

Well Name	Palm Valley 12 ST1	Petroleum Title	OL3	Basin	Amadeus		
Well Purpose	Petroleum Appraisal	Status	Plugged Back - see PV12 ST2	Parent Well Name, if any	PV 12		
Spud Date	16/07/2022	TD Date	18/08/2022	Rig Release Date	1/09/2022		
Primary Objective	Lower Pacoota P2	Rig(s) Name	Ensign 963				
Secondary Objective	Pacoota P3	100K Map Sheet	Hermannsburg 5450				
Total Depth		MD	TVD	Side-Track Kick-off Depth, if applicable	1829 mTVD		
	Driller	2432.0	2065.9	Drill Datum Elevation Datum: AHD GL Elevation: 845.78m Drill Datum Elevation: 852.94m			
	Logger	2431.0	2065.8				
Location	Coordinates	Surface	Bottom Hole	<input type="checkbox"/> DF <input checked="" type="checkbox"/> RT <input type="checkbox"/> KB  Seismic Station, if applicable	Survey	Inline	Xline
(GDA94 Datum with GRS80 Ellipsoid using MGA94 Grid)	Latitude	23° 59' 54.74" S	23° 59' 38.213" S		PV2D 1994		M94-PV05
	Longitude	132° 44' 01.03" E	132° 44' 1.313" E				
Zone	Easting	7,344,080.00 mN	269440.69 mE				
53	Northing	269,440.94 mE	7344588.63 mN		Shot point		575
Well Summary							
<p>The Palm Valley 12 parent well, proposed as an exploration well to evaluate the gas potential of the Arumbera Sandstone, was drilled to 2335 mMD within the Pacoota P4 Formation. After pumping cement plugs to cure fluid losses the cement stinger parted, leaving 20.4m of fish in the well and the decision was made to abandon the lower well targets and sidetrack into the Lower Pacoota P2/ Pacoota P3 sequence.</p> <p>An abandonment plug was pumped, dressed to 1,824m, the whipstock set and a window milled in casing from 1817m to 1829m. At this point the PV12 ST1 sidetrack was established.</p> <p>The 8 ½" build section was drilled to 1899m, where losses of more than 500bbl/hr occurred. Drilling continued to 1938m with losses of 100 to 200bbl/hr. Returns were lost at 1938m and the rig was then set up to drill using nitrogen.</p> <p>Underbalance drilling proceeded to section TD at 2020m, where the well was Flow Tested and killed. However, a subsequent flow of gas and foam to surface occurred. Two cement plugs were pumped; TOC subsequently tagged at 1724m and drilled out to 2020m.</p> <p>After pumping further fluid the 7" liner assembly was run and cemented with the shoe at 2017mMDRT (1987.37mTVD). The 7" tie-back string was run and the entire string tested to 500psi.</p> <p>The 6" hole was drilled underbalance to 2144m, where it proved to be impossible to drill ahead while sliding.</p> <p>A revised BHA was run from 2144m to 2198m, but ROP was very slow while sliding and the angle dropped while rotating. A new BHA was RIH, and drilling proceeded to 2431m, where the bit was pulled due to low ROP.</p> <p>At that depth attempts were made to unload the well, but the well was making too much water to unload. Due to the large influx of formation water the decision was taken to abandon the ST1 sidetrack and proceed with ST2 (Pacoota P1) sidetrack.</p> <p>The 7" tie-back and DDV assembly were pulled and laid out, a bridge plug run and abandonment plugs pumped and displaced. The top of cement was subsequently tagged at 1676m. The well was then shut in and successfully pressure tested to 1650psi for 10min.</p> <p>Remedial work was conducted on the 9 5/8" Casing, prior to commencing PV12 ST2 operations.</p>							
Hole and Casing Design (Drillers Depths)						Drilling Fluid	
Type	Hole Size	Depth (mMD)	Casing Size	Shoe mMD	Shoe mTVD	Hole Size	Type
Conductor (PV12)	24"	101.0	20"	99.4	99.4	24"	Gel Polymer
Surface Casing (PV12)	17 1/2"	1103.0	13 3/8"	1099.3	1099.3	17 1/2"	Gel Polymer
Intermediate Csg (PV12)	12 1/4"	1815.0	9 5/8"	1815.0	1814.7	12 1/4"	Gel Polymer
Final Casing	8 1/2"	2020.0	7"	2017.0	1987.4	8 1/2"	Gel Polymer & N2 Foam
Open Hole	6"	2431.0	NA	NA	NA	6"	N2 Foam
Stratigraphy – Formation Tops (Loggers)				Formation Evaluation			
Formation	Depth			Run	Measurement	Depth Interval	
	mMD	mTVD	mTVDGL			From (mMD)	To (mMD)
Hermannsburg Sandstone	17.4	17.4	10.2		Wireline		
Parke Siltstone	397.0	397.0	389.8	S1R1	RBT-VDL-GR-CCL	1,902.0	1,750.0
Mereenie Sandstone	438.0	438.0	430.8				
Carmichael Sandstone	998.4	998.4	991.2		MWD/LWD		
Stokes Siltstone	1094.0	1094.0	1086.8	2700	PGRC-ROPA	1,814.0	1,923.0

Formation	Depth			Run	Measurement	Depth Interval		
	mMD	mTVD	mTVDGL			From (mMD)	To (mMD)	
Upper Stairway sandstone	1387.0	1387.0	1379.8	2800	PGRC-ROPA	1,938.0	2,015.0	
Middle Stairway Sandstone	1432.3	1432.3	1425.1	3100	PGRC-ROPA	2,017.0	2,090.0	
Lower Stairway Sandstone	1575.0	1575.0	1567.8	3200	PGRC-ROPA	2,017.0	2,121.0	
Horn Valley Siltstone	1702.0	1702.0	1694.8	3300	PGRC-ROPA	2,017.0	2,184.0	
Pacoota P1	1778.5	1778.5	1771.3	3400	PGRC-ROPA	2,017.0	2,277.0	
Pacoota P2	1976.0	1961.0	1953.8	3500	PGRC-ROPA	2,017.0	2,431.0	
Pacoota P2 Lower	2031.0	1995.3	1988.1					
Pacoota P3	NP	NP	NP					
Total Depth	2431.0	2065.0	2057.8					
Mud Logging			Formation Testing (DST)				DFIT	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Total Gas and C1-C5 chromatograph from 0 mMD to 2431.0 mMD			No DST's were run, however 1 flow test was performed over the Pacoota P2 Unit at 2020mMD; prior to setting 7" casing					HF
Coring	Hydrocarbon Shows							
NA	No hydrocarbon fluorecence was noted while drilling Palm Valley 12 ST1. However, hydrocarbon gas peaks were recorded in the sidetrack well in the Pacoota P2 formation.							
Completion								
After abandoning PV12 ST1, a whipstock was run and anchored at 1326.69m and a window milled in 9 5/8" casing from 1320m to 1331m.								