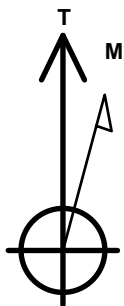


PDC Energy Inc. DJ Basin

Well Name: **Challenger 4N (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 1364535.23 3257809.56 40.330360 -104.575260
 Original Well Elev WELL @ 4798.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1373'FNL & 2431'FWL, Sec.8	1.0	0.0	0.0	Point
BHL 882'FNL & 150'FWL, Sec.7	6898.0	423.0	-7316.8	Point
LPL 882'FNL & 1900'FWL, Sec.8	6898.0	488.2	-529.7	Point



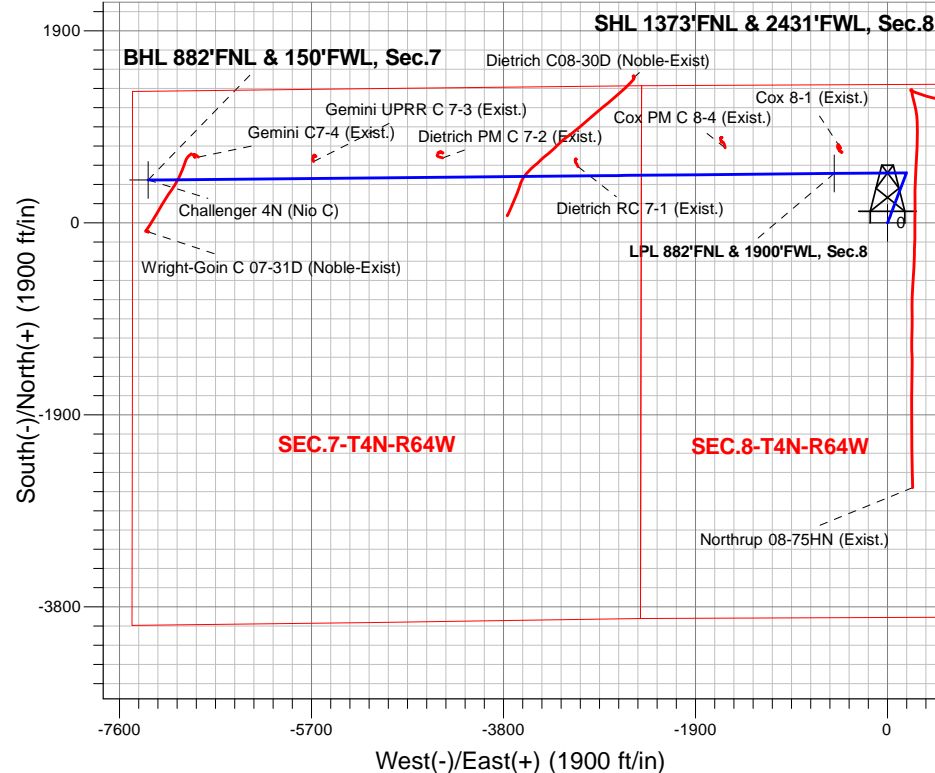
Azimuths to True North
 Magnetic North: 7.81°

Magnetic Field
 Strength: 52373.6snT
 Dip Angle: 66.78°
 Date: 6/28/2018
 Model: IGRF2010

Challenger 4N64W8 Pad Sec.8-T4N-R64W
 Challenger 4N (Nio C)
 Plan #1 (6-27-18)
 15:12, June 29 2018

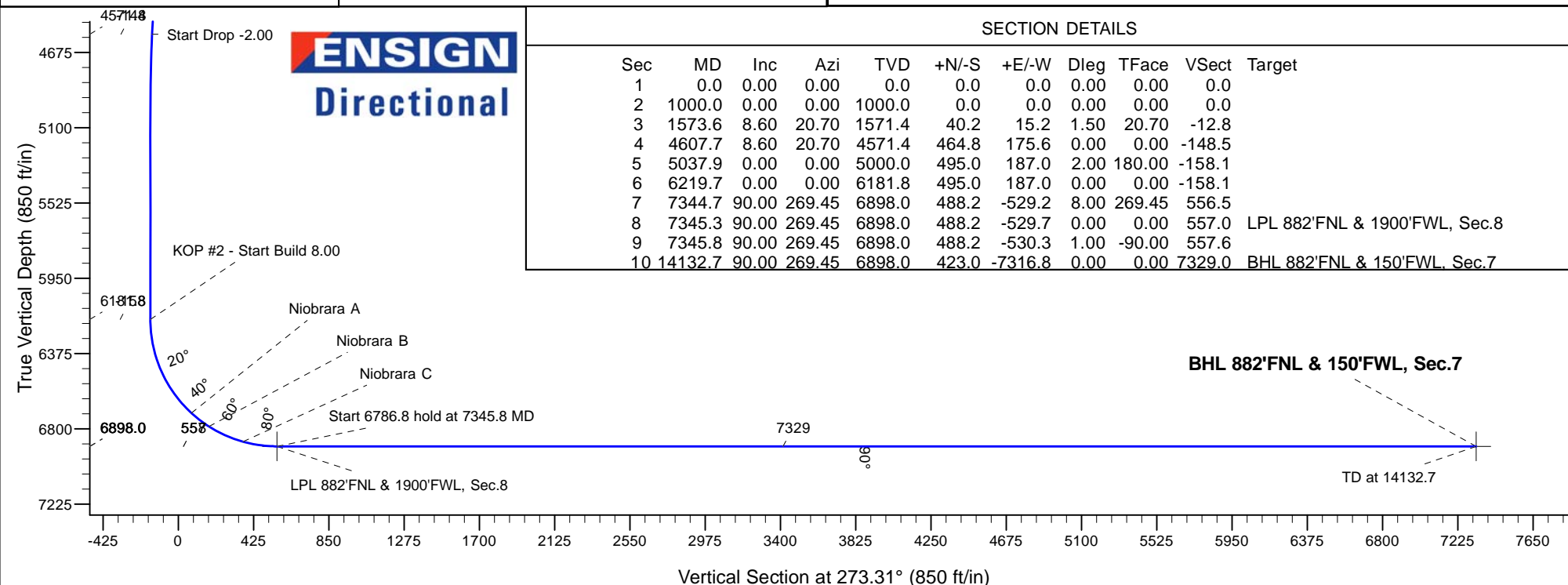
ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP - Start Build 1.50
4571.4	4607.7	Start Drop -2.00
6181.8	6219.7	KOP #2 - Start Build 8.00
6898.0	7345.3	Start DLS 1.00 TFO -90.00
6898.0	7345.8	Start 6786.8 hold at 7345.8 MD
6898.0	14132.7	TD at 14132.7



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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1573.6	8.60	20.70	1571.4	40.2	15.2	1.50	20.70	-12.8	
4	4607.7	8.60	20.70	4571.4	464.8	175.6	0.00	0.00	-148.5	
5	5037.9	0.00	0.00	5000.0	495.0	187.0	2.00	180.00	-158.1	
6	6219.7	0.00	0.00	6181.8	495.0	187.0	0.00	0.00	-158.1	
7	7344.7	90.00	269.45	6898.0	488.2	-529.2	8.00	269.45	556.5	
8	7345.3	90.00	269.45	6898.0	488.2	-529.7	0.00	0.00	557.0	LPL 882'FNL & 1900'FWL, Sec.8
9	7345.8	90.00	269.45	6898.0	488.2	-530.3	1.00	-90.00	557.6	
10	14132.7	90.00	269.45	6898.0	423.0	-7316.8	0.00	0.00	7329.0	BHL 882'FNL & 150'FWL, Sec.7



PDC Energy Inc. DJ Basin

SEC.8-T4N-R64W

Challenger 4N64W8 Pad Sec.8-T4N-R64W

Challenger 4N (Nio C)

Wellbore #1

Plan #1 (6-27-18)

Anticollision Report

29 June, 2018

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 4N (Nio C)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4798.0ft (Original Well Elev)
Reference Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4798.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Challenger 4N (Nio C)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.45 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (6-27-18)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (6-27-18)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Not applied

Survey Tool Program	Date 6/29/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	14,132.7	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
Offet 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	43.7	42.9	53.097	CC, ES
Challenger 1N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	4,000.0	3,946.4	499.2	474.1	19.919	SF
Challenger 2N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	400.0	400.0	29.1	27.2	15.121	CC, ES
Challenger 2N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	5,037.9	5,005.8	421.1	379.9	10.239	SF
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	600.0	600.0	14.6	11.5	4.811	CC
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	14,132.7	14,096.8	266.3	-225.0	0.542	Level 1, ES, SF
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	1,000.0	1,001.0	14.6	9.3	2.784	CC
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	14,132.7	14,051.1	237.7	-253.0	0.484	Level 1, ES, SF
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	1,000.0	1,001.0	29.1	23.9	5.568	CC
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	14,132.7	14,098.5	477.7	-29.0	0.943	Level 1, ES, SF
Challenger 7N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	1,000.0	1,001.0	47.4	42.1	9.048	CC, ES
Challenger 7N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	1,200.0	1,200.9	52.3	46.0	8.256	SF
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	966.3	967.3	61.9	56.9	12.267	CC
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	1,000.0	1,001.0	61.9	56.7	11.833	ES
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	1,100.0	1,100.0	64.4	58.6	11.192	SF
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	766.0	768.0	76.5	72.6	19.377	CC
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	800.0	802.0	76.5	72.4	18.503	ES
Challenger 9N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	1,100.0	1,095.6	89.0	83.4	15.772	SF
Dietrich C07-18 Pad Sec.7-T4N-R64W						
Dietrich C08-30D (Noble-Exist) - Wellbore #1 - Wellbore						Out of range
Existing Wells Sec.7-T4N-R64W (GRID)						
Dietrich PM C 7-2 (Exist.) - Wellbore #1 - Wellbore #1	11,246.6	6,939.1	200.1	28.6	1.167	Level 2, CC, ES, SF
Dietrich RC 7-1 (Exist.) - Wellbore #1 - Wellbore #1	9,883.8	6,905.3	102.6	-23.2	0.816	Level 1, CC, ES, SF
Gemini C7-4 (Exist.) - Wellbore #1 - Wellbore #1	13,652.5	6,939.3	238.2	-13.8	0.945	Level 1, CC, ES, SF
Gemini UPRR C 7-3 (Exist.) - Wellbore #1 - Wellbore #1	12,501.2	6,962.2	179.9	-33.5	0.843	Level 1, CC, ES, SF
Existing Wells Sec.8-T4N-R64W (GRID)						
Cox 8-1 (Exist.) - Wellbore #1 - Wellbore #1	7,287.0	6,881.5	265.8	224.1	6.376	CC, ES
Cox 8-1 (Exist.) - Wellbore #1 - Wellbore #1	7,344.7	6,882.1	272.1	229.1	6.322	SF
Cox PM C 8-4 (Exist.) - Wellbore #1 - Wellbore #1	8,424.5	6,905.7	283.2	207.4	3.736	CC, ES, SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,650.0	7,564.6	385.9	346.8	9.866	SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,743.3	7,566.3	368.5	332.1	10.125	CC, ES
Wright-Goin Pad Sec.7-T4N-R64W						
Wright-Goin C 07-31D (Noble-Exist) - Wright goin C7-31D						Out of range

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