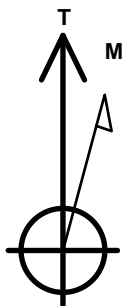


# PDC Energy Inc. DJ Basin

Well Name: **Challenger 2N (Nio C)**  
 Surface Location: Challenger 4N64W8 Pad Sec.8-T4N-R64W  
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
 Ground Elevation: 4775.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1364564.37 3257809.25 40.330440 -104.575260  
 Original Well Elev WELL @ 4798.0ft (Original Well Elev)

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1343'FNL & 2431'FWL, Sec.8	1.0	0.0	0.0	Point
BHL 345'FNL & 150'FWL, Sec.7	6898.0	930.7	-7316.8	Point
LPL 345'FNL & 1900'FWL, Sec.8	6898.0	994.6	-529.7	Point



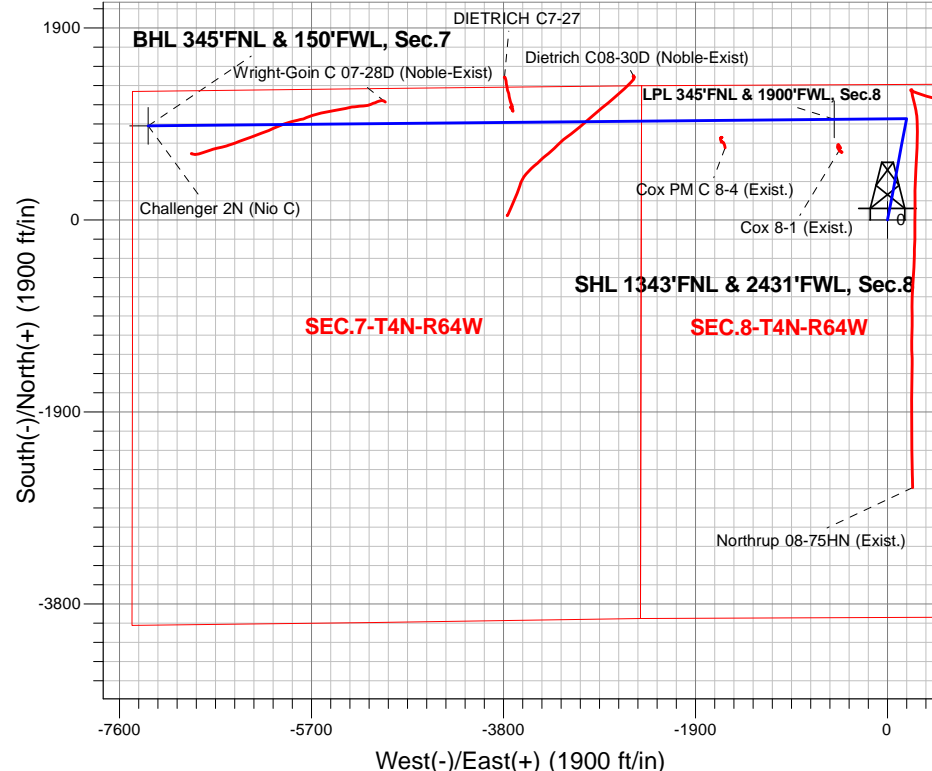
Azimuths to True North  
 Magnetic North: 7.81°

Magnetic Field  
 Strength: 52373.7snT  
 Dip Angle: 66.78°  
 Date: 6/28/2018  
 Model: IGRF2010

Challenger 4N64W8 Pad Sec.8-T4N-R64W  
 Challenger 2N (Nio C)  
 Plan #1 (6-27-18)  
 15:50, July 02 2018

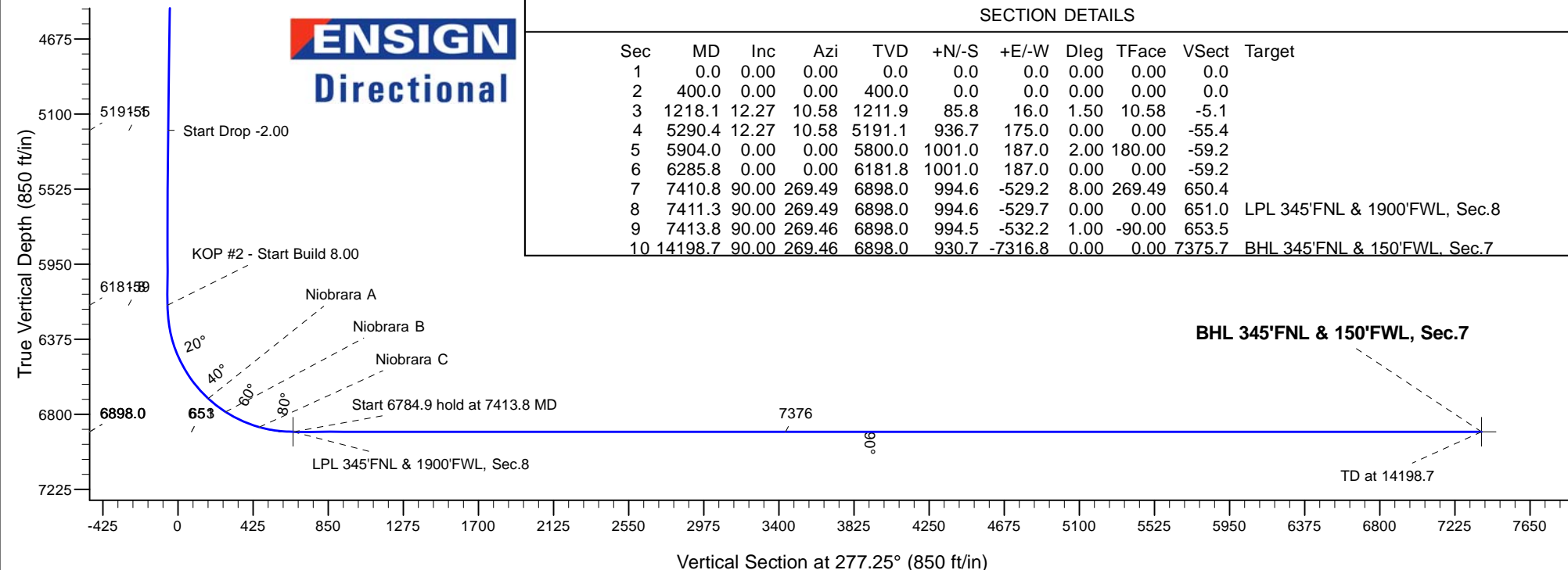
## ANNOTATIONS

TVD	MD	Annotation
400.0	400.0	KOP - Start Build 1.50
5191.1	5290.4	Start Drop -2.00
6181.8	6285.8	KOP #2 - Start Build 8.00
6898.0	7411.3	Start DLS 1.00 TFO -90.00
6898.0	7413.8	Start 6784.9 hold at 7413.8 MD
6898.0	14198.7	TD at 14198.7



## 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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1218.1	12.27	10.58	1211.9	85.8	16.0	1.50	10.58	-5.1	
4	5290.4	12.27	10.58	5191.1	936.7	175.0	0.00	0.00	-55.4	
5	5904.0	0.00	0.00	5800.0	1001.0	187.0	2.00	180.00	-59.2	
6	6285.8	0.00	0.00	6181.8	1001.0	187.0	0.00	0.00	-59.2	
7	7410.8	90.00	269.49	6898.0	994.6	-529.2	8.00	269.49	650.4	
8	7411.3	90.00	269.49	6898.0	994.6	-529.7	0.00	0.00	651.0	LPL 345'FNL & 1900'FWL, Sec.8
9	7413.8	90.00	269.46	6898.0	994.5	-532.2	1.00	-90.00	653.5	
10	14198.7	90.00	269.46	6898.0	930.7	-7316.8	0.00	0.00	7375.7	BHL 345'FNL & 150'FWL, Sec.7



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

**SEC.8-T4N-R64W**

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

**Challenger 2N (Nio C)**

**Wellbore #1**

**Plan #1 (6-27-18)**

## **Anticollision Report**

**02 July, 2018**

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Challenger 2N (Nio C)
<b>Project:</b>	SEC.8-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4798.0ft (Original Well Elev)
<b>Reference Site:</b>	Challenger 4N64W8 Pad Sec.8-T4N-R64W	<b>MD Reference:</b>	WELL @ 4798.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Challenger 2N (Nio C)	<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 (6-27-18)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (6-27-18)		
<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	14,198.7	Plan #1 (6-27-18) (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	199.0	14.6	13.7	17.696	CC
Challenger 1N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	14,198.7	14,165.1	257.7	-228.0	0.531	Level 1, ES, SF
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	400.0	400.0	14.6	12.6	7.561	CC
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	14,100.0	13,981.3	284.7	-199.3	0.588	Level 1, SF
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	14,198.7	14,080.0	288.3	-201.7	0.588	Level 1, ES
Challenger 4N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	400.0	400.0	29.1	27.2	15.121	CC, ES
Challenger 4N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	600.0	599.9	34.3	31.3	11.263	SF
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	400.0	401.0	43.7	41.8	22.650	CC, ES
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	700.0	700.7	55.3	51.7	15.321	SF
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	400.0	401.0	58.3	56.4	30.200	CC, ES
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	800.0	800.3	79.0	74.8	18.910	SF
Challenger 7N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	400.0	401.0	76.5	74.6	39.637	CC, ES
Challenger 7N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	900.0	899.6	108.8	104.1	22.959	SF
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	400.0	401.0	91.1	89.1	47.187	CC, ES
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	1,000.0	998.5	137.6	132.3	25.950	SF
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	400.0	402.0	105.6	103.7	54.659	CC, ES
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	900.0	897.2	139.1	134.4	29.563	SF
Dietrich C07-18 Pad Sec.7-T4N-R64W						
Dietrich C08-30D (Noble-Exist) - Wellbore #1 - Wellbore	9,390.5	7,302.9	448.2	323.3	3.590	CC
Dietrich C08-30D (Noble-Exist) - Wellbore #1 - Wellbore	9,400.0	7,302.8	448.3	323.1	3.582	ES, SF
Dietrich C7-27 Pad SEC 7-T4N-R64W						
DIETRICH C7-27 - DIETRICH C7-27D - DIETRICH C7-2	10,669.8	6,929.2	447.9	298.9	3.008	CC
DIETRICH C7-27 - DIETRICH C7-27D - DIETRICH C7-2	10,700.0	6,929.3	448.9	298.9	2.994	ES, SF
Existing Wells Sec.8-T4N-R64W (GRID)						
Cox 8-1 (Exist.) - Wellbore #1 - Wellbore #1	7,356.7	6,854.8	269.0	226.5	6.325	CC, ES
Cox 8-1 (Exist.) - Wellbore #1 - Wellbore #1	7,400.0	6,855.5	272.4	228.9	6.267	SF
Cox PM C 8-4 (Exist.) - Wellbore #1 - Wellbore #1	8,496.2	6,870.9	251.4	175.3	3.303	CC
Cox PM C 8-4 (Exist.) - Wellbore #1 - Wellbore #1	8,500.0	6,870.8	251.4	175.2	3.298	ES, SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,600.0	6,659.1	273.5	231.0	6.434	SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,650.0	6,709.7	271.0	229.0	6.463	ES
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,651.0	6,710.6	271.0	229.1	6.465	CC
Wright-Goin Pad Sec.7-T4N-R64W						
Wright-Goin C 07-28D (Noble-Exist) - Wright-Goin C 7-28	11,867.3	7,289.0	224.3	3.2	1.014	Level 2, CC, ES, SF

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