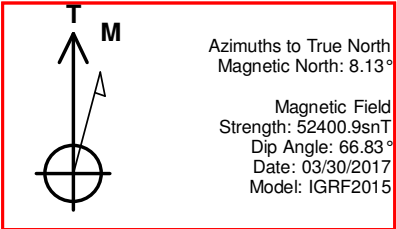


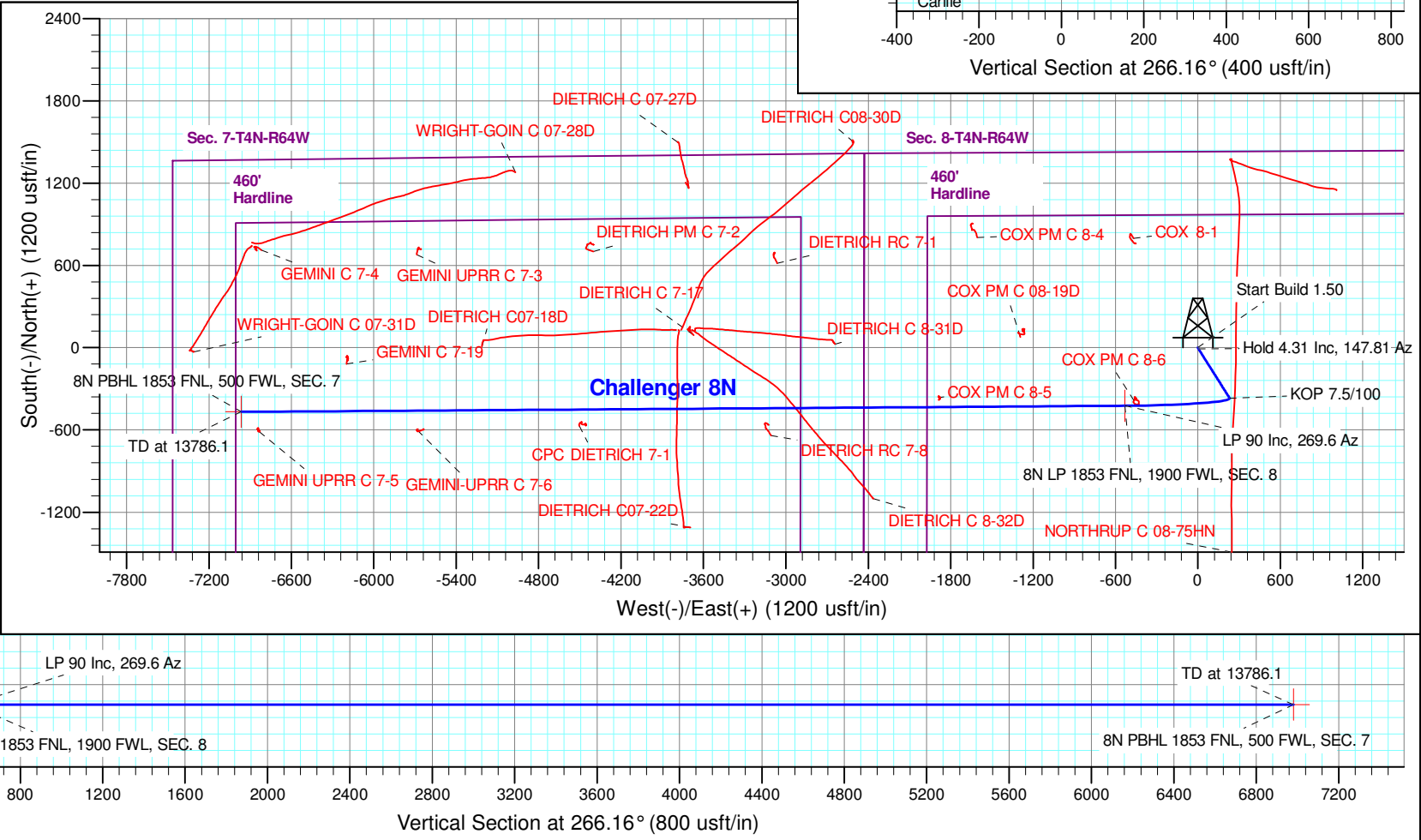
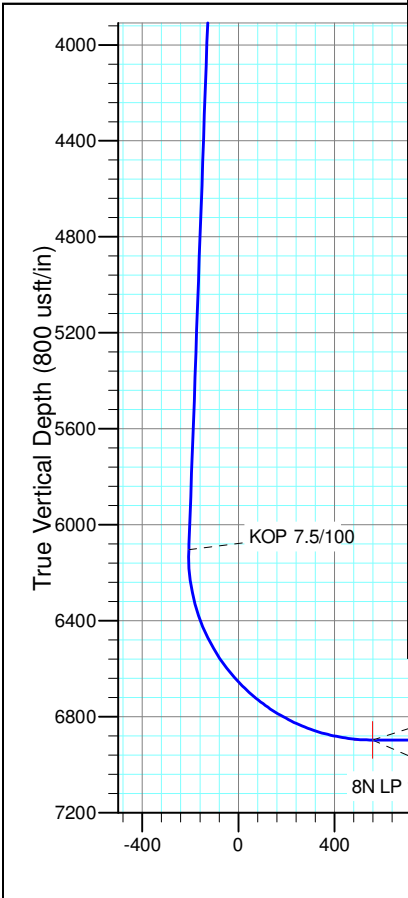
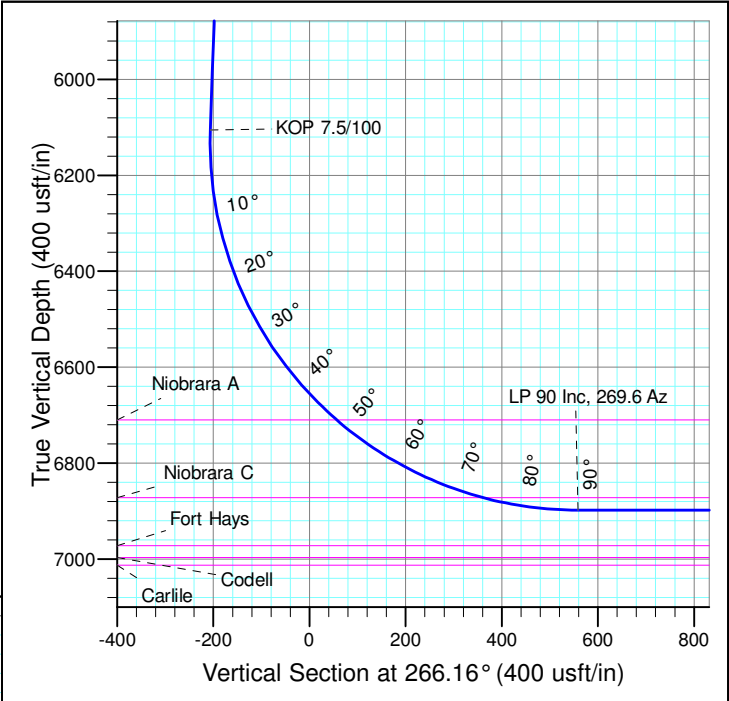


Well Name: Challenger 8N  
Surface Location: CHALLENGER 4N64W08 1-9 PAD  
North American Datum 1983  
US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4775.0  
WELL @ 4798.0usft (Original Well Elev)  
Northing Easting Latitude Longitude Slot  
0.0 0.0 1364474.60 3257809.41 40° 19' 48.697 N 104° 34' 30.946 W

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	487.2	4.31	147.81	486.9	-9.1	5.7	1.50	147.81	-5.1	
4	6121.6	4.31	147.81	6105.4	-367.3	231.2	0.00	0.00	-206.1	
5	7351.9	90.00	269.60	6898.0	-423.4	-531.8	7.50	121.72	558.9	8N LP 1853 FNL, 1900 FWL, SEC. 8
6	13786.1	90.00	269.60	6898.0	-468.0	-6965.8	0.00	0.00	6981.5	8N PBHL 1853 FNL, 500 FWL, SEC. 7



Project: SEC. 8-T4N-R64W  
Site: CHALLENGER 4N64W08 1-9 PAD  
Well: Challenger 8N  
Wellbore: Wellbore #1  
Design: Design #1 30Mar17 kjs



# **PDC Energy Inc. DJ Basin**

**SEC. 8-T4N-R64W**

**CHALLENGER 4N64W08 1-9 PAD**

**Challenger 8N**

**Wellbore #1**

**Design #1 30Mar17 kjs**

## **Anticollision Summary Report**

**02 June, 2017**

## Anticollision Summary Report

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 8N
<b>Project:</b>	SEC. 8-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Reference Site:</b>	CHALLENGER 4N64W08 1-9 PAD	<b>MD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Challenger 8N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1 30Mar17 kjs	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Design #1 30Mar17 kjs		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,682.5 usft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.45 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	06/02/17		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	13,785.9	Design #1 30Mar17 kjs (Wellbore #1)	MWD	MWD - Standard

<b>Summary</b>						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
CHALLENGER 4N64W08 1-9 PAD						
Challenger 1N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	105.0	104.2	137.609	CC, ES
Challenger 1N - Wellbore #1 - Design #1 30Mar17 kjs	11,100.0	11,111.3	1,682.4	1,382.7	5.615	SF
Challenger 2N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	90.0	89.3	118.025	CC, ES
Challenger 2N - Wellbore #1 - Design #1 30Mar17 kjs	13,786.1	13,852.3	1,491.5	1,007.1	3.079	SF
Challenger 3N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	75.0	74.2	98.347	CC, ES
Challenger 3N - Wellbore #1 - Design #1 30Mar17 kjs	13,786.1	13,750.1	1,242.2	758.6	2.569	SF
Challenger 4N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	60.0	59.2	78.668	CC, ES
Challenger 4N - Wellbore #1 - Design #1 30Mar17 kjs	13,786.1	13,793.1	955.0	471.9	1.977	SF
Challenger 5N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	45.0	44.3	59.037	CC, ES
Challenger 5N - Wellbore #1 - Design #1 30Mar17 kjs	13,786.1	13,724.7	727.5	244.7	1.507	SF
Challenger 6N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	30.0	29.3	39.358	CC
Challenger 6N - Wellbore #1 - Design #1 30Mar17 kjs	13,786.1	13,771.6	487.9	5.0	1.010	Level 2, ES, SF
Challenger 7N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	15.0	14.2	19.679	CC
Challenger 7N - Wellbore #1 - Design #1 30Mar17 kjs	13,786.1	13,709.4	224.2	-237.2	0.486	Level 1, ES, SF
Challenger 9N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	15.0	14.2	19.631	CC
Challenger 9N - Wellbore #1 - Design #1 30Mar17 kjs	13,786.1	13,734.9	298.3	-173.0	0.633	Level 1, ES, SF

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 8N
<b>Project:</b>	SEC. 8-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Reference Site:</b>	CHALLENGER 4N64W08 1-9 PAD	<b>MD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Challenger 8N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1 30Mar17 kjs	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Sec. 7-T4N-R64W						
CPC DIETRICH 7-1 - Wellbore #1 - Wellbore #1	11,326.9	6,925.0	110.8	-63.0	0.638	Level 1, CC, ES, SF
DIETRICH C 07-27D - Wellbore #1 - Wellbore #1						Out of range
DIETRICH C 7-17 - Wellbore #1 - Wellbore #1	10,498.4	6,942.6	550.2	405.4	3.801	CC
DIETRICH C 7-17 - Wellbore #1 - Wellbore #1	10,500.0	6,942.5	550.2	405.4	3.800	ES
DIETRICH C 7-17 - Wellbore #1 - Wellbore #1	10,600.0	6,938.7	559.5	411.2	3.775	SF
DIETRICH C 8-31D - Wellbore #1 - Wellbore #1	9,463.9	7,055.6	473.3	356.7	4.060	CC, ES
DIETRICH C 8-31D - Wellbore #1 - Wellbore #1	9,500.0	7,055.1	474.7	356.9	4.030	SF
DIETRICH C 8-32D - Wellbore #1 - Wellbore #1	9,190.1	7,202.0	663.2	552.2	5.974	CC
DIETRICH C 8-32D - Wellbore #1 - Wellbore #1	9,200.0	7,201.8	663.2	551.9	5.957	ES
DIETRICH C 8-32D - Wellbore #1 - Wellbore #1	9,300.0	7,200.5	672.2	557.5	5.861	SF
DIETRICH C07-18D - Wellbore #1 - Wellbore #1	12,027.0	7,172.3	488.2	269.6	2.234	CC, ES
DIETRICH C07-18D - Wellbore #1 - Wellbore #1	12,100.0	7,173.2	493.6	272.6	2.233	SF
DIETRICH C07-22D - Wellbore #1 - Wellbore #1	10,536.6	7,134.4	865.0	713.2	5.698	CC, ES
DIETRICH C07-22D - Wellbore #1 - Wellbore #1	10,700.0	7,126.6	880.3	722.9	5.592	SF
DIETRICH C08-30D - Wellbore #1 - Wellbore #1						Out of range
DIETRICH PM C 7-2 - Wellbore #1 - Wellbore #1	11,240.8	6,961.6	1,161.2	989.3	6.756	CC
DIETRICH PM C 7-2 - Wellbore #1 - Wellbore #1	11,300.0	6,956.3	1,162.7	988.8	6.686	ES
DIETRICH PM C 7-2 - Wellbore #1 - Wellbore #1	11,500.0	6,939.3	1,189.6	1,008.8	6.581	SF
DIETRICH RC 7-1 - Wellbore #1 - Wellbore #1	9,880.0	6,947.5	1,067.1	940.7	8.443	CC
DIETRICH RC 7-1 - Wellbore #1 - Wellbore #1	9,900.0	6,947.0	1,067.3	940.2	8.399	ES
DIETRICH RC 7-1 - Wellbore #1 - Wellbore #1	10,200.0	6,939.1	1,114.0	976.8	8.117	SF
DIETRICH RC 7-8 - Wellbore #1 - Wellbore #1	9,937.5	6,911.5	186.2	59.3	1.467	Level 3, CC, ES, SF
GEMINI C 7-19 - Wellbore #1 - Wellbore #1	13,012.6	6,965.1	373.1	142.0	1.615	CC, ES, SF
GEMINI C 7-4 - Wellbore #1 - Wellbore #1	13,647.4	6,980.9	1,192.6	940.0	4.722	CC
GEMINI C 7-4 - Wellbore #1 - Wellbore #1	13,700.0	6,977.6	1,193.7	939.4	4.693	ES
GEMINI C 7-4 - Wellbore #1 - Wellbore #1	13,786.1	6,972.3	1,200.6	943.2	4.665	SF
GEMINI UPRR C 7-3 - Wellbore #1 - Wellbore #1	12,497.9	6,994.5	1,137.6	923.7	5.318	CC
GEMINI UPRR C 7-3 - Wellbore #1 - Wellbore #1	12,500.0	6,994.4	1,137.6	923.6	5.316	ES
GEMINI UPRR C 7-3 - Wellbore #1 - Wellbore #1	12,700.0	6,990.4	1,155.4	934.6	5.232	SF
GEMINI UPRR C 7-5 - Wellbore #1 - Wellbore #1	13,654.5	6,850.0	164.6	-63.8	0.721	Level 1, CC, ES, SF
GEMINI-UPRR C 7-6 - Wellbore #1 - Wellbore #1	12,503.3	6,961.6	143.6	-69.6	0.674	Level 1, CC, ES, SF
NORTHROP C 08-75HN - Wellbore #1 - Wellbore #1	6,700.0	8,527.6	395.5	344.9	7.815	SF
NORTHROP C 08-75HN - Wellbore #1 - Wellbore #1	6,767.0	8,534.0	387.0	338.5	7.977	CC, ES
WRIGHT-GOIN C 07-28D - Wellbore #1 - Wellbore #1						Out of range
WRIGHT-GOIN C 07-31D - Wellbore #1 - Wellbore #1	13,786.1	7,035.0	561.8	300.5	2.150	CC, ES, SF
Existing Wells Sec. 8-T4N-R64W						
COX 8-1 - Wellbore #1 - Wellbore #1	217.1	191.0	884.3	883.4	1,001.770	CC, ES
COX 8-1 - Wellbore #1 - Wellbore #1	8,400.0	6,903.2	1,662.3	1,587.2	22.120	SF
COX PM C 08-19D - Wellbore #1 - Wellbore #1	8,116.0	6,894.6	529.4	464.5	8.158	CC, ES
COX PM C 08-19D - Wellbore #1 - Wellbore #1	8,300.0	6,893.3	560.4	489.7	7.919	SF
COX PM C 8-4 - Wellbore #1 - Wellbore #1	8,421.2	6,969.9	1,250.3	1,173.8	16.343	CC
COX PM C 8-4 - Wellbore #1 - Wellbore #1	8,500.0	6,968.6	1,252.8	1,173.7	15.845	ES
COX PM C 8-4 - Wellbore #1 - Wellbore #1	9,100.0	6,958.9	1,422.6	1,323.7	14.385	SF
COX PM C 8-5 - Wellbore #1 - Wellbore #1	8,697.2	6,903.1	73.5	-11.3	0.867	Level 1, CC
COX PM C 8-5 - Wellbore #1 - Wellbore #1	8,700.0	6,903.1	73.5	-11.3	0.867	Level 1, ES, SF
COX PM C 8-6 - Wellbore #1 - Wellbore #1	7,285.9	6,880.9	34.9	-6.0	0.854	Level 1, CC, ES, SF

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 8N
<b>Project:</b>	SEC. 8-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Reference Site:</b>	CHALLENGER 4N64W08 1-9 PAD	<b>MD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Challenger 8N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1 30Mar17 kjs	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4798.0usft (Original Well Ele

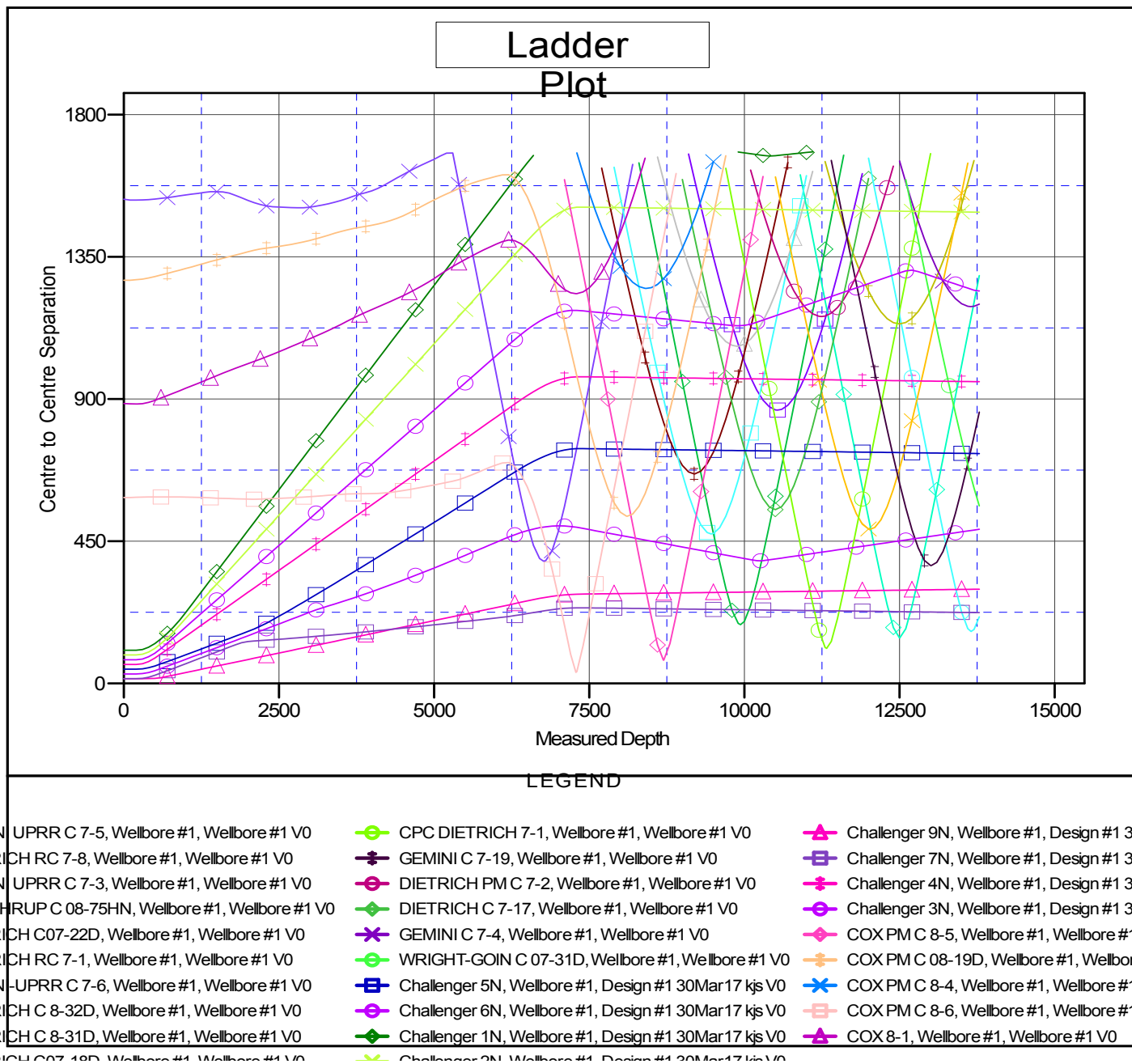
Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Challenger 8N

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 8N
<b>Project:</b>	SEC. 8-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Reference Site:</b>	CHALLENGER 4N64W08 1-9 PAD	<b>MD Reference:</b>	WELL @ 4798.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Challenger 8N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1 30Mar17 kjs	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4798.0usft (Original Well Ele

Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Challenger 8N

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°

