

Well Name	Palm Valley 12		Petroleum Title	OL3		Basin	Amadeus	
Well Purpose	Petroleum Exploration & Appraisal		Status	Plugged Back - see PV12 ST1; PV12 ST2		Parent Well Name, if any	NA	
Spud Date	17/04/2022		TD Date	2/07/2022		Rig Release Date	16/07/2022	
Primary Objective		Arumbera Sandstone		Rig(s) Name		Ensign 963		
Secondary Objective		Pacoota P1		100K Map Sheet		Hermannsburg 5450		
Total Depth		MD	TVD		Side-Track Kick-off Depth, if applicable		NA	
	Driller	2335	2334.6					
	Logger	2335	2334.6					
Location	Coordinates	Surface	Bottom Hole		<input type="checkbox"/> DF <input checked="" type="checkbox"/> RT <input type="checkbox"/> KB	Elevation Datum: AHD		
(GDA94 Datum with GRS80 Ellipsoid using MGA94 Grid)	Latitude	23° 59' 54.74" S	23° 59' 54.865" S			GL Elevation: 845.78m Drill Datum Elevation: 852.94m		
	Longitude	132° 44' 01.03" E	132° 44' 1.085" E		Seismic Station, if applicable	Survey	Inline	Xline
Zone	Easting	7,344,080.00 mN	269442.49 mE			PV2D 1994		M94-PV05
53	Northing	269,440.94 mE	7344076.16 mN			Shot point		575
Well Summary								
<p>The Palm Valley 12 well was spudded at 11:00 hours on 17th April 2022, as a deep exploration well to evaluate the gas potential of the Arumbera Sandstone ~1300 m below the Pacoota Reservoir. The Arumbera Sandstone had not been intersected at Palm Valley but was inferred through correlation with Dingo and Orange (130 km E).</p> <p>The 24" conductor hole was drilled from 18 mMDRT to 101.0 m with Gel spud mud and a 20" conductor casing run. The 17-1/2" hole was subsequently drilled with Gel Polymer mud from 101.0 m to casing point at 1103m without incident and the 13 3/8" casing run and cemented with the shoe at 1099.3 mMDRT. Only low to moderate fluid losses were encountered in the Mereenie and Carmichael Formations.</p> <p>An FIT was performed to 19.2 ppg EMW in 12 1/4" hole and drilling continued to 1863m, where severe losses were experienced; with losses continuing to section TD at 1998 mMD. The 9 5/8" casing was run and cemented with casing shoe at 1994.9 mMD.</p> <p>The 8 1/2" hole was drilled to 2005m, at which depth further fluid losses were encountered. Cement Plugs #5 to #8 were pumped and drilling continued to 2037m with Gel Polymer mud and 100% losses from 2009m within the Pacoota P1 and P2 formations.</p> <p>The nitrogen drilling package was set up and underbalance drilling commenced at 2037m, with very hard drilling from 2278m to 2335m within the Pacoota P4. Cement plugs were run to cure losses prior to POOH but, after pumping cement plug #11, the cement stinger parted, leaving 20.4m of fish in the well – TOF @ 2020 mMD. At this stage it was decided to abandon the lower well targets. Two abandonment plugs were pumped and the top dressed to 1,824m. The whipstock and milling assemblies were picked up and RIH to 1,810m. The tool face was oriented to 144 deg azimuth and the window milled from 1,817m to 1,829m. At this point the PV12 ST1 sidetrack was established.</p>								
Hole and Casing Design (Drillers Depths)						Drilling Fluid		
Type	Hole Size	Depth (mMD)	Casing Size	Shoe mMD	Shoe mTVD	Hole Size	Type	
Conductor	24"	101.0	20"	99.4	99.4	24"	Gel Polymer	
Surface Casing	17 1/2"	1103.0	13 3/8"	1099.3	1099.3	17 1/2"	Gel Polymer	
Intermediate Casing	12 1/4"	1998.0	9 5/8"	1994.9	1994.5	12 1/4"	Gel Polymer	
Open Hole	8 1/2"	2335.0	NA	NA	NA	8 1/2"	Gel Polymer & 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	CBL-VDL-GR-CCL	1091	Surface	
Mereenie Sandstone	438.0	438.0	430.8	S2R1	CBL-VDL-GR-CCL	1990	Surface	
Carmichael Sandstone	998.4	998.4	991.2		MWD/LWD			
Stokes Siltstone	1094.0	1094.0	1086.8	1600	PGRC-ROPA	2079	1994	
Upper Stairway sandstone	1387.0	1387.0	1379.8		(No logs acquired)	2335	2079	
Middle Stairway Sandstone	1432.3	1432.3	1425.1					
Lower Stairway Sandstone	1575.0	1575.0	1567.8					
Horn Valley Siltstone	1702.0	1702.0	1694.8					
Formation	Depth			Run	Measurement	Depth Interval		

Formation	mMD	mTVD	mTVDGL	Flow	Measurement	From (mMD)	To (mMD)	
Pacoota P1	1778.5	1778.5	1771.3					
Pacoota P2	1962.8	1962.8	1955.6					
Pacoota P3	2061.0	2060.5	2053.3					
Pacoota P4	2269.0	2268.5	2261.3					
Goyder Formation	Not Penetrated							
Hugh River Shale	Not Penetrated							
Chandler Formation	Not Penetrated							
Arumbera Sandstone 4	Not Penetrated							
Arumbera Sandstone 3	Not Penetrated							
Arumbera Sandstone 2	Not Penetrated							
Arumbera Sandstone 1	Not Penetrated							
Julie Formation	Not Penetrated							
Total Depth	2335.0	2334.6	2327.4					
Mud Logging				Formation Testing (DST)				
Total Gas and C1-C5 chromatograph from 0 mMD to 2335.0 mMD				No DST's were run, however 6 flow tests were performed over the Pacoota P1 to P4 sequence.			DFIT	<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 Palm Valley 12. However, numerous hydrocarbon gas peaks were recorded from the Top Upper Stairway Sandstone through the Pacoota P1 & P2 formations, reducing in magnitude through the Pacoota P3 & P4 formations. Significant gas peaks are tabulated in Table 9.							
Completion								
The well was plugged back to 1780 mMD and dressed back to 1824 mMD; a whipstock was set with the base at 1824mMD and sidetrack well PV12 ST1 established as a Pacoota P3 appraisal.								