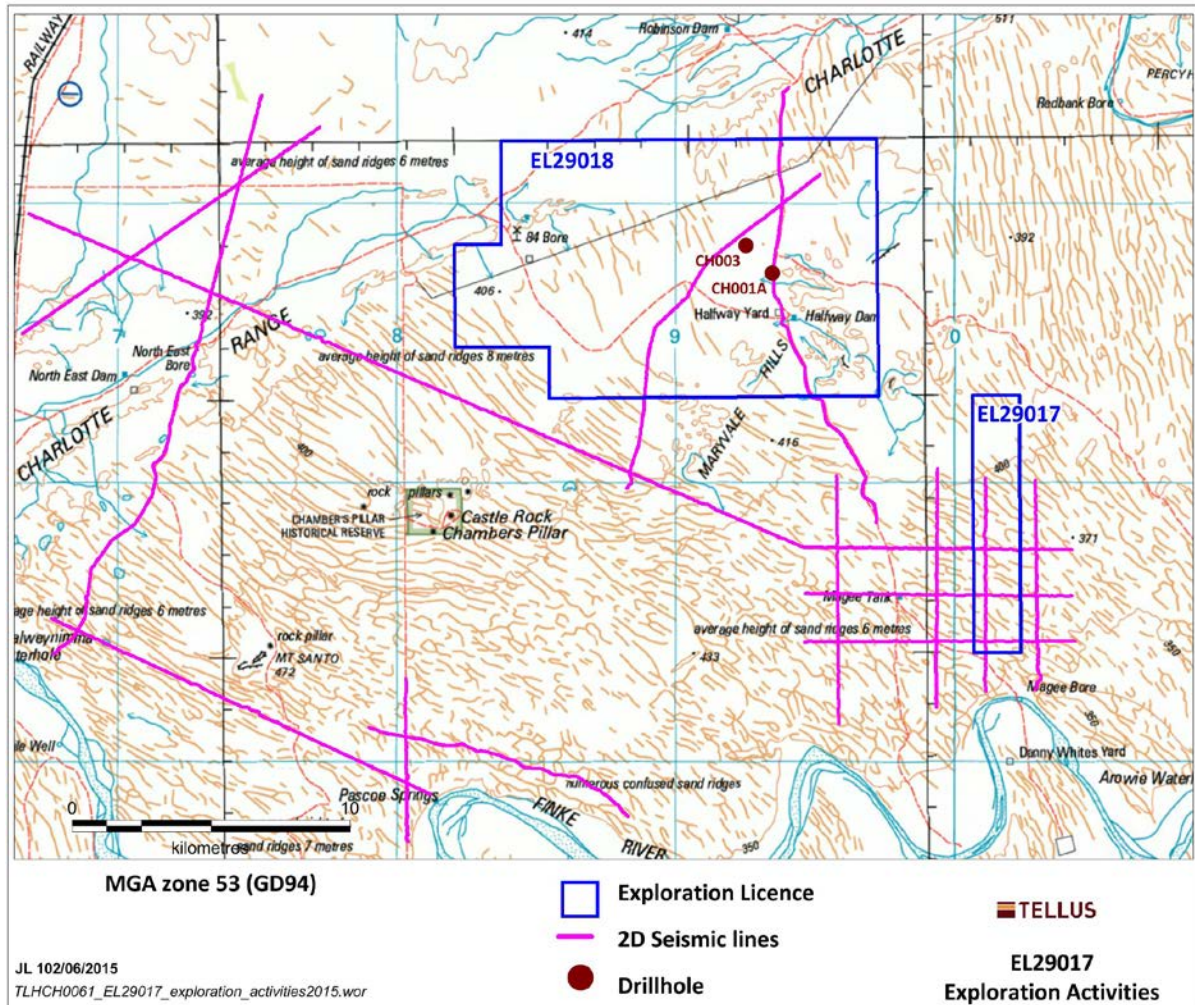
- Multi Survey Tool
- Natural Gamma (g)
- Spontaneous Potential (SP)
- 16”N and 42’ Resistivity
- Point Resistance
- Mag Deviation/Gyro
- Temperature
- Full Wave Sonic
- Magnetic Susceptibility/Conductivity
- Acoustic Televiewer

The full wave sonic data will be used to tie the drillhole to the seismic survey lines. The time - depth relationship will be calculated for intersected marker beds, which will be used to convert the seismic from time domain to depth domain.

Four seismic lines fall with EL29017 (Figure 6) and are part of the Chandler Project seismic model. Interpreted horizons and marker beds on the seismic will be reconverted from time to depth using the newly acquired drillhole and wireline data. The interpretive geological model over the project area will then be updated and refined.



Figure 6: Exploration Activities



9 EXPLORATION ACTIVITIES CONDUCTED 2014-2015

9.1 Seismic review and modelling

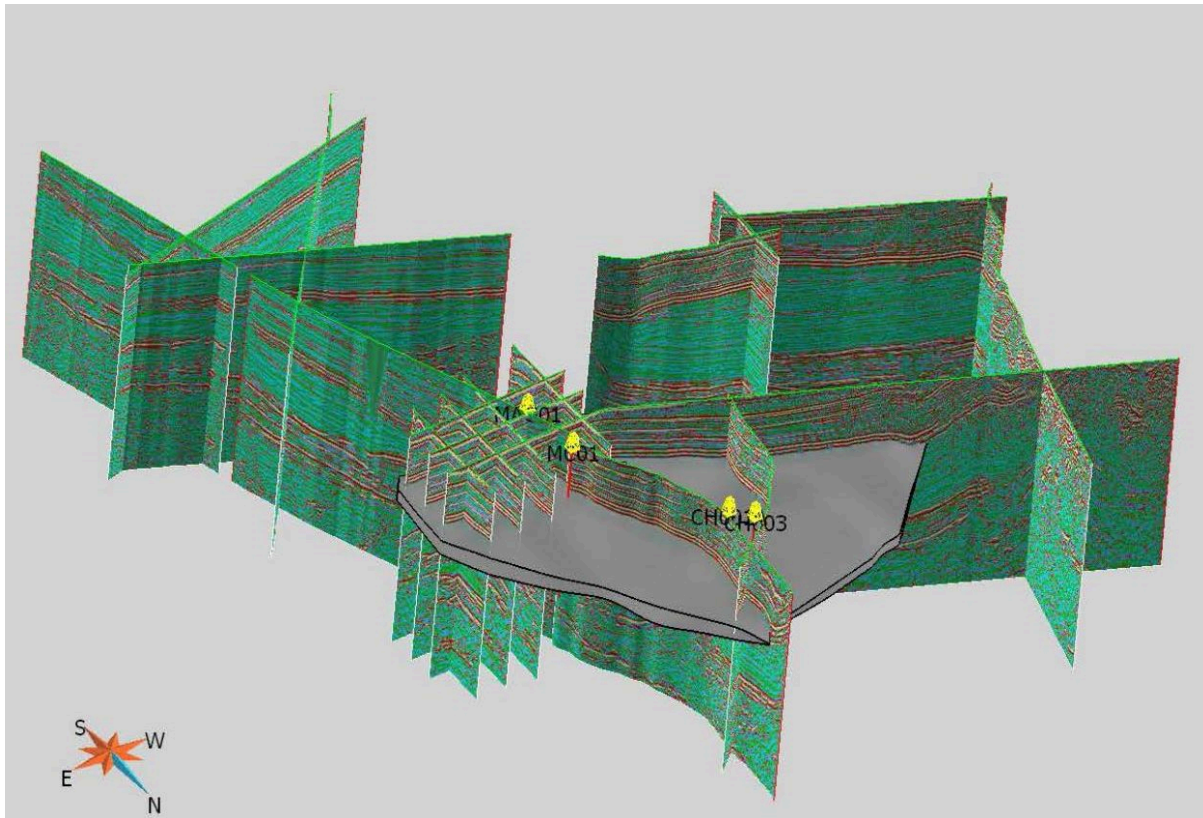
Four seismic lines fall within EL29017 (Figure 6) and are part of the Chandler Project seismic model.

RPS Canada reviewed the newly acquired 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 interpretive geological model over the project area has been updated and refined (Figure 7).



Figure 7: seismic modelling of Chandler Formation extent



10 EXPLORATION ACTIVITIES CONDUCTED DURING THE CURRENT REPORTING PERIOD

10.1 Environmental Studies

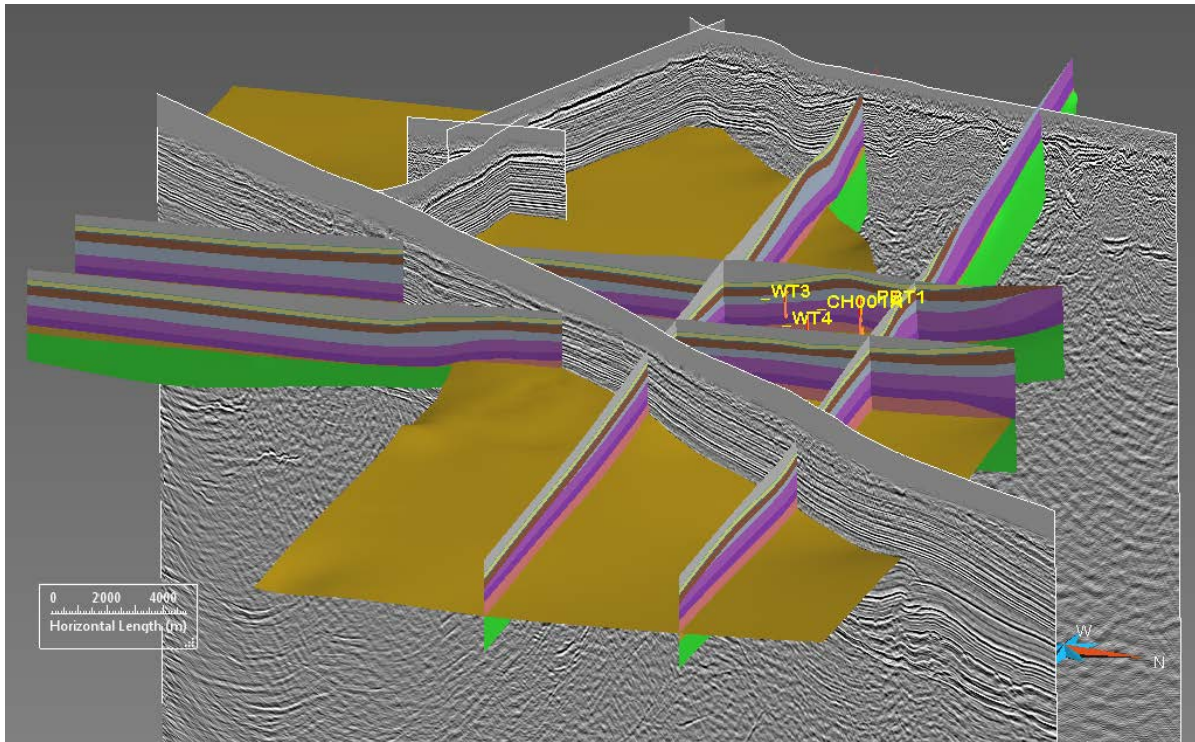
Low Ecological conducted seasonal flora and fauna surveys to support the ongoing EIS studies. Soil survey and assessment was conducted over the project site; results are being compiled into a final report to be submitted with the EIS to support Chandler project development for MLA30612.

10.2 Seismic Interpretation

Endeavour Geophysics completed a seismic interpretation of all existing seismic, drilling and wireline data over the Chandler project site. The interpretive geological model over the project area has been updated and presented as a series of images (Figure 8).



Figure 8: updated seismic model over the Chandler project site





11 REFERENCES

Northern Territory Geological Survey, March 2006. Geological Regions of the Northern Territory map sheet.

Wakelin-King, G. and Austin L., 1992. EP 38, Well Completion Report Magee 1 Northern Territory. Pacific Oil & Gas. Limited, Report no. 304715. NTGS Open File Petroleum Report PR1992-0121

Young IF, Ambrose GJ, 2007. Petroleum geology of the southeastern Amadeus Basin: the search for sub-salt hydrocarbons. In Munson TJ and Ambrose GL (editors) 'Proceedings of the Central Australian Basin Symposium, Alice Springs, Northern Territory, 16/18 August 2005'. NTGS Special Publication 2, 183-204