

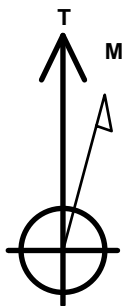
# PDC Energy Inc. DJ Basin

Well Name: **Challenger 7N (Nio B)**

Surface Location: Challenger 4N64W8 Pad Sec.8-T4N-R64W  
 North American Datum 1983 , US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4776.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1364487.87 3257810.05 40.330230 -104.575260  
 Original Well Elev WELL @ 4799.0ft (Original Well Elev)

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1418'FNL & 2431'FWL, Sec.8	1.0	0.0	0.0	Point
BHL 1624'FNL & 150'FWL, Sec.7	6829.0	-271.6	-7316.9	Point
LPL 1624'FNL & 1900'FWL, Sec.8	6829.0	-207.6	-532.5	Point



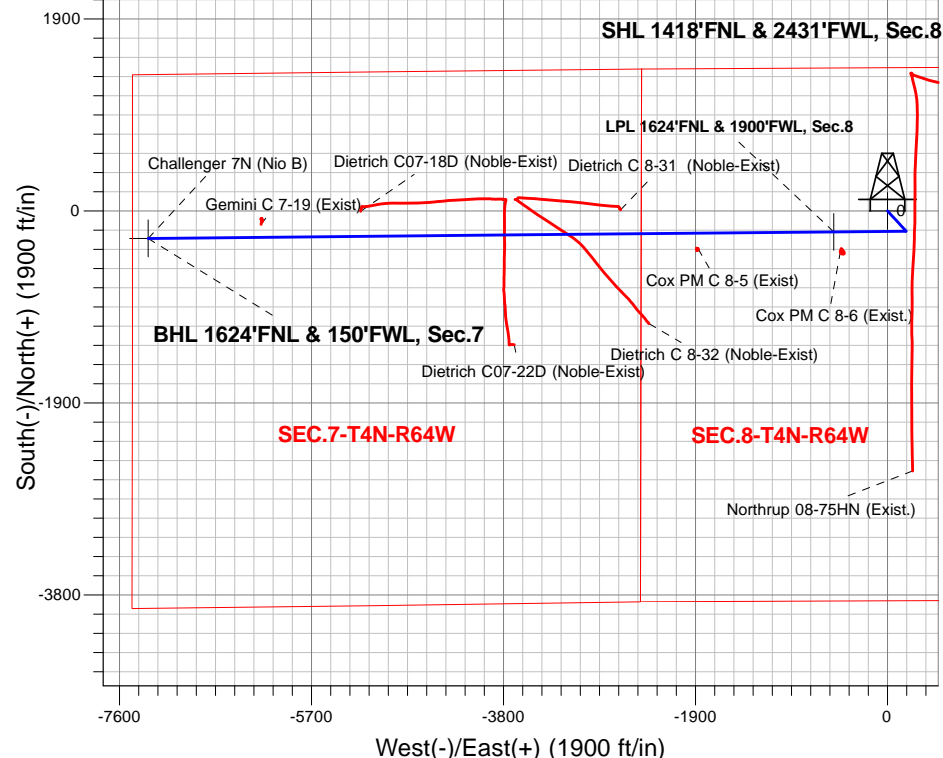
Azimuths to True North  
 Magnetic North: 7.81°

Magnetic Field  
 Strength: 52373.5snT  
 Dip Angle: 66.78°  
 Date: 6/28/2018  
 Model: IGRF2010

Challenger 4N64W8 Pad Sec.8-T4N-R64W  
 Challenger 7N (Nio B)  
 Plan #1 (6-28-18)  
 13:17, June 29 2018

## ANNOTATIONS

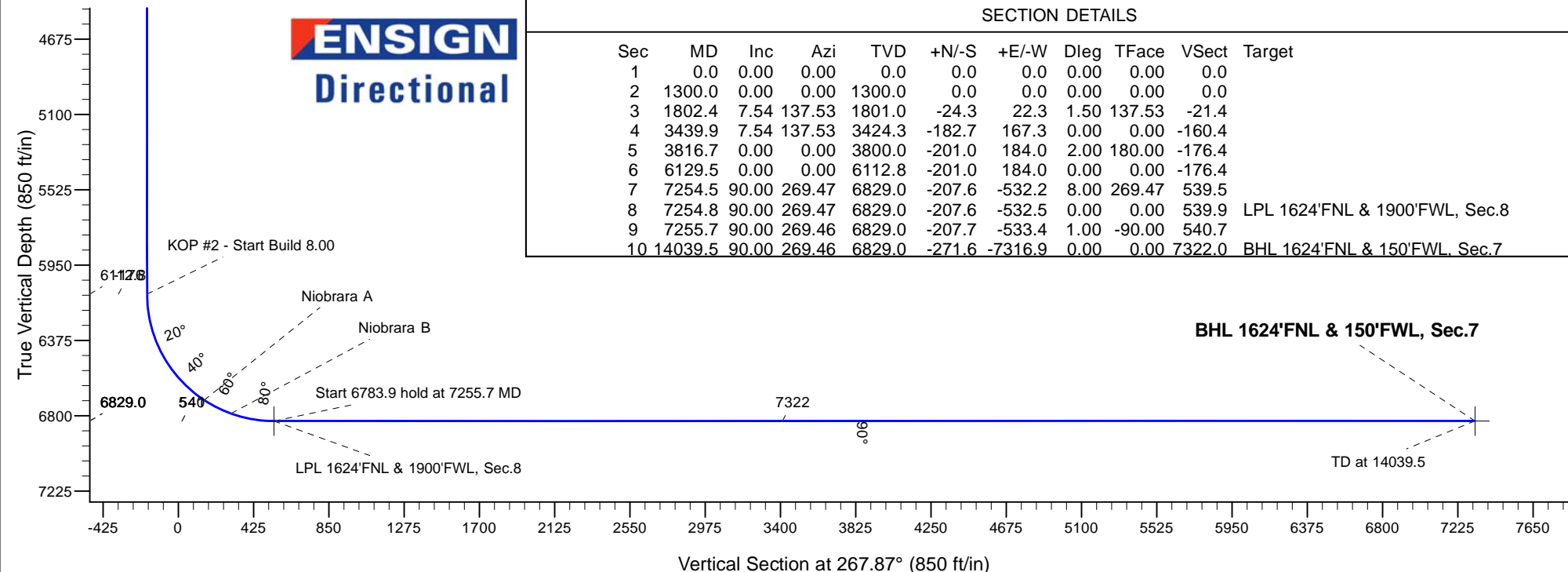
TVD	MD	Annotation
1300.0	1300.0	KOP - Start Build 1.50
3424.3	3439.9	Start Drop -2.00
6112.8	6129.5	KOP #2 - Start Build 8.00
6829.0	7254.8	Start DLS 1.00 TFO -90.00
6829.0	7255.7	Start 6783.9 hold at 7255.7 MD
6829.0	14039.5	TD at 14039.5



**ENSIGN**  
 Directional

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1300.0	0.00	0.00	1300.0	0.0	0.0	0.00	0.00	0.0	
3	1802.4	7.54	137.53	1801.0	-24.3	22.3	1.50	137.53	-21.4	
4	3439.9	7.54	137.53	3424.3	-182.7	167.3	0.00	0.00	-160.4	
5	3816.7	0.00	0.00	3800.0	-201.0	184.0	2.00	180.00	-176.4	
6	6129.5	0.00	0.00	6112.8	-201.0	184.0	0.00	0.00	-176.4	
7	7254.5	90.00	269.47	6829.0	-207.6	-532.2	8.00	269.47	539.5	
8	7254.8	90.00	269.47	6829.0	-207.6	-532.5	0.00	0.00	539.9	LPL 1624'FNL & 1900'FWL, Sec.8
9	7255.7	90.00	269.46	6829.0	-207.7	-533.4	1.00	-90.00	540.7	
10	14039.5	90.00	269.46	6829.0	-271.6	-7316.9	0.00	0.00	7322.0	BHL 1624'FNL & 150'FWL, Sec.7





## **PDC Energy Inc. DJ Basin**

**SEC.8-T4N-R64W**

**Challenger 4N64W8 Pad Sec.8-T4N-R64W**

**Challenger 7N (Nio B)**

**Wellbore #1**

**Plan #1 (6-28-18)**

## **Anticollision Report**

**29 June, 2018**



<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 7N (Nio B)
<b>Project:</b>	SEC.8-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4799.0ft (Original Well Elev)
<b>Reference Site:</b>	Challenger 4N64W8 Pad Sec.8-T4N-R64W	<b>MD Reference:</b>	WELL @ 4799.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Challenger 7N (Nio B)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (6-28-18)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (6-28-18)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<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 500.0 ft	<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> 6/29/2018			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	14,039.5	Plan #1 (6-28-18) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Challenger 4N64W8 Pad Sec.8-T4N-R64W						
Challenger 1N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	200.0	198.0	91.1	90.3	110.996	CC, ES
Challenger 1N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	1,000.0	969.1	171.2	165.8	31.571	SF
Challenger 2N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	400.0	399.0	76.5	74.6	39.751	CC, ES
Challenger 2N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	900.0	886.7	108.0	103.3	23.000	SF
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	600.0	599.0	61.9	58.9	20.467	CC, ES
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	900.0	893.8	73.1	68.5	15.663	SF
Challenger 4N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	1,000.0	999.0	47.4	42.1	9.058	CC, ES
Challenger 4N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	1,200.0	1,196.5	52.2	45.9	8.255	SF
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	1,300.0	1,300.0	32.8	25.9	4.763	CC, ES
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	1,400.0	1,400.0	33.8	26.4	4.560	SF
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	1,300.0	1,300.0	18.2	11.3	2.646	CC
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	14,039.5	14,103.0	273.1	-218.0	0.556	Level 1, ES, SF
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	1,000.0	1,000.0	14.6	9.3	2.786	CC
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	14,039.5	14,121.7	239.4	-246.6	0.493	Level 1, ES, SF
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	766.3	767.3	29.1	25.2	7.383	CC
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	800.0	801.0	29.1	25.0	7.053	ES
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	900.0	900.0	30.4	25.8	6.547	SF
Dietrich C Pad Sec.7-T4N-R64W						
Dietrich C 8-31 (Noble-Exist) - Dietrich C 8-31 - Dietrich	9,368.8	6,989.5	251.2	128.8	2.052	CC, ES
Dietrich C 8-31 (Noble-Exist) - Dietrich C 8-31 - Dietrich	9,400.0	6,989.1	253.1	129.7	2.051	SF
Dietrich C 8-32 (Noble-Exist) - Dietrich C 8-32 - Dietrich C						Out of range
Dietrich C07-18 Pad Sec.7-T4N-R64W						
Dietrich C07-18D (Noble-Exist) - Wellbore #1 - Wellbore	11,930.4	7,099.2	274.1	56.2	1.258	Level 3, CC, ES, SF
Dietrich C07-22D (Noble-Exist) - Wellbore #1 - Wellbore						Out of range
Existing Wells Sec.7-T4N-R64W (GRID)						
Gemini C 7-19 (Exist) - Wellbore #1 - Wellbore #1	12,916.4	6,892.8	160.7	-69.7	0.697	Level 1, CC, ES, SF
Existing Wells Sec.8-T4N-R64W (GRID)						
Cox PM C 8-5 (Exist) - Wellbore #1 - Wellbore #1	8,602.6	6,832.8	151.7	67.7	1.807	CC, ES, SF
Cox PM C 8-6 (Exist.) - Wellbore #1 - Wellbore #1	7,191.7	6,813.4	194.8	155.0	4.894	CC
Cox PM C 8-6 (Exist.) - Wellbore #1 - Wellbore #1	7,200.0	6,814.0	195.0	155.0	4.876	ES, SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,600.0	8,305.4	416.7	371.3	9.186	SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,685.7	8,308.1	402.7	360.3	9.501	CC, ES

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