
West Mereenie 27

Well Completion Report (Basic) – Final

03 Jun 2021 – 20 Jul 2021

OL4

Amadeus Basin

Northern Territory

Submission Date

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LIST OF ABBREVIATIONS

| Abbreviation | Full Text | Abbreviation | Full Text |
|---------------------|-------------------------------------|--------------|---------------------------------|
| ° | degrees | mRT | metres Rotary Table |
| AHD | Australian Height Datum | msl | metres sea level |
| Az | Azimuth | MU | Make Up |
| bbls | Barrels | mV | millivolts |
| bbls/hr | barrels per hour | MWD | Measurements While Drilling |
| Bcf | Billion cubic feet | N2 | Nitrogen |
| BPM | barrels per minute | NA | Not Applicable |
| BPV | Back Pressure Valve | ND | Nipple Down |
| BTC | Buttress Connection | NGP | Northern Gas Pipeline |
| CBL | Cement Bond Log | NU | Nipple Up |
| CCL | Casing Collar Locator | OD | Outer Diameter |
| CSG | casing | OH | Open Hole |
| DHM | Down Hole Motor | P/U | Pick Up |
| DP | Drill Pipe | PCE | Pressure Control Equipment |
| EMW | Estimated Mud Weight | PDC | Polycrystalline Diamond Compact |
| FIT | Formation Integrity Test | PEX | platform express tool string |
| Fm | Formation | PJSM | per job safety meeting |
| FMI | Formation Micro Imaging Log | POOH | Pull Out Of Hole |
| ft ³ /sk | Cubic feet per sack | ppg | pounds per gallon |
| GL | Ground Level | psi | pounds per square inch |
| GOC | Gas-Oil Contact | Q | flow rate |
| GR | Gamma Ray | QTY | Quantity |
| HRLA | High Resolution Laterolog Array | RIH | Run In Hole |
| Hrs | hours | ROP | Rate Of Penetration |
| HUD | Hold Up Depth | RT | Rotary Table |
| In | inches | RT | Rotary Table |
| Inc | Inclination | SITHP | Shut-in Tubing Head Pressure |
| KCl | Potassium Chloride | SP | Spontaneous Potential |
| kg | kilogram | Sst | Sandstone |
| km | kilometres | TBG | Tubing |
| L | litres | TD | Total Depth |
| lb/ft | pounds per foot | TVD | True Vertical Depth |
| LCM | Loss Control Materials | TVD | True Vertical Depth |
| LIB | Lead Impression Block | TVT | True Vertical Thickness |
| m | metres | USIT | Ultrasonic Imaging Tool |
| m/hr | metres per hour | VDL | Variable Density Log |
| m/hr | metres per hour | WBM | Water Based Mud |
| M/U | Make Up | WM27 | West Mereenie 27 |
| MD | Measured Depth | WM28 | West Mereenie 28 |
| mGL | metres Ground Level | XEM | Extreme Engineering Survey Tool |
| mmscfd | million standard cubic feet per day | | |

1 INTRODUCTION AND SUMMARY

The Mereenie Oil and Gas Field is situated within the Amadeus Basin approximately 230 km west-southwest of Alice Springs (Figure 1). It is a doubly plunging anticline with surface expression and an anticlinal structural axis that can be traced for over 30 km. The discovery well, Mereenie 1, was drilled in 1965, and since then more than 70 additional wells have been drilled. The field has a gas cap and an oil rim, with a field wide gas-oil-contact (GOC) at -649.2 msl.

To date, production from the Pacoota P3 has primarily been focussed on the Pacoota P3 oil rim on the northern, southern and eastern nose of the central culmination with gas reinjected into the oil leg to maintain pressure and oil deliverability. The Pacoota P3 had an original OGIP volume of 259 BCF with a gas cap volume of 171 BCF. Gas production from the P3 to date has been 248 Bcf and with reinjection of 131 Bcf of gas there has been a net production of 117 Bcf leaving an estimated 142 Bcf remaining within the Pacoota P3.

Since construction of the Northern Gas Pipeline (NGP) was announced in 2015, focus at the Mereenie Oil and Gas Field has shifted towards gas production. Gas plant capacity at Mereenie was upgraded in 2018 to coincide with the NGP becoming operational in January 2019. Given the additional plant and pipeline capacity that is still available and a desire to offset natural production decline, West Mereenie 27 (WM27) targeted gas in the Pacoota P1 Sandstone and the Pacoota P3 Sandstone gas cap, from which there had been limited net production.

Cultural and environmental constraints exist on the surface directly above the Pacoota P3 culmination so WM27 was drilled as a vertical well from a surface location positioned approximately 30 m vertically below the crestal culmination.

To accelerate gas production, WM27 was programmed for completion in both the Pacoota P1 and Pacoota P3 sandstones. The well terminated above the base of the Pacoota P3 to avoid flowing high nitrogen gas from the Pacoota P4. Prior to penetrating the Pacoota, P3 casing was set over the Pacoota P1 and will be perforated for completion after WM28 operations.

WM27 was spudded with Easternwell Rig 27 at 21:45 hrs on June 3rd, 2021 and reached a Total Depth of 1367 mMDRT on 9th July 2021. The well was plugged back to 1236m and suspended for completion after drilling the West Mereenie 28 (WM28) well. The rig was released on July 20th 2021 for rig move to WM28.

Following rig release from West Mereenie 28, Easternwell Rig 27 mobilised to West Mereenie 19 to conduct workover operations. Following that operation, Rig 27 returned to the West Mereenie 27 site to run the completion.

Completion operations commenced at 06:00 hrs on 11th September 2021. Due to the necessity to plug back over the Pacoota P3 sequence, the completion design needed to be changed from a dual to a single completion, Consequently, the well was completed over the Pacoota P1 formation with 15 runs of wireline perforation guns within 7" casing and a single string completion was then run.

Easternwell Rig 27 was released at 14:00 hrs on 18th Sept 2021.

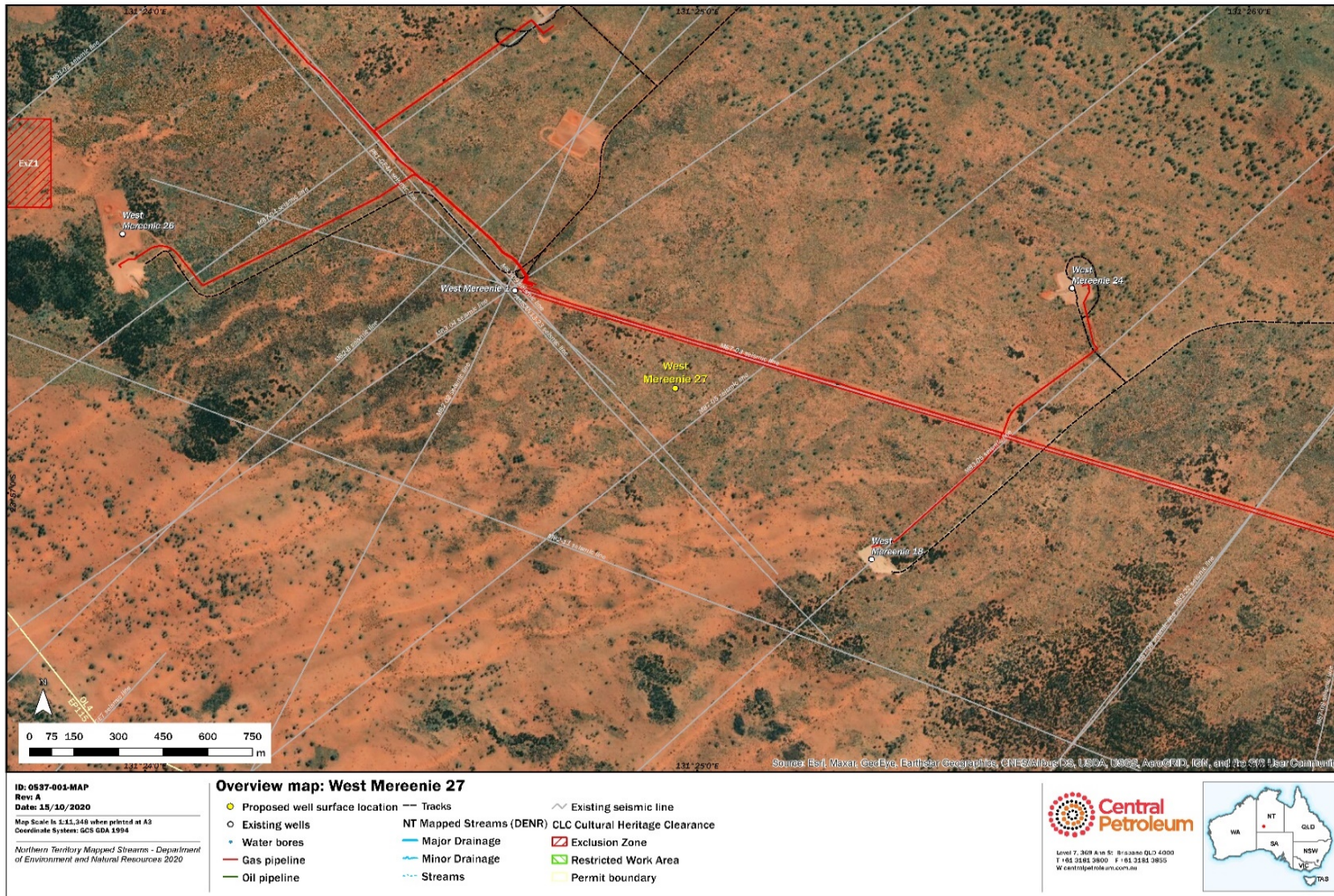


Figure 2 — West Mereenie 27 surface location, downhole target, cultural and environmental constraints and existing infrastructure

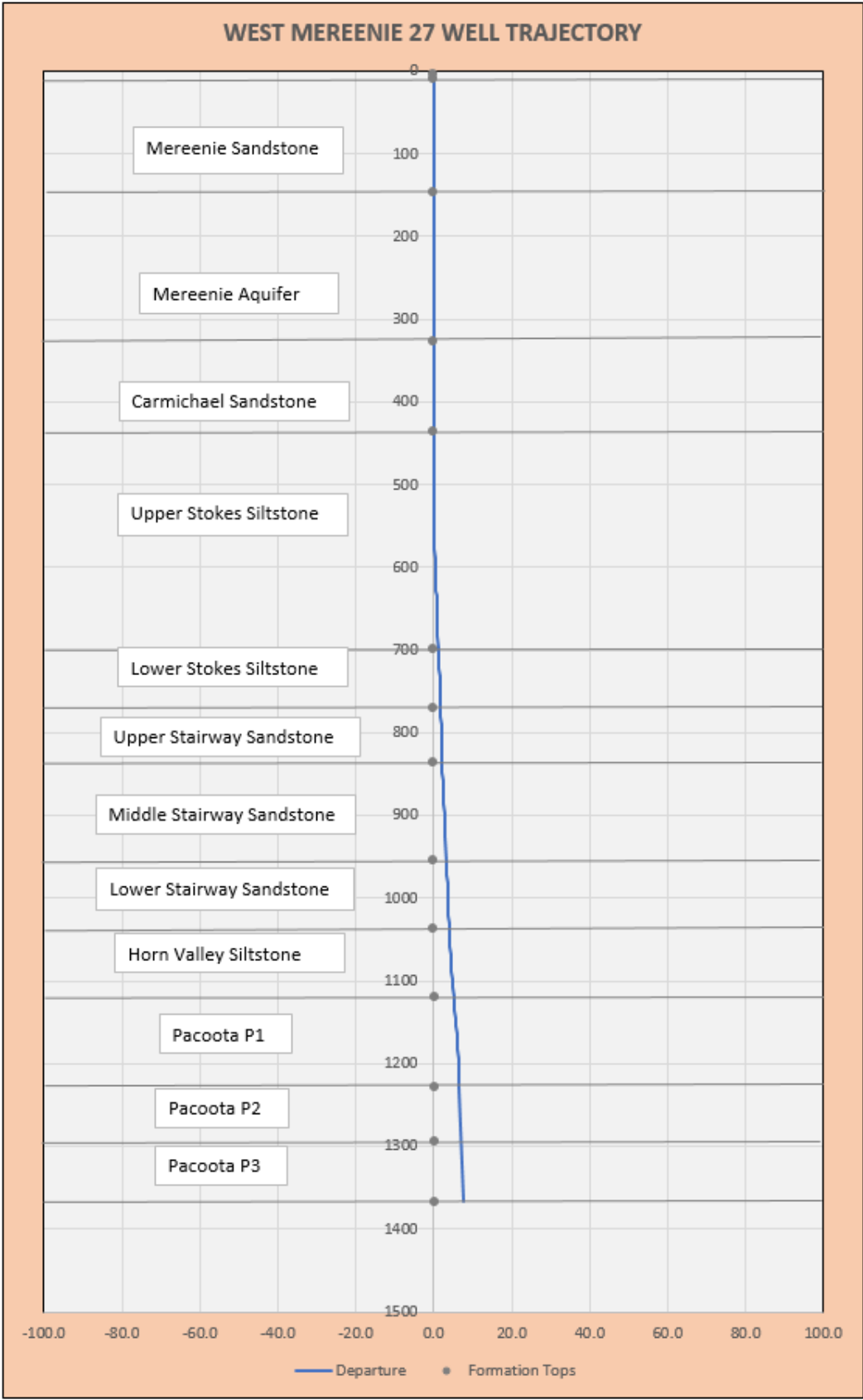


Figure 3 — Cross Section of WM27 well trajectory and Horizons

2 GENERAL DATA

Table 1: West Mereenie 27 Well Index Sheet

| | | | | | | | | |
|---|----------------------|-------------------|--------------------|----------------------|--|--------------------------|--|------|
| Well Name | WEST MEREENIE 27 | | Petroleum Title | OL 4 | | Basin | AMADEUS | |
| Well Purpose | Development | | Status | Pacoota P1 Producer | | Parent Well Name, if any | N.A. | |
| Spud Date | 3/06/2021 | | TD Date | 9/07/2021 | | Rig Release Date | 20/07/2021 | |
| Primary Objective | Pacoota P3 Sandstone | | Rig(s) Name | Easternwell 27 | | | | |
| Secondary Objective | Pacoota P1 Sandstone | | 100K Map Sheet | Tarawera 5150 | | | | |
| Total Depth | | mMD | mTVD | | Side-Track Kick-off Depth, if applicable | | N.A. | |
| | Driller | 1368.5 | 1368.37 | | | | | |
| | Logger | 1368.5 | 1368.37 | | Drill Datum | | Elevation Datum: AHD | |
| Location | Coordinates | Surface | Bottom Hole | | <input type="checkbox"/> DF <input checked="" type="checkbox"/> RT <input type="checkbox"/> KB | | GL Elevation: 760.5m RT Elevation: 765.0m | |
| (GDA94 Datum with GRS80 Ellipsoid using MGA94 Grid) | Latitude | 23° 56' 48.43" S | 23° 56' 48.407" S | | | | | |
| | Longitude | 131° 24' 57.64" E | 131° 24' 57.910" E | | | | | |
| Zone | Easting | 745,885.2 mE | 745,892.9 mE | | Seismic Station, if applicable | | Survey | Line |
| 52 | Northing | 7,349,560.0 mN | 7,349,560.5 mN | | | | M87 | 05 |
| Well Summary | | | | | | | | |
| <p>The West Mereenie 27 well was spudded by Easternwell Rig 27 on 3rd June 2021, targeting gas in the Pacoota P3 Sand (primary target) and Pacoota P1 Sand (secondary target). The well was drilled with water-based mud from surface, through the Mereenie and Carmichael Formations into the Upper Stokes Siltstone. Significant fluid losses were experienced while drilling the Mereenie Aquifer and the Carmichael Formation, requiring 513 bbl LCM to be pumped and 3 cement plugs set over the Carmichael Formation. After setting the 9 5/8" casing the well was air drilled through to the base of the Pacoota P2 Unit and 7" casing set. Gas shows were observed in the Upper and Lower Stairway Sandstones and in the Pacoota P1 Unit while drilling the 8 1/2" hole section. A maximum flow test of 2.4 mmscfd was obtained over the combined Stairway and Pacoota P1 sequences to the depth of 1264 mMDRT. The target sequence was then drilled in 6" hole with air/N2/foam through the Pacoota P3 interval and a flow test of 2.0 mmscfd was obtained over the Pacoota P3 Formation to a depth of 1342 mMDRT. West Mereenie 27 reached a depth of 1367 mMDRT on 9th July 2021, at which point the drill string became stuck in hole. Ultimately the drill string was recovered, with the exception of 11.5m of the BHA which was lost in hole, with TOF at 1351.5 mMDRT. The well was plugged back to 1236m and suspended for future completion after drilling the West Mereenie 28 (WM28) well. The rig was released on July 20th 2021 for rig move to WM28 and then to West Mereenie 19 to conduct a workover operation. Following that operation Rig 27 returned to the West Mereenie 27 site to the completion.</p> <p>Completion operations commenced at 06:00 hrs on 11th September 2021. Due to the necessity to plug back over the Pacoota P3 sequence, the completion design needed to be changed from a dual to a single completion, Consequently, the well was completed over the Pacoota P1 formation with 15 runs of wireline perforation guns within 7" casing and a single string completion was then run. Easternwell Rig 27 was released at 14:00 hrs on 18th Sept 2021.</p> | | | | | | | | |
| Hole and Casing Design (Drillers Depths) | | | | | | Drilling Fluid | | |
| Type | Hole Size | Depth (mMD) | Casing Size | Shoe mMD | Shoe mTVD | Hole Size | Type | |
| Conductor | 17 1/2" | 27.0 | 13 3/8" | 27.0 | 26.0 | 17 1/2" | Gel Polymer | |
| Surface Casing | 12 1/4" | 497.0 | 9 5/8" | 496.9 | 494.3 | 12 1/4" | Gel Polymer | |
| Intermediate Casing | 8 3/4" | 1289.0 | 7" | 1288.9 | 1286.8 | 8 3/4" | Air/ Foam | |
| Open Hole | 6" | 1367 | NA | NA | NA | 6" | Air/ Foam | |
| Stratigraphy – Formation Tops (Loggers) | | | | Formation Evaluation | | | | |
| Formation | Depth | | | Run | Measurement | Depth Interval | | |
| | mMD | mTVD | mTVDGL | | | From (mMD) | To (mMD) | |
| Mereenie Sandstone | 8.7 | 8.7 | 4.2 | S1R1 | FMI-DSI-HRLA-PEX | 1289 | 440 | |
| Mereenie Aquifer | 147.0 | 147.0 | 142.5 | | GR | 1289 | 5 | |
| Carmichael Sandstone | 326.0 | 326.0 | 321.5 | S1R2 | CBL-VDL-GR-CCL | 493 | 5.00 | |
| Upper Stokes Siltstone | 435.0 | 434.9 | 430.4 | S2R1 | CBL (aborted) | NA | NA | |
| Lower Stokes Siltstone | 698.2 | 698.1 | 693.6 | S3R1 | CBL-VDL-GR-CC | 1259 | 5 | |
| Upper Stairway Sandstone | 770.0 | 769.9 | 765.4 | S3R2 | TGT Acoustic | 1286 | 5 | |
| Middle Stairway Sandstone | 836.0 | 835.9 | 831.4 | S3R3 | CBL-VDL-GR-CC (Press.) | 1222 | 20 | |
| Lower Stairway Sandstone | 955.0 | 954.9 | 950.4 | | | | | |
| Horn Valley Siltstone | 1036.5 | 1036.4 | 1031.9 | | | | | |
| Pacoota P1 | 1119.2 | 1119.1 | 1114.6 | | | | | |
| Pacoota P2 | 1227.5 | 1227.4 | 1222.9 | | | | | |
| Pacoota P3 | 1294.0 | 1293.9 | 1289.4 | | | | | |
| Total Depth | 1367.0 | 1366.9 | 1362.4 | | | | | |

| Mud Logging | | Formation Testing (DST) | |
|---|---|-------------------------|--|
| Total Gas and C1-C5 chromatograph from 10m MD to 1367.0 mMD | | DFT | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| | | HF | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Coring | Hydrocarbon Shows | | |
| NA | No hydrocarbon fluorescence was noted while drilling West Mereenie 27. However, numerous hydrocarbon gas peaks were recorded throughout the Stairway and Pacoota formations and are tabulated in Appendix E | | |
| Completion | | | |
| The well was plugged back for future completion as a Pacoota P1 producer. EW Rig #27 was scheduled to return after drilling and completing West Mereenie 28, to perforate the P1 intervals and run the completion string. | | | |

3 DRILLING

3.1 DRILLING SUMMARY

(All depths Driller's MDRT unless otherwise stated)

Well spudded with 17-1/2" hole and 13-3/8" Conductor

West Mereenie 27 was spudded at 21:45 hours on 3 June 2021 with the Easternwell 27 drilling rig. The 444.5 mm 17-1/2" hole was drilled to 27.0 m with Gel spud mud and the 13-3/8" primary conductor run and cemented with shoe at 26.0 m.

12-1/4 Surface hole and 9-5/8" casing

The 12-1/4" hole commenced drilling at 02:45 hrs on 5 June 2021 and was drilled from 27.0 m through the Mereenie Sandstone. The Mereenie aquifer was intersected at 158.0 m and circulation was immediately lost. Loss circulation material (LCM) was pumped down the hole before a rig generator outage delayed drilling operations by 5 hours. Rig power was restored and after pumping another 185 bbls of LCM and a sweep, drilling resumed with returns at the shakers.

At 170.0 mMDRT there were total losses downhole with no returns over the shakers. Drilling continued to 179.0 mMDRT with no returns. Another LCM pill was pumped and drilling continued to 187.0 mMDRT, where a spike in pressure indicated possible blocked nozzles, so the BHA was POOH. The nozzles were removed and the bit and 12-1/4" BHA were run back in the hole and drilling resumed from 179.0 to 193.0 mMDRT before running out of active volume. While building more mud volume, a deviation survey was conducted with the inclination recorded as 1.0° at 158.0 mMDRT.

After breaking circulation, a pressure spike was again observed. The BHA was POOH and the downhole motor was found to be blocked, so the BHA was changed out with a tricone bit and the motor removed. A 12-1/4" NOV TCI bit and BHA were RIH and continued drilling the 12-1/4" hole from 199.0 mMDRT to 205.0 mMDRT with no returns.

The 12-1/4" BHA was pulled to surface and 2-3/8" open ended tubing made up and RIH to 85 mMDRT for a cement job. Twenty barrels of "Econoline" LCM were pumped down the hole followed by 47 bbls of 15.8 ppg cement (plug no 1). There were no returns to surface and, after waiting on cement for several hours, an attempt was made to fill the hole with partial losses observed.

A second cement job was performed with twenty bbls of LCM and 47 bbls of cement (plug no 2) pumped down the hole. Cement returns were seen at the surface and the cement stinger was POOH. A 12-1/4" BHA (PDC bit and Motor) was washed down and tagged top of cement at 18.8 mMDRT. Cement was drilled to 168.0 mMDRT and then washed and reamed to 205 mMDRT. New formation was drilled from 205.0 to 367.0 mMDRT with returns to surface and downhole losses of 5 to 15 bbls/hr.

At 367.0 mMDRT there was a sudden total loss of returns at the shakers. Drilling continued with water and no returns from 367.0 to 374.0 mMDRT and intermittent partial and full returns from 374.0 to 384.0 mMDRT (loss rate <180 bbl/hr). Drilling continued with no returns and pumping LCM sweeps from 384.0 to 418.0 mMDRT with a downhole loss rate of 420 bbl/hr. A 30 bbl pill of Quick Seal LCM was pumped downhole with only minor returns at surface. A further LCM pill was then pumped with no returns at surface.

The 12-1/4" BHA was POOH to surface, back reaming through tight spots from 188.0 mMDRT. The cement stinger was RIH to 229.0 mMDRT and another 47 bbl of 15.8 ppg cement was pumped down the hole (plug no 3).

The well was filled with 57 bbls of fluid to surface and monitored to establish a loss rate. After a static loss rate of 8 bbl/hr was established the 12-1/4" drilling BHA was RIH with static losses of 5-6 bbl/hr. Ratty cement was tagged at 227.0 mMDRT with static losses of 5 to 6 bbl/hr while RIH. Cement plug #3 was drilled out with downhole losses commencing from 362.0 mMDRT at 50 bbl/hr. Losses were treated with LCM and reduced to 25 bbl/hr at 367.0 mMDRT. Hard cement was drilled to 390.0 mMDRT then ratty cement to 418.0 m, with the loss rate increasing to 70 bbl/hr.

New formation was drilled in the 12-1/4" hole with returns from 418.0 to section TD at 497.0 mMDRT in the Upper Stokes Siltstone. There were no significant downhole mud losses recorded from 423.0 to 497.0 mMDRT.

The well was flow checked before POOH with the 12-1/4" BHA to 380.0 mMDRT; reaming from 400 mMDRT to 380.0 mMDRT. Losses were encountered while pulling out of hole at 384.0 mMDRT so the BHA was run back to bottom and the string reciprocated while building LCM. Thirty barrels of LCM were pumped downhole and displaced with 50 bbl water. A suspension pill was spotted on bottom and a drop survey conducted at 495.3 mMDRT (1 deg incl. at 485.0 mMDRT), before POOH with the 12-1/4" BHA to surface, back-reaming tight spots from 419.0 to 294.0 mMDRT.

The section was drilled in four bit runs with the same Baker Hughes PDC bit being run three times; with a final grading of: 1-1-WT-N/T-X-1-ER-CP. An NOV Tricone bit was also used to drill from 193.0 to 205.0 mMDRT.

The 9-5/8" surface casing was run and set at 494.3 mMDRT. The BOP was then nipped up, function and pressure-tested and the air drilling package installed.

8 3/4" Intermediate hole and 7" Casing

An 8-3/4" drill out BHA and tricone bit was RIH, tagged cement at 481.0 mMDRT and drilled cement, 9-5/8" shoe track and 4 m of new formation to 501.0 mMDRT. A formation integrity test was performed with 8.5 ppg mud to 14.5ppg EMW.

The well was unloaded with air, then foam, and the 8-3/4" drill out BHA was POOH. The 8-3/4" air drilling BHA with XEM Gamma Ray and survey tool was RIH and drilled to 1063.0 mMDRT. Where a flow test (FT#1) was performed across the Stairway Sandstone. The test was deemed invalid when it was realised the main valve on the ADA test manifold was leaking.

After replacing the valve, and drilling a further 3m to 1066 mMDRT, the test was repeated (FT#2) with no gas seen at surface.

The 8-3/4" hole continued to be drilled to 1190.0 mMDRT where another flow test was carried out across the Pacoota P1-80 Sandstone (FT#3). The 30-minute test showed a small gas flow rate with maximum flowing pressure of 0.76 psi and continuous gas to surface.

Drilling continued to 1209.0 mMDRT before conducting a further flow test (FT#4) with a continuous gas flow observed at surface with a maximum pressure of 33.0 psi and a calculated flow rate of 1.70 MMCFD of gas.

The 8-3/4" hole was drilled to 1264.0 mMDRT with a noticeable drop in ROP. Drilling stopped and a flow test conducted (FT#5) with a maximum pressure of 44.5 psi being observed and a calculated flow rate of 2.40 MMCFD of gas. The well was then shut in on the rig choke manifold for a 60 minute build-up test, with a final pressure recorded at 317 psi.

Drilling mud was circulated through the well, the air drilling BHA POOH and the hammer bit found to be damaged. An 8-1/2" tricone bit was RIH and continued drilling with a mud system to the intermediate section TD at 1289.0 mMDRT. The 8-1/2" section from 1264 to 1289 mMDRT had an average gas reading of 57.8% while drilling and a maximum formation gas peak of 68.8% total gas at 1276.0 mMDRT. Connection gas peaks of 99.8% and 83.0% were recorded at the two connections.

After circulating the gas out of the well, the mud weight was increased from 8.8 to 9.2 ppg in and out. A wiper trip was made to 1096 m and the bit run back to bottom. Due to high levels of gas continuing, the mud weight was raised to 9.8 ppg. After flow checking the well, the drilling assembly was tripped out of the hole for wireline logging.

7" Casing Operations and BOP operations.

Rigged up and ran 7" #29lb/ft casing with the shoe depth set at 1288.87 mMDRT. The casing was cemented and a casing integrity test conducted. Cementing equipment was rigged down and the casing hanger set. The seal assembly was pressure tested but the test failed. The seal assembly was changed and pressure tested successfully. The 11" BOP stack was nipped down and the 7-1/16" BOP's nipped up. Installed the air lines, connected accumulator lines and pressure tested pipe rams, annular and air valves. Pressure tested RCD. Nipped down and re-positioned ADA blooie line.

6-1/8" Hole section – clean-out trip

Made up 6-1/8" tri-cone bit and clean-out BHA, ran in hole and tagged TOC at 1261.89 mMDRT. Drilled shoe track and rat hole to 1289 mMDRT and new hole to 1292 mMDRT. Circulated an even 8.5 ppg mud around. Performed FIT to 14.5 ppg EMW (surface pressure applied 1326 psi) and tripped out of hole with clean-out assembly.

6" hole Air Drilling Operations

Ran in hole with 6" air drilling assembly using 4-1/2" air hammer and drilled 6" hole with air/mist to 1313 mMDRT. A flow test was conducted at that depth (FT#6) resulting in a flow rate of 0.6 MMSCFD gas. The well was then drilled ahead to 1313.48 mMDRT where poor ROP preceded a trip out of hole for a bit change.

Drilling continued from 1313.48 mMDRT to 1342 mMDRT where a further flow test was conducted (FT#7) which resulted in a flow rate of 2.0 MMSCFD gas. The 6" hole was drilled ahead to 1356 mMDRT where string rotation was lost due to rig HPU failure. The well was circulated and shut in while excess fluids were removed from the flare pit. The drill-string was tripped out of hole for a bit change and ran back in hole to shoe pending repairs to the rig HPU. Once the HPU was repaired the drill-string was run to bottom and the hole was reamed from 1342 mMDRT to 1356 mMDRT, then drilled ahead to 1367.48 mMDRT.

At this depth the rig experienced anomalies with drilling parameters and a decision was made to trip out to shoe. During the trip out, the drill-string became stuck at 1350m. The string was then worked, attempting to free the string from the stuck position.

6" hole drill-string Fishing Operations

Work continued on the drill-string, attempting to free pipe from the stuck position at 1350 mMDRT (no jars in string). Attempted down movement, up movement - with RH torque and also without RH torque. Pumped 10 bbls SAPP pill down annulus and allowed it to soak. Attempted 500 psi annulus cavitation. Failed to free drill pipe from stuck position. Worked stuck pipe with Halliburton unit pumping down drill string to max 2200psi, Max pull 190k.

The stuck pipe was eventually freed and tripped out to the shoe where a clean-up circulation was conducted. The string was then run in hole, washing down to 1311 mMDRT, circulated and then tripped out to inspect the BHA. Observed 11.45m of BHA left in hole. Top of fish estimated at 1338.5 mMDRT. Slipped and cut drill line, serviced rig, made up 6" tri-cone bit and RIH on Clean-out BHA to 1300 m.

Attempted to clean out well bore to top of fish with air. Failed due to hole packing off. Switched over to mud circulation and cleaned out well to TOF at 1351.50 mMDRT. Wiper tripped to shoe and off-loaded wellbore fluids.

Pacoota P3 Flow Testing Operations

Conducted Flow Test #8 and Flow Test #9. Neither of these tests flowed gas to surface, the assumption being that formation damage had occurred during fishing and mud circulation operations. The wellbore was filled with drilling mud. Ran in hole and tagged fill at 1319 mMDRT. Circulated and cleaned down to TOF at 1351 mMDRT. Tripped out with 6" bit and drilling BHA.

Well Suspension Operations

Made up a cement stinger and ran in hole on 4" DP. Rigged up Halliburton cement unit and placed cement plug #1 across the 6" open hole section. Tripped out with cementing string, made up a 6-1/8" bit and ran in hole, tagging TOC at 1337 mMDRT. Circulated well clean, pumped LCM ripped out with drilling BHA. Made up cement stinger for Plug #2 and RIH to 1332 mMDRT. Rigged up cementers. Pumped and spotted a 50.3 bbls cement plug. Tripped out to 1103 mMDRT. Conducted clean-up circulation. Tripped out to surface with cement stinger BHA.

Ran in hole with a 6-1/8" Bit and tagged TOC at 1310 mMDRT. Decision made to perform a 3rd cement plug. Tripped out drilling assembly. Made up cement stinger (Plug #3) and ran in hole to 1310 mMDRT. Rigged up cementers and pumped 65 bbl cement plug. Tripped out with cement stinger. Ran in hole with 6-1/8" Bit and tagged TOC at 1136 mMDRT. Drilled out cement plug to 1236 mMDRT. Circulated and tripped out with drilling BHA. Performed casing/cement plug pressure test to 2000psi – successful.

Rigged up Expro E-line to perform CBL pressure pass. Injectivity test failed on 9-5/8" x 7" annulus. Rigged down Expro.

Laid out 4" drill pipe, rigged down work-floor, blooie line and flare line. Nipped down BOP's. Installed well-head suspension cap. Released Rig from West Mereenie 27 at 06:00 hours on 19th July 2021

3.2 WELLHEAD AND DOWNHOLE DIAGRAM

For the well schematic and wellhead equipment, see **Appendix A**.

3.3 CASING DETAILS

Table 2: WM27 casing details

| FINAL WELL CONSTRUCTION | | | | | | | | | |
|-------------------------|---------------------|---------|---------|--|---------|-------|--------|------------|------------|
| Interval | Hole Specifications | | | Casing Specifications | | | | | |
| | Hole Size | From | To | OD | Weight | Grade | Thread | Casing Top | Shoe Depth |
| | [in] | [mMDRT] | [mMDRT] | [in] | [lb/ft] | | | [mMDRT] | [mMDRT] |
| Conductor | 17-1/2 | 4.5 | 27.0 | 13-3/8 | 133 | K-55 | BTC | 4.5 | 27.0 |
| Surface | 12-1/4 | 27.0 | 497.0 | 9-5/8 | 36.0 | K-55 | BTC | 4.5 | 494.34 |
| Intermediate | 8-3/4 | 497.0 | 1289.0 | 7 | 29.0 | P-110 | JFE | 4.5 | 1286.77 |
| Production | 6 | 1289.0 | 1367.0 | Open Hole: 1289.0 – 1367.0 mMDRT (plugged back to 1236.0 mMDRT) | | | | | |

3.4 WEST MEREENIE 27 TIME DEPTH CURVE

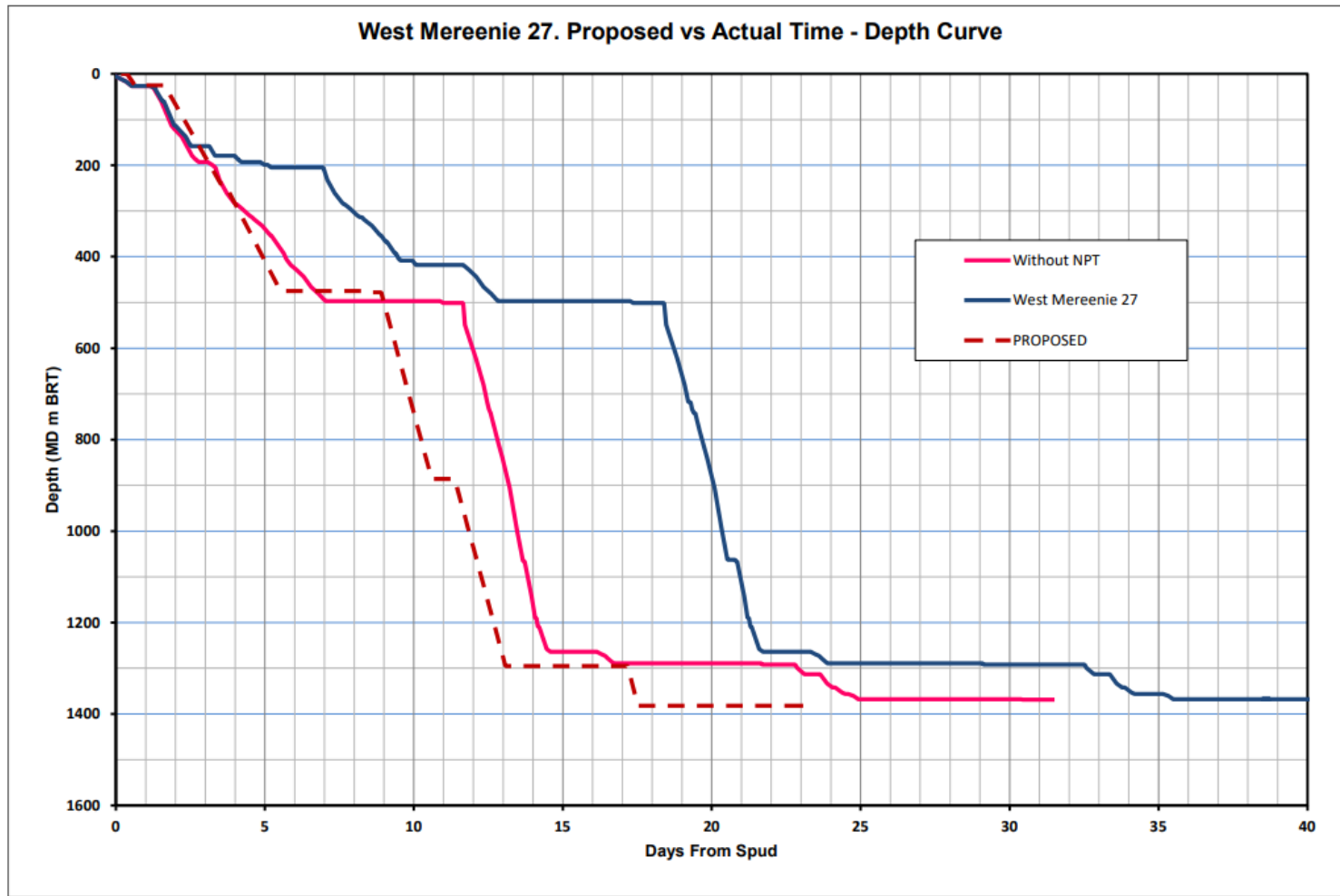


Figure 4 — West Mereenie 27 Time Depth curve

3.5 DEVIATION SURVEYS

Table 3: West Mereenie 27 Deviation Surveys

| Directional Survey | | | | Directional Survey | | | |
|--------------------|------|--------|--------|--------------------|------|--------|---------|
| MD | INC. | AZ. | TVD | MD | INC. | AZ. | TVD |
| 0.00 | 0.00 | 0.00 | 0.00 | 857.33 | 0.83 | 152.83 | 857.25 |
| 0.00 | 0.00 | 0.00 | 0.00 | 866.90 | 0.90 | 140.34 | 866.82 |
| 158.00 | 1.00 | 0.00 | 157.99 | 876.51 | 0.86 | 139.99 | 876.43 |
| 497.00 | 1.00 | 0.00 | 496.94 | 886.17 | 0.86 | 137.97 | 886.09 |
| 500.40 | 0.52 | 189.38 | 500.34 | 896.10 | 0.85 | 140.05 | 896.02 |
| 500.92 | 0.49 | 181.39 | 500.86 | 905.45 | 0.91 | 141.33 | 905.37 |
| 519.97 | 0.38 | 164.57 | 519.91 | 915.46 | 0.96 | 142.20 | 915.38 |
| 530.08 | 0.32 | 158.84 | 530.02 | 924.27 | 0.88 | 137.57 | 924.19 |
| 540.06 | 0.37 | 149.89 | 540.00 | 954.26 | 0.83 | 130.01 | 954.17 |
| 550.00 | 0.33 | 133.05 | 549.94 | 962.67 | 0.85 | 145.49 | 962.58 |
| 557.94 | 0.37 | 125.99 | 557.88 | 972.76 | 0.84 | 147.41 | 972.67 |
| 567.89 | 0.41 | 141.07 | 567.83 | 982.24 | 0.80 | 148.75 | 982.15 |
| 577.90 | 0.44 | 114.34 | 577.84 | 991.81 | 0.73 | 145.19 | 991.72 |
| 588.17 | 0.48 | 120.30 | 588.11 | 1001.35 | 0.77 | 149.48 | 1001.26 |
| 597.98 | 0.44 | 127.00 | 597.92 | 1011.30 | 0.79 | 148.56 | 1011.21 |
| 607.80 | 0.50 | 112.34 | 607.74 | 1020.44 | 0.77 | 144.59 | 1020.35 |
| 617.84 | 0.55 | 113.41 | 617.78 | 1030.00 | 0.79 | 140.94 | 1029.91 |
| 628.04 | 0.50 | 116.83 | 627.98 | 1039.55 | 0.82 | 141.04 | 1039.46 |
| 634.62 | 0.52 | 119.47 | 634.56 | 1049.06 | 0.87 | 139.05 | 1048.96 |
| 644.37 | 0.48 | 122.69 | 644.31 | 1058.77 | 0.87 | 136.52 | 1058.67 |
| 653.90 | 0.45 | 111.07 | 653.84 | 1068.07 | 1.00 | 126.91 | 1067.97 |
| 663.58 | 0.51 | 117.87 | 663.52 | 1077.85 | 1.03 | 122.24 | 1077.75 |
| 673.05 | 0.50 | 111.01 | 672.98 | 1087.66 | 0.97 | 118.15 | 1087.56 |
| 683.10 | 0.56 | 119.46 | 683.03 | 1097.06 | 1.08 | 117.03 | 1096.96 |
| 692.44 | 0.55 | 117.68 | 692.37 | 1106.68 | 1.21 | 105.52 | 1106.58 |
| 702.44 | 0.63 | 119.90 | 702.37 | 1116.18 | 1.18 | 103.18 | 1116.07 |
| 711.76 | 0.60 | 120.07 | 711.69 | 1126.34 | 1.06 | 103.98 | 1126.23 |
| 721.45 | 0.66 | 129.30 | 721.38 | 1135.10 | 0.98 | 106.26 | 1134.99 |
| 731.78 | 0.59 | 131.52 | 731.71 | 1145.14 | 0.94 | 105.03 | 1145.03 |
| 743.74 | 0.63 | 140.83 | 743.67 | 1155.12 | 0.98 | 108.24 | 1155.01 |
| 751.82 | 0.55 | 129.65 | 751.75 | 1164.08 | 1.02 | 119.99 | 1163.97 |
| 761.35 | 0.59 | 131.33 | 761.28 | 1174.18 | 0.97 | 120.37 | 1174.06 |
| 770.97 | 0.67 | 134.90 | 770.90 | 1183.15 | 0.97 | 123.37 | 1183.03 |
| 780.65 | 0.59 | 133.60 | 780.58 | 1193.30 | 0.77 | 123.12 | 1193.18 |
| 790.06 | 0.59 | 139.42 | 789.99 | 1203.09 | 0.79 | 125.17 | 1202.97 |
| 799.77 | 0.56 | 147.04 | 799.70 | 1212.17 | 0.72 | 129.52 | 1212.05 |
| 809.34 | 0.54 | 147.91 | 809.27 | 1222.13 | 0.66 | 136.02 | 1222.01 |
| 818.89 | 0.51 | 148.17 | 818.82 | 1232.20 | 0.68 | 139.07 | 1232.08 |
| 828.77 | 0.56 | 145.72 | 828.70 | 1233.50 | 0.66 | 137.19 | 1233.38 |
| 838.69 | 0.61 | 140.77 | 838.62 | 1286.77 | 0.66 | 137.19 | 1286.65 |
| 847.69 | 0.67 | 143.01 | 847.62 | 1368.50 | 0.66 | 137.19 | 1368.37 |

3.6 CEMENTING OPERATIONS

13 3/8" Conductor

Walked the Sub-Base back in, rigged up for cementing operations and held a pre-job safety meeting. Pressure tested surface lines and cemented the 13 3/8" Conductor as per programme. Pumped 19 bbls of 15.8 ppg cement slurry with cement to surface after 15.4 bbls pumped,

Flushed surface lines and rigged down Halliburton. Prepared 12 1/4" BHA, Cut conductor, installed riser and flow line, while waiting on cement to cure. Picked up 12 1/4" BHA, prepared mud and BHA for drilling 12 1/4" section while still waiting on cement. Made up BHA, ran in hole and tagged TOC at 26 m.

9 5/8" Surface Casing

Held the pre-job safety meeting with cementers while circulating 1.5 casing volumes (190 bbls). No losses or gas were recorded. Rigged up cementing equipment to cement 9 5/8" Surface casing. Pumped 141.1 bbls of 12.5 ppg lead, followed by 36.6 bbls ppg tail and displaced with 122.4 bbls of 8.7 ppg mud. Final pressure = 530 psi. Good cement returns from 98 bbls into displacement. Bumped the plug with 1360 psi. Pressure tested casing to 1500 psi for 10 mins and bled back 0.9 bbls. Floats held. Rigged down cementers.

7" Intermediate Casing

Held pre-job safety meeting prior to rigging up up cementing equipment for 7" casing cementing. Pumped 135.1 bbls of 12.5 ppg lead followed by 47.7 bbls 15.8 ppg tail. Displaced with 154 bbls of fresh water. Final Pressure = 1420 psi. Good cement returns from 88 bbls into displacement, totalling 66 bbls cement returns. Bumped the plug with 1800 psi and pressure tested the casing to 2000 psi for 10 mins. Bled back 1.1 bbls. Re-bumped the plug twice to 1380 psi due to returns and potentially floats not holding. Closed cement head valves, pressured up to 180psi, bleed off pressure, closed in again and pressured up to 10psi, thermal expansion. Finally bleed off to 0psi. Rigged down cement head and laid out.

Suspension Cement Plug

Made up a cement stinger and ran in hole on 4" DP. Rigged up Halliburton cement unit. Placed a cement plug #1 across 6" open hole section. Tripped out with cement string assembly and made up a 6-1/8" bit and ran in hole, tagging TOC at 1337 mMDRT. Circulated well clean and pumped LCM. Tripped out with drilling BHA. Made up cement stinger for Plug #2 to 1332 mMDRT. Rigged up cementers. Pumped and spotted a 50.3 bbls cement plug. Tripped out to 1103 mMDRT. Conducted clean-up circulation. Tripped out to surface with cement stinger BHA.

Ran in hole with 6-1/8" Bit. Waited on cement. Tagged TOC at 1310 mMDRT. Decision made to perform a 3rd cement plug. Tripped out drilling assembly. Made up cement stinger (Plug #3) and ran in hole to 1310 mMDRT. Rigged up cementers and pumped 65 bbl cement plug.

Tripped out with cement stinger. Ran in hole with 6-1/8" Bit. Waited on cement. Tagged TOC at 1136 mMDRT. Drilled out cement plug to 1236 mMDRT. Circulated and tripped out with drilling BHA. Performed casing/cement plug pressure test to 2000psi – successful.

Table 4: Cementing details

| CASING CEMENTING DETAILS | | | |
|---------------------------------|--|---|--|
| | Conductor | Surface | Intermediate |
| Hole Size | 17-1/2" | 12-1/4" | 8-1/2" |
| Casing Size | 13-3/8" | 9-5/8" | 7" |
| Setting Depth | 27.0 mMDRT | 494.3 mMDRT | 1286.8 mMDRT |
| Cement Type | Class G | Class G | Class G |
| Cement Top | Lead – 8 mRT Tail – 20 mRT | Lead - Surface Tail – 396 mRT | Lead – 6 mRT Tail – 800 mRT |
| Yield | Lead – 1.18 ft3/sk Tail – 1.18 ft3/sk | Lead - 2.15 ft3/sk Tail – 1.16 ft3/sk | Lead – 2.19 ft3/sk Tail – 1.16 ft3/sk |
| Volume | Lead – 30 bbls Tail – 18 bbls | Lead – 138 bbls Tail – 35 bbls | Lead – 135 bbls Tail – 46 bbls |
| Slurry Density | Lead – 15.8 ppg Tail – 15.8 ppg | Lead - 12.5 ppg Tail – 15.8 ppg | Lead - 12.5 ppg Tail – 15.8 ppg |
| Bump Plug | - | 1360 psi | 1800 psi |
| Casing Pressure Test | - | 1,500 psi | 2,000 psi |
| Additives | NIL | D-Air 3000L Versaset Econolite Liquid WellLife 734 | D-Air 3000L Versaset Halad-344 Halad-567 Econolite Liquid Fresh Water HR-5 |

3.7 BIT RECORD AND BHA DETAILS

For the bit record and BHA Details, see Appendix B.

3.8 DRILLING FLUIDS

Table 5: Drilling fluids

| DRILLING FLUIDS | | | | |
|-----------------|-----------|---------|---------|-------------------|
| Interval | Hole Size | From | To | Fluid System |
| | [in] | [mMDRT] | [mMDRT] | |
| Conductor | 17-1/2 | 4.5 | 27.0 | WBM – Gel Polymer |
| Surface | 12-1/4 | 27.0 | 497.0 | WBM – Gel Polymer |
| Intermediate | 8-3/4 | 497.0 | 1289.0 | AIR/ Foam |
| Production | 6 | 1289.0 | 1367.5 | AIR/ Foam |

3.9 DOWNHOLE FLUID LOSSES

This section summarises the fluid losses encountered while drilling the Mereenie Aquifer and Carmichael Sandstone. The detailed description of fluid loss control operations is included in Section 3.1 (Drilling Summary - 12-1/4 Surface hole).

Mereenie Aquifer

(2,628.3 Bbl total downhole losses; 71.5 hr associated NPT)

Previous drilling with water-based drilling fluid showed that total loss of circulation could occur in the Mereenie Sandstone, which was noted as a geological risk for this well.

The Mereenie aquifer was intersected at 158.0 m in West Mereenie 27 and circulation was immediately lost. The GR log at this level indicates a massive, clean Sandstone unit from 158 mMDRT to 290 mMDRT. This Sand unit is consistent with surrounding wells and is remarkably uniform in thickness (130 to 135 m). The GR character is also consistent with the loose, clean, Sand sample obtained from the West Mereenie 27 lost circulation interval at 170 m.

The losses in the Mereenie Aquifer were ultimately controlled with a combination of LCM + 2 cement plugs.

Carmichael Sandstone: Fluid Losses

(9,662.4 Bbl total downhole losses; 52.0 hr associated NPT)

Directly underlying the Mereenie aquifer; the Carmichael Formation exhibits an even greater potential as a fluid loss zone, despite the GR log indicating an interbedded and more clay-rich lithology.

The Carmichael Sandstone losses could not be controlled with LCM alone and required a cement plug to be run at 418 mMDRT. Losses at that depth were so severe that the remedial operations lasted from 12:00hrs on 13th June to 20:15hrs on 16th June. A detailed description of these fluid loss control operations is included in Section 3.1, as mentioned above.

Table 6: Fluid losses

Fluid Losses in Mud-Drilled Hole: 12-1/4" to 463.5 mMDRT (Section TD)

| Date | DMR# | Losses (bbl) | | Daily Drilling Progress: | |
|--|------|---------------|----------------|--------------------------|----------------|
| | | Daily Surface | Daily Downhole | 00:00hr Depth: | 24:00hr Depth: |
| Losses Associated With Mereenie Aquifer | | | | | |
| 6-Jun | 3 | 34.6 | 180.0 | 120.0 | 158.0 |
| 7-Jun | 4 | 0.0 | 545.2 | 158.0 | 187.0 |
| 8-Jun | 5 | 0.0 | 603.4 | 187.0 | 199.0 |
| 9-Jun | 6 | 0.0 | 260.6 | 199.0 | 205.0 |
| 10-Jun | 7 | 0.0 | 820.1 | 205.0 | 232.0 |
| 11-Jun | 8 | 0.0 | 219.0 | 232.0 | 309.0 |
| Losses to Mereenie Aquifer: | | | 2,628.3 | | |

| Date | DMR# | Losses (bbl) | | Daily Drilling Progress: | |
|--|------|---------------|----------------|--------------------------|----------------|
| | | Daily Surface | Daily Downhole | 00:00hr Depth: | 24:00hr Depth: |
| Losses Associated With Carmichael Sandstone | | | | | |
| 12-Jun | 9 | 0.0 | 54.0 | 309.0 | 367.0 |
| 13-Jun | 10 | 0.0 | 8,594.0 | 367.0 | 418.0 |
| 14-Jun | 11 | 0.0 | 512.0 | 418.0 | 418.0 |
| 15-Jun | 12 | 0.0 | 352.0 | 418.0 | 443.0 |
| 16-Jun | 13 | 0.0 | 114.0 | 443.0 | 497.0 |
| 17-Jun | 14 | 38.6 | 0.0 | 497.0 | 497.0 |
| 18-Jun | 15 | 105.0 | 36.4 | 497.0 | 497.0 |
| Losses to Carmichael Sst: | | | 9,662.4 | | |

Table 7: LCM Pills & Cement Plugs to Combat Losses

Mereenie Aquifer & Carmichael Formation: LCM Pills & Cement Plugs to Combat Losses

| DATE | Depth mMDRT | DESCRIPTION | Total Losses | LCM bbl | Cement bbl |
|----------------|----------------|---|-----------------|------------|---------------|
| 6/06/2021 | 158.0 | Drilled ahead 12 1/4" hole to 158M, TLC at 158m | TLC | | |
| | 158.0 | Mixed and pumped 32bbls of LCM 28ppb | | 32 | |
| | 158.0 | Mixed 35bbl of 41ppb LCM. Pumped LCM and spotted 20bbls on bottom, pumped 10bbls down annulus. | | 35 | |
| 7/06/2021 | 179.0 | Drilled ahead 12 1/4" hole from 158m to 179m with losses of 100-180bbls/hr pumped 5bbls HV/LCM pill each connection, TLC at 170m. | TLC | 15 | |
| | 179.0 | Mixed and pumped 30bbls of LCM 41ppb. | | 30 | |
| | 179.0 | Mixed and pumped 30bbl 40ppb LCM pill. | | 30 | |
| | 187.0 | Drilled ahead 12 1/4" hole from 179m to 187m with total losses, pumped 5bbls HV/LCM sweep every 5mts drilled. | TLC | 10 | |
| 8/06/2021 | 193.0 | Drilled 12 1/4" hole with water from 187m to 193m with total losses, pumped 5bbls HV/LCM sweep every 5mts. | TLC | 5 | |
| | 193.0 | Pumped 30bbl HV/LCM and spot on bottom. | | 30 | |
| | 199.0 | Drilled ahead 12 1/4" hole from 193m to 199m with total losses, pumped 10bbls HV/LCM sweep every 5mts. | TLC | 10 | |
| | 199.0 | Pumped 30bbl HV/LCM 40ppb. | | 30 | |
| 9/06/2021 | 205.0 | Drilled ahead 12 1/4" hole from 199m to 205m with total losses, pumped 10bbls HV/LCM sweep every 5mts. | TLC | 10 | |
| | 205.0 | Pumped 30bbl HV/LCM 40ppb. | | 30 | |
| | 205.0 | Mixed and pumped 47.8 bbls 15.8 ppg Cement Plug #1. | | | 47.8 |
| | 205.0 | Mixed and pumped 46.5 bbls 15.8 ppg Cement Plug #2. | | | 46.5 |
| 10/06/2021 | 205.0 | Drilled cement plug from 145m to 168m. Washed and reamed from 168m to 205m. 50 bbls/ hr losses | | 36 | |
| 11/06/2021 | 261.0 | Drilled 12 1/4" surface hole to 261m. 50 bbls/ hr losses. Pumped 2 x 5 bbl mud or LCM sweeps each connection. | | 15 | |
| 13/06/2021 | 408.0 | Pumped 35 BBL FracAttack LCM pill. | | 35 | |
| | 408.0 | Pumped 10 bbls Kwikseal LCM every 30 mins. | | 30 | |
| | 418.0 | Spotted 35 bbl Kwikseal LCM pill. Partial returns during displacement. | | 35 | |
| 14/06/2021 | 418.0 | Spotted 35 bbl Kwikseal LCM pill. | | 35 | |
| | 418.0 | Rigged up and pumped LC Cement plug #3. 47.8 bbls of 15.8 ppg cement for 100m plug. | | | 47.8 |
| 15/06/2021 | 428.0 | Drilled 12 1/4" surface hole to 428 m. Total losses from 422m to 423m. Pumped 5 bbl hi vis sweeps every 5m. | | 10 | |
| 16/06/2021 | 497.0 | Reciprocated string while mixing 35 bbl Kwikseal/ Calcium Carbonate LCM pill. | | | |
| | 497.0 | Pumped and spotted 30 bbl LCM pill across loss zone ~ 380m to 390m. | | 30 | |
| | 497.0 | Mixed and spotted 20 bbls Hi-Vis suspension pill on bottom. | | 20 | |
| Totals: | | | | 513 | 142.1 |

3.10 WELL COMPLETION

West Mereenie 27 was designed as a development well with a dual completion over the Pacoota P1 and Pacoota P3 intervals. However, the well experienced poor hole cleaning and cuttings returns throughout the 6" hole section, with no cuttings returns obtained from numerous intervals from 1294 mMDRT to 1352 mMDRT. This ultimately resulted in the hole packing off and the drill-string becoming stuck at 1350 mMDRT. Fishing attempts were ultimately thwarted by a downhole fire which partially melted the drill string, causing it to part and leave an 11.5m 'fish' in the hole with its top at 1351.5 mMDRT. This fish was never recovered and the decision was taken to plug back to 50m inside the 7" casing, abandoning the Pacoota P3 sequence.

The well was successfully plugged back with three cement plugs as detailed below. The plug-back operations are described in Section 3.6 of this report. After pumping 3 cement plugs a 6 1/8" BHA was run in hole and tagged top of cement at 1136 mMDRT. Cement was drilled from 1136 mMDRT to 1236 mMDRT – final plugged-back TD.

Due to the necessity to plug back over the Pacoota P3 sequence, the completion design needed to be changed from a dual to a single completion, it was decided to move the rig to the West Mereenie 28 (WM 28) location and return to West Mereenie 27 after drilling and completing WM 28.

Following rig release from West Mereenie 28, Easternwell Rig 27 mobilised to West Mereenie 19 to conduct a workover operation. Following that operation Rig 27 returned to the West Mereenie 27 site to run the completion.

Completion operations commenced at 06:00 hrs on 11th September 2021. The Completion Programme called for the well to be completed within the Pacoota P1 formation with wireline guns and a single string completion.

Surface lines were pressure tested, the well-head cap removed and the BOPs installed and pressure tested.

A 7" casing scraper was RIH; tagged obstruction at 252 mMDRT and pushed it down to 289 mMDRT. Obstruction was not seen again below 289 mMDRT. Reciprocated casing scraper from 1100m to 1120m. Circulated Well over to 2% KCL brine and POOH to recover Bit and scraper.

MU and RIH with perforation guns. A total of 15 runs of 2.75" & 4.5" perforation guns, at 5 shot per foot, were conducted as follows:

- 1st gun run. 2.75": 1.80m - perforated P1-350 formation at 1225.90m to 1227.70m.
- 2nd gun run. 4.5": 2.50m - perforated P1-350 formation at 1223.40m to 1227.90m.
- 3rd gun run. 2.75": 2.70m - perforated P1-310/350 formation at 1220.70m to 1223.40m.
- 4th gun run. 4.5": 5.80m - perforated P1-310 formation at 1214.90m to 1220.70m.
- 5th gun run. 4.5": 3.00m - perforated P1-310 formation at 1211.90m to 1214.90m.
- 6th gun run. 4.5": 3.00m - perforated P1-310 formation at 1204.90m to 1207.90m.

- 7th gun run. 2.75": 1.20m - perforated P1-210 formation at 1184.60m to 1185.80m.
- 8th gun run. 4.5": 3.00m - perforated P1-210 formation at 1181.4m to 1184.40m.
- 9th gun run. 2.75": 1.10m - perforated P1-210 formation at 1180.30m to 1181.40m.
- 10th gun run. 2.75": 2.30m - perforated P1-200 formation at 1173.50m to 1175.80m.
- 11th gun run. 2.75": 3.00m - perforated P1-110 formation at 1154.00m to 1157.00m.
- 12th gun run. 2.75": 3.50m - perforated P1-080 formation at 1146.50m to 1150.00m.
- 13th gun run. 2.75": 1.40m - perforated P1-060 formation at 1141.30m to 1142.70m.
- 14th gun run. 2.75": 4.00m - perforated P1-040 formation at 1132.00m to 1136.00m.
- 15th gun run. 2.75": 2.50m of 2.75in Perforation guns. Guns failed to detonate. L/O and inspected e-line running tools.
- 15th gun run. 2.75": 2.50m - perforated P1-040 formation at 1129.50m to 1132.00m.

MU and RIH with E-line GR-CCL and Junk basket. Located HUD at 1232.00m Conducted a GR correlation pass across the perforation intervals. Decision made to run the completion string.

MU production BHA and RIH Completion as per approved WM27-Down Hole Diagram.

Pressure tested annulus and hanger. RIH with 1.85in Gauge Ring - no obstructions encountered. RIH and set PX Plug and prong. Pressure tested tubing string, ND and remove BOPs. Installed and pressure tested Wellhead assembly. RU Expro Slick line, and lubricator.

RU Nitrogen and commenced to displace kill fluid out of the tubing string. Took return back to the mud tanks. Displaced a total of 13.70 bbls. Nitrogen Off-load pressure reached ~1450 psi.

RIH with SSD shifting tool and closed SSD. POOH with running tools. Bled down tubing pressure to 1250psi. Riggged up and run wireline to recover prong and PX Plug

Held PJSM prior to flowing well as per programme. SITHP at 1080 psi. Opened Well. Bleed off SITHP to zero, through the adjustable choke. Monitored Well pressures with choke setting at 64/64in. Pressure bleed down to zero psi. Production annulus pressures remained stable at ~10 psi.

Dropped 2 x Soap sticks down tubing string. Decision made to RU Expro and RIH to locate fluid level.

RIH with 1.75" Blind box. Tagged suspected to be soap sticks at the bottom of the Wellhead and pushed soap sticks down tubing string to 480m. POOH, RD 1.75" Blind box and MU 1.75" Gauge ring and 1 x additional weight bar onto tool string. RIH and pushed Soap sticks down to below XN Nipple at 1117m.

POOH to 900m and RIH to 1117m with 1.75" gauge ring. Located fluid level at ~1042m to 1050m. Approximately 56m of fluid above the SSD. POOH with 1.75" gauge ring. Decision made to place an additional 6 x soap sticks down tubing string and push down into the fluid level inside the tubing.

Dropped 6 x soap sticks down tubing string. Expro RIH with 1.75" gauge ring and pushed soap sticks down to 1117m. POOH to recover gauge ring.

Shut-in Well and monitored Well pressures. Pressure built to 8 psi and remained stable.

Slickline RIH to commence swabbing operations.

- Swab 1: Tagged fluid at ~1040m Pulled swab from 1065m, Nil fluid returns.
- Swab 2: Tagged fluid at ~1040m Pulled from 1065m, Nil fluid returns.
- Swab 3: Tagged fluid at 1050 Pulled from 1075m recovered 0.5 bbls.
- Swab 4: Tagged fluid at 1052m Pulled from 1075m, recovered ~1.5 bbls.
- Swab 5: Tagged fluid at 1063m Pulled from 1088m, recovered ~1 bbl.
- Swab 6: Tagged fluid at ~1060m Pulled from 1090m recovered ~1 bbl.

Well venting small amount of gas.

- Swab 7 Tagged fluid at ~1040m Pulled from 1099m (SSD) recovered 0.8 bbl.
- Swab 8 Tagged fluid at 1040m Pulled from ~1099m (SSD) recovered 0.4 bbls.

Recovered a total of 5.2 bbls. Well started to build pressure.

Shut-in and monitored build up pressures. ~200 psi. Bleed off pressure to zero. Well would not flow Gas. Decision made to Release Rig and to Shut-in Well and monitor Well pressures.

Easternwell Rig 27 was released at 14:00 hrs on 18th Sept 2021.

Table 8: LCM Pills & Cement Plugs Associated with Plug-Back operations

| Pacoota P3: LCM Pills & Cement Plugs associated with Plug-Back Operation | | | | | |
|---|--------------|--|----------------|------------|---------------|
| DATE | Depth | DESCRIPTION | Total | LCM | Cement |
| | mMDRT | | Losses | bbl | bbl |
| 14/07/2021 | 1367.5 | Mixed and pumped 21.1bbls of 15.8ppg cement slurry. | | | 21.1 |
| 15/07/2021 | 1367.5 | Mixed 20bbl of 22ppb LCM and spotted on bottom. | | 20 | |
| 15/07/2021 | 1367.5 | Mixed and pumped 50.3 bbls of 15.8ppg cement slurry. | | | 50.3 |
| 17/07/2021 | 1367.5 | Mixed and pumped 65 bbls of 15.8ppg cement slurry. | | | 65.0 |
| | | | Totals: | 20 | 136.4 |

4 FORMATION EVALUATION

4.1 WELL EVALUATION LOGS

Suite 1 Wireline Logging – 8-3/4” open hole, and 9-5/8” CBL-GR

Rigged up Schlumberger for logging operations. Picked up and made up Run #1 PEX-HRLA-DSI-SP, Tagged TD @ 1290.07m and logged up at 1200 ft/hr. Pulled out with Run #1, rigged up Run #2 CBL-GR; RIH to casing shoe and acquired cement bond log over the 9 5/8” casing. The log suite was completed without incident and Schlumberger was rigged down. The total operational time for Suite #1 was 10.5 hrs.

Suite 2 Wireline Logging - 7” Casing CBL-GR Logging

Held PJSM with Expro and rig crew and rigged up Expro for logging operations Picked up Run #1 CBL GR and RIH with wireline. Wireline tools became stuck at ~ 1290m. Held 1962 lbs overpull. (~ 70% of 2700 weak point)

Fishing Operations

Worked overpull gradually up to 100% and weak point parted at 2600 lbs. TOF~ 1286m. POOH with wireline, rigged down wireline and rigged up slickline for fishing operations. Prepared Lead impression block and fishing tools. At this stage Expro personnel were out of hours.

While waiting on fishing tools for slick line tools, RIH slick line with overshot in attempt to latch fish - unsuccessful. Conducted a further run with overshot and modified centralizers. Latched fish at 1285m, jarred up for 0.5 hours and pulled 1,000 lbs, jarred up to break pin to release from fish and POOH to change shear pins from brass to steel. At this time Slickline operators were out of hours, so rig waited for tubular fishing tools to arrive, while Expro operators rested.

Made up Expro overshot onto bottom of drill pipe, RIH to 1282m and worked down from 1282m onto top of fish in 100mm increments to max depth 1286m. POOH with Fishing BHA. No fish.

RIH again with Expro overshot. Latched fish at 1284.3m. Held 10klbs overpull for 10mins. Weight bled off 2klbs. Pulled another 2klbs and fish came free. POH with fish from 1284m to 929m to surface. Retrieved complete CBL fish. Broke down BHA. Total duration of fishing operations was 51.5 hrs. At this stage logging was abandoned until after the 6” production hole section had been drilled.

Suite 3 Wireline Logging - 7” Casing/Cement evaluation

Following the drilling of the 6” production section and subsequent, unsuccessful fishing attempts for the stuck BHA, Expro, Rigged up again to acquire the CBL log over the 7” casing.

RIH with CBL logging tool, to 1256.30m. Noted loss of string weight on logging tools (~60lbs). Decision made not to go any deeper and to conduct CBL log from 1256.30 mMDRT. Logged

up from 1256.3 mMDRT and acquired Suite #3 Run #1 Expro CBL log, which indicated cement anomalies.

To obtain further information on the cement bond, Expo's TGT acoustic logging tool was made up and RIH to log the 7" production casing. Logged with Suite #3 Run #2 TGT acoustic noise tool from ~1286m to surface. Expro TGT was rigged down and all logs were sent to Central Petroleum Brisbane office for evaluation. The total operational time for Suite #3 to this point was 16.5 hrs.

At this stage Expro slickline was rigged down and the rig conducted cementing operations over the 6" hole sequence. After pumping and dressing the cement plugs Expro was re-rigged to acquire a pressure pass CBL over the 7" casing string.

Rigged up Expro PCE for press pass CBL logging operations. Ran Suite #3 Run #3 pressure pass CBL logs with Expro from 1220m to 20m. with 2000 psi pressure applied to the 7" casing string. Pulled out of hole with CBL and rigged down Expro slickline.

Note: For raw and processed logging data, see appendix C

Table 9: WM27 Well evaluation logs

| MUDLOGGING | Geoservices | | | |
|-----------------------------|-------------------------------------|------------------|--------------------|--------------------|
| Log | Hole Size | | Top Depth (m) | Bottom Depth (m) |
| Drill Log | 17 1/2", 12 1/4", 8 3/4", 6"-6 1/8" | | 27 | 1367.5 |
| Gas Ratio Log | | | 27 | 1367.5 |
| Mudlog | | | 27 | 1367.5 |
| Time Log | | | Date 04/06/2021 | Date 13/07/2021 |
| WIRELINE LOGGING | Schlumberger | | | |
| Log | Suite/ Run | Hole/Casing Size | Top Depth (m) | Bottom Depth (m) |
| PEX-HRLA-DSI-SP-GR | | | | |
| GR (Gamma Ray) | S1/R1 | 8 1/2" OH | 5 | 1289 |
| SP (Spontaneous Potential) | S1/R1 | 8 1/2" OH | 5 | 1289 |
| PEX (NPHI Neutron) | S1/R1 | 8 1/2" OH | 5 | 1289 |
| PEX (RHOB Density) | S1/R1 | 8 1/2" OH | 440 | 1289 |
| HRLA (Resistivity) | S1/R1 | 8 1/2" OH | 440 | 1289 |
| BHC (Sonic) | S1/R1 | 8 1/2" OH | 440 | 1289 |
| FMI (Formation Imager) | S1/R1 | 8 1/2" OH | 440 | 1289 |
| CBL-VDL-GR-CCL | | | | |
| CBL (Cement Bond Log) | S1/R2 | 9 5/8" CH | 5 | 493 |
| VDL (Variable Density Log) | S1/R2 | 9 5/8" CH | 5 | 493 |
| GR (Gamma Ray) | S1/R2 | 9 5/8" CH | 5 | 493 |
| CCL (Casing Collar Locator) | S1/R2 | 9 5/8" CH | 5 | 493 |

| WIRELINE LOGGING | | Expro | | |
|--|-------|-------|-----------------------------|------|
| Reservoir Bond Tool (RBT) (GR-CCL-VDL-CBL) | | | | |
| CBL (Cement Bond Log) | S2/R1 | 7" CH | run aborted - stuck in hole | |
| VDL (Variable Density Log) | S2/R1 | 7" CH | run aborted - stuck in hole | |
| CCL (Casing Collar Locator) | S2/R1 | 7" CH | run aborted - stuck in hole | |
| WIRELINE LOGGING | | Expro | | |
| Reservoir Bond Tool (RBT) (GR-CCL-VDL-CBL) | | | | |
| CBL (Cement Bond Log) | S3/R1 | 7" CH | 5 | 1259 |
| VDL (Variable Density Log) | S3/R1 | 7" CH | 5 | 1259 |
| CCL (Casing Collar Locator) | S3/R1 | 7" CH | 5 | 1259 |
| TGT Acoustic Logging Tool | | | | |
| TGT (Seal Integrity Log) | S3/R2 | 7" CH | 5 | 1286 |
| Reservoir Bond Tool (RBT) - Pressure Pass | | | | |
| CBL (Cement Bond Log) | S3/R3 | 7" CH | 20 | 1222 |
| VDL (Variable Density Log) | S3/R3 | 7" CH | 20 | 1222 |
| CCL (Casing Collar Locator) | S3/R3 | 7" CH | 20 | 1222 |

4.2 CORES AND SAMPLE DETAILS

No cores were cut in WM27.

Cuttings samples were collected as follows:

- Surface to 700 mMDRT: 10m interval
- 700 mMDRT to 1367.5 mMDRT: 5m interval

Spot samples and section TD samples taken as required.

24 gas samples were retrieved in Isotubes from the Blooie line while Flow Testing as tabulated below (Table 10)

Table 2: WM27 Flow Test Isotube Gas samples (Air & Helium Corrected)

| Sample ID | Flow Test | TD @ Test | Depth From | Nitrogen mol% | CO2 mol% | Methane mol% | Ethane mol% | Propane mol% | i-Butane mol% | n-Butane mol% | i-Pentane mol% | n-Pentane mol% | Hexane mol% | Hydrogen mol% | n-Octane mol% | n-Heptane mol% | Total mol% |
|-----------|-----------|-----------|------------|---------------|----------|--------------|-------------|--------------|---------------|---------------|----------------|----------------|-------------|---------------|---------------|----------------|------------|
| | | | (m) | mol% | mol% | mol% | mol% | mol% | mol% | mol% | mol% | mol% | mol% | mol% | mol% | mol% | mol% |
| 1 | - | 855m | 855 | 56.20 | ND | 35.70 | 5.43 | 1.67 | 0.22 | 0.43 | 0.07 | 0.07 | 0.22 | ND | ND | ND | 100.00 |
| 2 | - | 860m | 860 | 91.60 | ND | 6.82 | 1.03 | 0.28 | ND | ND | ND | ND | ND | ND | ND | ND | 100.00 |
| 3 | FT#1 | 1063m | 1063 | 4.00 | 0.03 | 77.80 | 12.30 | 3.70 | 0.41 | 0.99 | 0.25 | 0.30 | 0.25 | ND | ND | 0.03 | 100.00 |
| 4 | FT#1 | 1063m | 1063 | 3.28 | 0.03 | 78.30 | 12.40 | 3.71 | 0.41 | 1.00 | 0.24 | 0.30 | 0.27 | ND | ND | 0.05 | 100.00 |
| 5 | FT#1 | 1063m | 1063 | 3.10 | 0.03 | 78.60 | 12.40 | 3.72 | 0.39 | 0.99 | 0.23 | 0.29 | 0.21 | ND | ND | 0.05 | 100.00 |
| 6 | FT#1 | 1063m | 1063 | 2.91 | 0.03 | 78.70 | 12.40 | 3.75 | 0.43 | 1.00 | 0.24 | 0.27 | 0.24 | ND | ND | 0.05 | 100.00 |
| 7 | FT#1 | 1063m | 1063 | 3.16 | 0.03 | 78.60 | 12.30 | 3.71 | 0.42 | 0.99 | 0.26 | 0.29 | 0.26 | ND | ND | 0.05 | 100.00 |
| 8 | - | 1181m | 1181 | 70.40 | 0.08 | 22.10 | 4.38 | 1.74 | 0.25 | 0.50 | 0.17 | 0.17 | 0.25 | ND | ND | ND | 100.00 |
| 9 | - | 1182m | 1182 | 71.00 | 0.09 | 21.60 | 4.42 | 1.77 | 0.27 | 0.53 | 0.18 | 0.18 | 0.27 | ND | ND | ND | 100.00 |
| 10 | FT#2 | 1190m | 1190 | 5.93 | 0.06 | 70.20 | 14.20 | 5.56 | 0.68 | 1.80 | 0.47 | 0.56 | 0.40 | ND | ND | 0.06 | 100.00 |
| 11 | FT#2 | 1190m | 1190 | 7.61 | 0.05 | 69.00 | 14.00 | 5.38 | 0.66 | 1.71 | 0.45 | 0.52 | 0.37 | ND | 0.05 | 0.08 | 100.00 |
| 12 | FT#2 | 1190m | 1190 | 8.38 | 0.05 | 68.60 | 14.00 | 5.36 | 0.62 | 1.70 | 0.40 | 0.50 | 0.40 | ND | 0.02 | 0.10 | 100.00 |
| 13 | FT#2 | 1190m | 1190 | 73.20 | 0.09 | 19.30 | 3.87 | 1.62 | 0.27 | 0.54 | 0.18 | 0.27 | 0.45 | ND | ND | 0.18 | 100.00 |
| 14 | - | 1202m | 1202 | 17.30 | 0.08 | 62.00 | 12.40 | 4.71 | 0.58 | 1.49 | 0.37 | 0.50 | 0.41 | ND | ND | 0.12 | 100.00 |
| 15 | - | 1207m | 1207 | 10.60 | 0.03 | 67.80 | 13.20 | 5.00 | 0.60 | 1.57 | 0.39 | 0.48 | 0.39 | ND | ND | 0.06 | 100.00 |
| 16 | FT#4 | 1209.2m | 1209.2 | 9.47 | 0.02 | 68.60 | 13.30 | 5.00 | 0.63 | 1.57 | 0.39 | 0.48 | 0.39 | ND | ND | 0.07 | 100.00 |
| 17 | - | 1222m | 1222 | 14.90 | 0.07 | 64.50 | 12.40 | 4.72 | 0.57 | 1.49 | 0.39 | 0.50 | 0.43 | ND | ND | 0.07 | 100.00 |
| 18 | - | 1235m | 1235 | 14.50 | ND | 64.80 | 12.50 | 4.74 | 0.56 | 1.50 | 0.38 | 0.49 | 0.38 | ND | ND | 0.07 | 100.00 |
| 19 | - | 1254m | 1254 | 9.97 | 0.91 | 72.40 | 11.00 | 3.27 | 0.36 | 0.91 | 0.24 | 0.30 | 0.42 | ND | 0.03 | 0.09 | 100.00 |
| 20 | - | 1268m | 1268 | 6.57 | 3.43 | 74.80 | 10.80 | 2.79 | 0.26 | 0.65 | 0.12 | 0.18 | 0.21 | ND | 0.03 | 0.06 | 100.00 |
| 21 | FT#6 | 1312.5m | 1312.5 | 68.20 | 0.09 | 24.30 | 4.40 | 1.64 | 0.26 | 0.52 | 0.09 | 0.09 | 0.26 | ND | ND | ND | 100.00 |
| 22 | - | 1336m | 1336 | 65.40 | 0.09 | 26.10 | 4.87 | 1.79 | 0.26 | 0.51 | 0.17 | 0.17 | 0.26 | ND | ND | ND | 100.00 |
| 23 | FT#7 | 1342m | 1342 | 10.70 | ND | 69.00 | 12.60 | 4.58 | 0.55 | 1.38 | 0.34 | 0.42 | 0.31 | ND | ND | 0.08 | 100.00 |
| 24 | FT#7 | 1342m | 1342 | 12.20 | 0.03 | 67.90 | 12.40 | 4.49 | 0.52 | 1.38 | 0.33 | 0.46 | 0.36 | ND | ND | 0.07 | 100.00 |

4.3 PRODUCTION TEST DETAILS

The well was plugged back for future completion as a Pacoota P1 producer and EW Rig #27 was scheduled to return after drilling and completing West Mereenie 28, to perforate the P1 intervals and run the completion string. Production testing will be scheduled to follow these operations.

4.4 HYDROCARBON INDICATORS

The cuttings gas peaks analysed during air/mist drilling of the sequence from top Upper Stairway Sandstone to base Pacoota P2 in 8 ½” hole, along with the gas peaks encountered while Air/N₂/mist drilling Pacoota P3 sequence in 6” hole are tabulated to form Appendix E of this report.

No visual hydrocarbon stain or fluorescence were observed in cuttings from this well.

Stairway Sandstone

The first detectable background gas occurred within the Upper Stairway Formation at 800 mMDRT. While drilling the Stairway Formation the background gas (BG) values remained relatively constant (~1.9 to 3.2%), though the Total Gas (TG) gradually declined from an initial 12.44% to 3.48% at 999 mMDRT; possibly indicating gradual depletion of near-wellbore storage in this low-permeability reservoir.

Total Gas level increased to 9.32% at 1028 mMDRT in the basal unit of the Lower Stairway Sandstone, indicating additional gas contribution from this basal unit. However, gas levels did not increase significantly until ~1185 mMDRT within the Pacoota P1 Formation (see Table 11, below).

Pacoota P1

Within the Pacoota P1 total gas remained consistently around 2% down to 1180 mMDRT, where it increased to 7.76% and then rapidly increased to 98.8% by 1187 mMDRT within the Pacoota P1-210 Unit. Gas peaks remained high (49% to 82%) through the P1-210 to P1-350 sequence.

Pacoota P3

Upon drilling ahead in 6” hole, after setting 7” casing, the total gas level dropped dramatically to 0.24% while drilling the base of the Pacoota P2. Once the Pacoota P3 was encountered (1294 mMDRT) total gas jumped to 10% and remained at this elevated level to 1336 mMDRT, at which depth it ramped up to 29% and continued to climb to 50% at TD 13.67 mMDRT.

This is lower than the total gas recorded towards the base of the 8 ½” hole, due to the smaller borehole size and the fact that all gas in the 6” hole was solely produced by the P3 unit. In the 8 ½” hole the Upper Stairway, Lower Stairway and Pacoota P1 units were all contributing to the total gas percentage.

Table 3: WM27 Hydrocarbon Indications

| Formation @ drilled TD @ gas peak | Gas Type | Depth (m) from | Depth (m) to | BG % | C1 ppm | C2 ppm | C3 ppm | iC4 ppm | nC4 ppm | iC5 ppm | nC5 ppm |
|-----------------------------------|----------|----------------|--------------|-------|--------|--------|--------|---------|---------|---------|---------|
| Horn Valley Siltstone | Flow Div | 1101.5 | | 1.70 | 22021 | 3358 | 1253 | 144 | 364 | 117 | 99 |
| | Flow Div | 1104.5 | | 1.90 | 25948 | 3836 | 1175 | 126 | 307 | 73 | 117 |
| | Flow Div | 1114.0 | | 1.80 | 25111 | 3742 | 1197 | 132 | 322 | 79 | 102 |
| Pacoota P1 | Flow Div | 1124.0 | | 1.70 | 12465 | 1868 | 638 | 77 | 184 | 44 | 54 |
| | BG | 1128.0 | 1180.0 | 2.16 | 12661 | 1921 | 668 | 81 | 198 | 48 | 48 |
| | Flow Div | 1143.0 | | 1.70 | 18363 | 2749 | 879 | 100 | 241 | 57 | 72 |
| | Flow Div | 1152.0 | | 1.64 | 17542 | 2014 | 894 | 102 | 188 | 60 | 71 |
| | Flow Div | 1162.0 | | 1.72 | 1E+05 | 1575 | 530 | 621 | 149 | 33 | 51 |
| | Flow Div | 1170.0 | | 1.80 | 1E+05 | 1775 | 600 | 71 | 173 | 37 | 53 |
| | BG | 1180.0 | 1185.0 | 7.76 | 43939 | 8186 | 3433 | 378 | 1125 | 288 | 288 |
| | BG | 1185.0 | 1230.0 | 48.10 | 3E+05 | 50817 | 19652 | 2141 | 6547 | 1599 | 1599 |
| | FG Peak | 1187.0 | | 98.80 | 6E+05 | 1E+05 | 53745 | 5852 | 15395 | 3766 | 3766 |
| | FG Peak | 1190.5 | | 7.60 | 6E+05 | 1E+05 | 53940 | 5954 | 15485 | 3804 | 4769 |
| | FG Peak | 1208.0 | | 49.00 | 3E+05 | 51877 | 20682 | 2206 | 7215 | 1774 | 1774 |
| | FG Peak | 1209.0 | | 82.10 | 4E+05 | 73625 | 28133 | 3102 | 9421 | 2344 | 2344 |
| | Flow Div | 1209.5 | | 8.00 | 6E+05 | 1E+05 | 54461 | 6115 | 15994 | 4253 | 5649 |
| Pacoota P2 | FG Peak | 1227.0 | | 72.00 | 4E+05 | 83757 | 32314 | 3539 | 10474 | 2578 | 3183 |
| | BG | 1230.0 | 1253.0 | 71.70 | 4E+05 | 72346 | 27791 | 3047 | 9336 | 2288 | 2829 |
| | FG Peak | 1237.0 | | 70.00 | 4E+05 | 81235 | 30979 | 3384 | 10187 | 2522 | 3091 |
| | FG Peak | 1241.5 | | 70.00 | 4E+05 | 74261 | 28376 | 3116 | 9629 | 2370 | 2939 |
| | FG Peak | 1246.0 | | 70.00 | 4E+05 | 74706 | 29135 | 3208 | 9655 | 2354 | 2808 |
| | BG | 1253.0 | 1264.0 | 70.40 | 4E+05 | 72892 | 27960 | 3065 | 9322 | 2261 | 2799 |
| | FG Peak | 1253.5 | | 72.00 | 4E+05 | 83732 | 31833 | 3546 | 10340 | 2499 | 3089 |
| | FG Peak | 1258.0 | | 65.50 | 5E+05 | 91389 | 34792 | 3845 | 11084 | 2709 | 3392 |
| | BG | 1264.0 | 1294.0 | 57.80 | 4E+05 | 73544 | 20325 | 1886 | 5262 | 1202 | 1610 |
| | FG Peak | 1276.0 | | 65.00 | 4E+05 | 65214 | 20026 | 1914 | 5458 | 1086 | 1441 |
| | FG Peak | 1283.0 | | 44.50 | 4E+05 | 65149 | 20264 | 1959 | 5788 | 1253 | 1662 |
| Pacoota P3 | BG | 1294.0 | 1313.0 | 10.00 | 78198 | 14600 | 5999 | 663 | 2017 | 537 | 763 |
| | Flow Div | 1311.0 | | 10.00 | 3E+05 | 64185 | 24233 | 2617 | 8506 | 2101 | 2523 |
| | BG | 1313.0 | 1336.0 | 10.00 | 3E+05 | 63881 | 2406 | 2644 | 8454 | 2095 | 2524 |
| | BG | 1336.0 | 1342.0 | 29.00 | 2E+05 | 30632 | 11798 | 1207 | 3678 | 888 | 1219 |
| | Flow Div | 1340.0 | | 29.00 | 4E+05 | 75169 | 28316 | 2970 | 9278 | 2196 | 2706 |
| | BG | 1342.0 | 1356.0 | 39.40 | 2E+05 | 41299 | 15669 | 1644 | 5180 | 1230 | 1680 |
| | Flow Div | 1350.0 | | 39.40 | 5E+05 | 90588 | 33307 | 3615 | 10554 | 2516 | 3108 |
| | Flow Div | 1353.5 | | 39.40 | 4E+05 | 81552 | 30659 | 3232 | 9821 | 2347 | 2856 |
| | BG | 1356.0 | 1359.0 | 44.00 | 3E+05 | 48945 | 18329 | 1929 | 6073 | 1364 | 1877 |
| BG | 1359.0 | 1367.0 | 50.00 | 3E+05 | 53355 | 19953 | 2105 | 6767 | 1652 | 2123 | |

5 GEOLOGY

5.1 ALONG HOLE AND TRUE VERTICAL DEPTH OF SEISMIC MARKERS

Table 4: WM27 Formation Tops

West Mereenie 27: Prognosed Vs Actual Formation Tops

GL Elevation (AMSL) 760.5
RT Elevation (AGL) 4.5

| Formation Name | Prognosed | | Actual | | Thickness m | High/Low to Prog (m) |
|-----------------------|-----------|--------|---------|--------|----------------|----------------------------|
| | Depth | | Depth | | | |
| | mMD | mTVDSS | mMDRT | mTVDSS | | |
| Surficial Deposits | 4.2 | 760.5 | 4.2 | 760.5 | 4.2 | GL |
| Mereenie Sandstone | 8.7 | 756.3 | 8.7 | 764.7 | 138.3 | Not logged |
| Mereenie Aquifer | 141.9 | 623.1 | 147.0 | 617.7 | 179.0 | 5.1 m H |
| Carmichael Sst | 333.0 | 432.0 | 326.0 | 438.7 | 109.0 | 7.0 m L |
| U. Stokes Siltstone | 433.6 | 331.4 | 435.0 | 329.8 | 263.2 | 1.4 m H |
| Lr. Stokes Siltstone | 697.4 | 67.6 | 698.2 | 66.6 | 71.8 | 0.8 m L |
| U. Stairway Sst | 767.6 | -2.6 | 770.0 | -5.2 | 66.0 | 2.4m L |
| Mid Stairway Sst | 840.4 | -75.4 | 836.0 | -71.2 | 119.0 | 4.4 m H |
| Lr Stairway Sst | 949.4 | -184.4 | 955.0 | -190.2 | 81.5 | 5.6 m L |
| Horn Valley Siltstone | 1,039.8 | -274.8 | 1,036.5 | -271.7 | 82.7 | 3.3 m H |
| Pacoota P1 | 1,118.6 | -353.6 | 1,119.2 | -354.4 | 1.6 | 0.6 m L |
| Pacoota P2 | 1,229.0 | -464.0 | 1,227.5 | -462.7 | 66.5 | 1.5 m H |
| Pacoota P3 | 1,294.2 | -529.2 | 1,294.0 | -529.2 | 0.0 | 0.2 m H |
| TOTAL DEPTH | 1,376.0 | -611.0 | 1,367.0 | -602.2 | | |

5.2 PRELIMINARY ASSESSMENT OF RESERVOIR AND PROSPECTIVE HORIZONS

5.2.1 Stairway Sandstone

Two flow tests were conducted in the Stairway Sandstone at 1063 mMDRT and 1066 mMDRT whilst drilling with air. The first test was considered to be invalid and, consequently, the section was retested after drilling only a further 3m. However, this second test failed to flow gas to surface, consistent with the generally low permeability of this formation. Consequently no perforation intervals were recommended within the Stairway Sandstone

5.2.2 Pacoota 1

The Pacoota P1 was encountered between 1119.2 – 1227.5 mMDRT and is divided into 10 sandstone sequences based on correlation to the adjacent field wells.

Three flow tests were run in the Pacoota P1 sequence. The first test at 1190 mMDRT gave a maximum flowing pressure of only 0.76psi and was calculated to have flowed at a rate too small to measure.

The second flow test at 1209 mMDRT tested the Pacoota P1 sequence down to the base of the P1-280 Unit and flowed at 1.7 mmscf/d, with a maximum flowing pressure of 33psi. The final Pacoota P1 test at 1264 mMDRT (within the top of the Pacoota P2 Formation) flowed at 2.4 mmscf/d with 44.5 psi maximum flowing pressure. This test sequence included the P1-310/350 Unit, which is considered to have contributed the 0.7 mmscf/d incremental flow.

5.2.3 Pacoota P3

The 7" casing was run and cemented to a shoe depth of 1286.8 mMDRT to isolate the Pacoota P1 Unit and the P3 Unit was subsequently drilled with air in 6" hole.

The Pacoota P3 was penetrated at 1294 mMDRT but was not logged, as this hole section was abandoned due to the unsuccessful fishing operations described in Section 3.1 of this report.

Prior to becoming stuck in hole a flow test was conducted within the P3 Unit at 1342 mMDRT; flowing at a calculated rate of 2.0 mmscf/d, with a maximum flowing pressure of 37 psi.

The 6" hole was drilled ahead to 1367 mMDRT before the drill string became stuck in hole at on 9th July at 12:30 hrs. After 3 days of fishing and a downhole fire event two flow tests were conducted over the P3 sequence down to TOF at 1351.5 mMDRT. Both tests resulted in zero surface pressure, evidencing the extent to which the formation had been damaged. The P# Unit was consequently abandoned and the hole plugged back to 1236 mMDRT, 50 m inside 7" casing.

After securing the well, Ensign 27 rig was released from WM 27 site and programmed to return upon completion of West Mereenie 28 to perforate and run a single string completion over the Pacoota P1.

Please see the following Geological Appendices:

- **Appendix C** for the Wireline Logs & Survey Data
- **Appendix E** for the Flow Test Data
- **Appendix F** for the WM28 Index Sheet
- **Appendix H** for the WM28 Daily Geological Reports
- **Appendix I** for the WM28 Formation Evaluation Log