

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1364459.62	3257809.54	40° 19' 48.549 N	104° 34' 30.946 W	

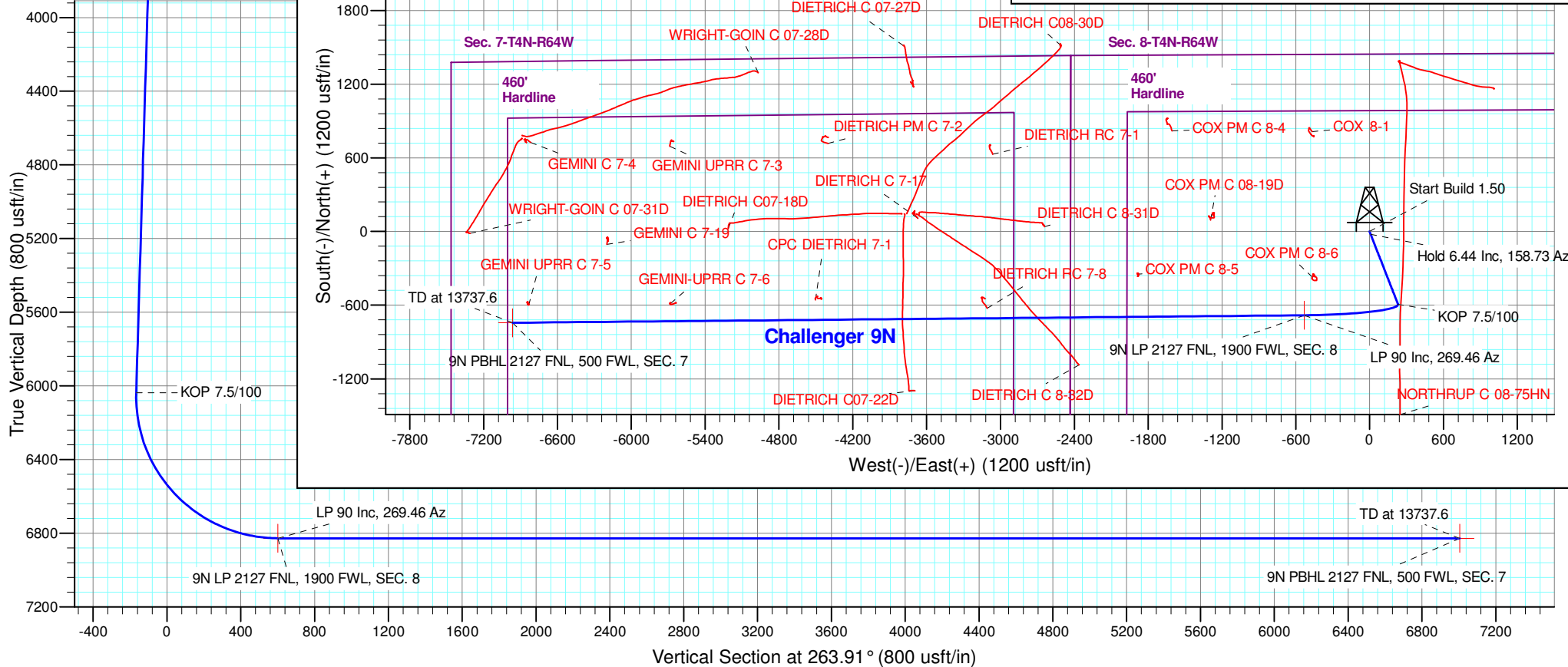
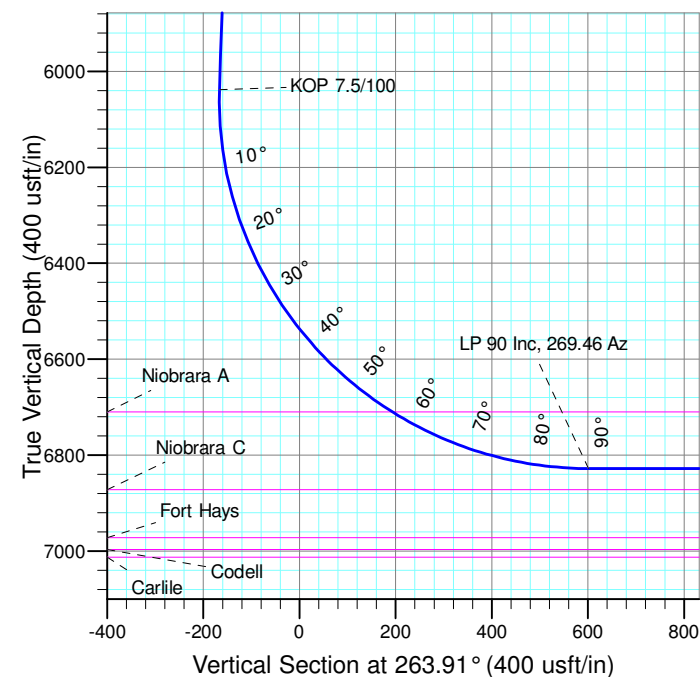
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	629.5	6.44	158.73	628.6	-22.5	8.8	1.50	158.73	-6.3	
4	6073.4	6.44	158.73	6038.1	-591.7	230.3	0.00	0.00	-166.3	
5	7303.7	90.00	269.46	6828.0	-682.3	-532.2	7.50	110.61	601.5	9N LP 2127 FNL, 1900 FWL, SEC. 8
6	13737.6	90.00	269.46	6828.0	-743.0	-6965.8	0.00	0.00	7005.3	9N PBHL 2127 FNL, 500 FWL, SEC. 7



Azimuths to True North  
Magnetic North:  $8.13^\circ$

Magnetic Field  
Strength: 52400.9snT  
Dip Angle: 66.83°  
Date: 03/30/2017  
Model: IGRF2015

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



# **PDC Energy Inc. DJ Basin**

**SEC. 8-T4N-R64W**

**CHALLENGER 4N64W08 1-9 PAD**

**Challenger 9N**

**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 9N
<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 9N	<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	13,736.9	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	119.9	119.2	157.240	CC, ES
Challenger 1N - Wellbore #1 - Design #1 30Mar17 kjs	5,700.0	5,437.0	1,660.3	1,626.4	49.028	SF
Challenger 2N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	105.0	104.2	137.657	CC, ES
Challenger 2N - Wellbore #1 - Design #1 30Mar17 kjs	6,100.0	5,892.8	1,551.7	1,515.7	43.171	SF
Challenger 3N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	90.0	89.2	117.978	CC, ES
Challenger 3N - Wellbore #1 - Design #1 30Mar17 kjs	13,737.6	13,750.1	1,530.2	1,046.4	3.163	SF
Challenger 4N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	75.0	74.2	98.299	CC, ES
Challenger 4N - Wellbore #1 - Design #1 30Mar17 kjs	13,737.6	13,793.1	1,246.9	765.1	2.588	SF
Challenger 5N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	60.0	59.2	78.668	CC, ES
Challenger 5N - Wellbore #1 - Design #1 30Mar17 kjs	13,737.6	13,724.7	1,015.0	531.3	2.098	SF
Challenger 6N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	45.0	44.2	58.989	CC, ES
Challenger 6N - Wellbore #1 - Design #1 30Mar17 kjs	13,737.6	13,765.3	781.0	300.4	1.625	SF
Challenger 7N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	30.0	29.2	39.310	CC
Challenger 7N - Wellbore #1 - Design #1 30Mar17 kjs	13,737.6	13,709.4	503.0	19.4	1.040	Level 2, ES, SF
Challenger 8N - Wellbore #1 - Design #1 30Mar17 kjs	200.0	200.0	15.0	14.2	19.631	CC
Challenger 8N - Wellbore #1 - Design #1 30Mar17 kjs	13,737.6	13,786.1	298.3	-173.1	0.633	Level 1, ES, SF

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 9N
<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 9N	<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	11,275.6	6,867.2	175.7	2.0	1.012	Level 2, CC, ES, SF
DIETRICH C 07-27D - Wellbore #1 - Wellbore #1						Out of range
DIETRICH C 7-17 - Wellbore #1 - Wellbore #1	10,448.1	6,891.3	835.1	690.6	5.778	CC
DIETRICH C 7-17 - Wellbore #1 - Wellbore #1	10,500.0	6,889.0	836.7	690.4	5.719	ES
DIETRICH C 7-17 - Wellbore #1 - Wellbore #1	10,600.0	6,884.5	848.8	699.1	5.669	SF
DIETRICH C 8-31D - Wellbore #1 - Wellbore #1	9,412.5	6,983.8	754.0	637.6	6.479	CC, ES
DIETRICH C 8-31D - Wellbore #1 - Wellbore #1	9,600.0	6,981.0	777.0	654.3	6.333	SF
DIETRICH C 8-32D - Wellbore #1 - Wellbore #1	9,141.4	7,133.3	383.5	272.7	3.459	CC, ES
DIETRICH C 8-32D - Wellbore #1 - Wellbore #1	9,200.0	7,132.6	388.0	275.1	3.438	SF
DIETRICH C07-18D - Wellbore #1 - Wellbore #1	11,973.9	7,111.3	777.1	558.7	3.558	CC
DIETRICH C07-18D - Wellbore #1 - Wellbore #1	12,000.0	7,111.6	777.5	558.2	3.545	ES
DIETRICH C07-18D - Wellbore #1 - Wellbore #1	12,100.0	7,112.8	787.3	564.5	3.535	SF
DIETRICH C07-22D - Wellbore #1 - Wellbore #1	10,490.8	7,062.9	583.0	431.2	3.841	CC
DIETRICH C07-22D - Wellbore #1 - Wellbore #1	10,500.0	7,062.4	583.1	431.0	3.834	ES
DIETRICH C07-22D - Wellbore #1 - Wellbore #1	10,600.0	7,058.1	593.1	437.6	3.814	SF
DIETRICH C08-30D - Wellbore #1 - Wellbore #1						Out of range
DIETRICH PM C 7-2 - Wellbore #1 - Wellbore #1	11,191.8	6,906.6	1,446.8	1,275.0	8.420	CC
DIETRICH PM C 7-2 - Wellbore #1 - Wellbore #1	11,200.0	6,905.9	1,446.8	1,274.7	8.407	ES
DIETRICH PM C 7-2 - Wellbore #1 - Wellbore #1	11,600.0	6,874.5	1,502.8	1,317.0	8.089	SF
DIETRICH RC 7-1 - Wellbore #1 - Wellbore #1	9,827.7	6,882.5	1,350.1	1,224.0	10.702	CC
DIETRICH RC 7-1 - Wellbore #1 - Wellbore #1	9,900.0	6,880.5	1,352.1	1,223.5	10.514	ES
DIETRICH RC 7-1 - Wellbore #1 - Wellbore #1	10,300.0	6,869.9	1,430.3	1,288.2	10.062	SF
DIETRICH RC 7-8 - Wellbore #1 - Wellbore #1	9,888.4	6,855.5	97.3	-29.5	0.768	Level 1, CC, ES, SF
GEMINI C 7-19 - Wellbore #1 - Wellbore #1	12,959.9	6,905.5	663.5	432.7	2.874	CC
GEMINI C 7-19 - Wellbore #1 - Wellbore #1	13,000.0	6,905.9	664.7	432.5	2.862	ES, SF
GEMINI C 7-4 - Wellbore #1 - Wellbore #1	13,596.6	6,922.5	1,485.2	1,232.8	5.884	CC
GEMINI C 7-4 - Wellbore #1 - Wellbore #1	13,600.0	6,922.3	1,485.2	1,232.6	5.881	ES
GEMINI C 7-4 - Wellbore #1 - Wellbore #1	13,737.6	6,914.0	1,491.8	1,235.0	5.809	SF
GEMINI UPRR C 7-3 - Wellbore #1 - Wellbore #1	12,444.8	6,939.6	1,426.9	1,213.3	6.679	CC
GEMINI UPRR C 7-3 - Wellbore #1 - Wellbore #1	12,500.0	6,938.8	1,428.0	1,212.4	6.625	ES
GEMINI UPRR C 7-3 - Wellbore #1 - Wellbore #1	12,800.0	6,934.7	1,470.4	1,244.6	6.512	SF
GEMINI UPRR C 7-5 - Wellbore #1 - Wellbore #1	13,603.7	6,850.0	142.5	-110.3	0.564	Level 1, CC, ES, SF
GEMINI-UPRR C 7-6 - Wellbore #1 - Wellbore #1	12,452.8	6,891.9	143.2	-69.8	0.672	Level 1, CC, ES, SF
NORTHROP C 08-75HN - Wellbore #1 - Wellbore #1	6,700.0	8,784.0	431.0	376.5	7.908	SF
NORTHROP C 08-75HN - Wellbore #1 - Wellbore #1	6,755.4	8,795.1	425.4	372.8	8.091	CC, ES
WRIGHT-GOIN C 07-28D - Wellbore #1 - Wellbore #1						Out of range
WRIGHT-GOIN C 07-31D - Wellbore #1 - Wellbore #1	13,737.6	6,964.1	809.1	548.3	3.103	CC, ES, SF
Existing Wells Sec. 8-T4N-R64W						
COX 8-1 - Wellbore #1 - Wellbore #1	217.1	191.0	897.2	896.3	1,016.516	CC, ES
COX 8-1 - Wellbore #1 - Wellbore #1	7,900.0	6,856.4	1,651.4	1,590.6	27.137	SF
COX PM C 08-19D - Wellbore #1 - Wellbore #1	8,064.0	6,828.2	806.6	741.8	12.452	CC
COX PM C 08-19D - Wellbore #1 - Wellbore #1	8,100.0	6,827.8	807.4	741.5	12.250	ES
COX PM C 08-19D - Wellbore #1 - Wellbore #1	8,400.0	6,824.9	873.8	798.2	11.564	SF
COX PM C 8-4 - Wellbore #1 - Wellbore #1	8,367.7	6,918.4	1,530.9	1,454.6	20.062	CC
COX PM C 8-4 - Wellbore #1 - Wellbore #1	8,400.0	6,917.9	1,531.2	1,453.9	19.795	ES
COX PM C 8-4 - Wellbore #1 - Wellbore #1	9,000.0	6,908.2	1,656.3	1,559.2	17.056	SF
COX PM C 8-5 - Wellbore #1 - Wellbore #1	8,646.2	6,834.7	351.2	266.5	4.150	CC, ES
COX PM C 8-5 - Wellbore #1 - Wellbore #1	8,700.0	6,834.4	355.3	268.9	4.112	SF
COX PM C 8-6 - Wellbore #1 - Wellbore #1	7,231.9	6,807.6	307.7	266.9	7.545	CC, ES
COX PM C 8-6 - Wellbore #1 - Wellbore #1	7,300.0	6,810.5	314.8	272.4	7.436	SF

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 9N
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<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 9N	<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

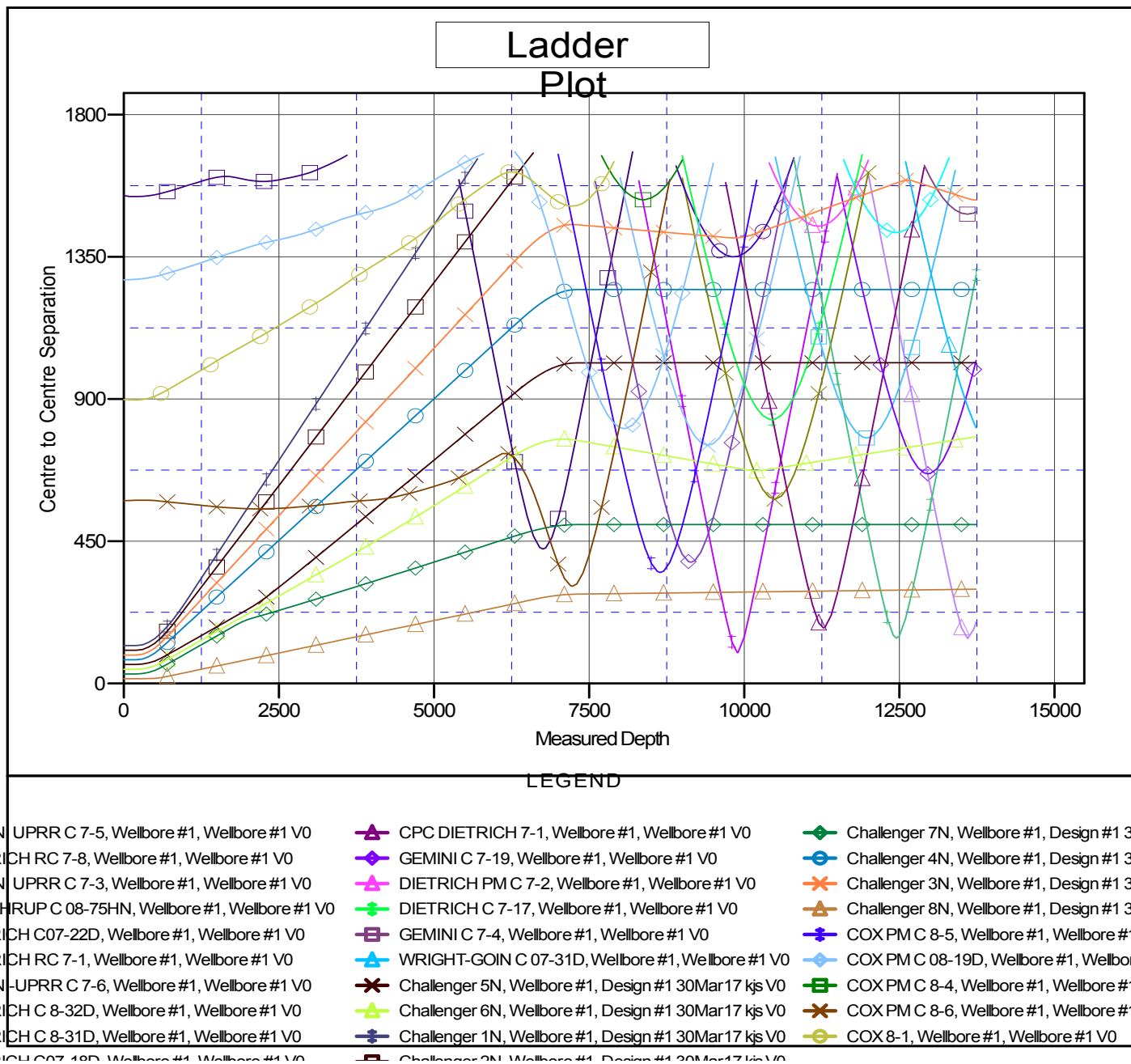
Offset Depths are relative to Offset Datum

Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Challenger 9N

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°



<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 9N
<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 9N	<b>Survey Calculation Method:</b>	Minimum Curvature
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<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 9N

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