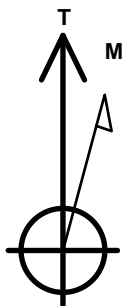


PDC Energy Inc. DJ Basin

Well Name: **Challenger 9N (Nio B)**
 Surface Location: Challenger 4N64W8 Pad Sec.8-T4N-R64W
 North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4777.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1364458.73 3257810.36 40.330150 -104.575260
 Original Well Elev WELL @ 4800.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1448'FNL & 2431'FWL, Sec.8	1.0	0.0	0.0	Point
BHL 2127'FNL & 150'FWL, Sec.7	6830.0	-745.3	-7317.0	Point
LPL 2127'FNL & 1900'FWL, Sec.8	6830.0	-681.2	-532.5	Point



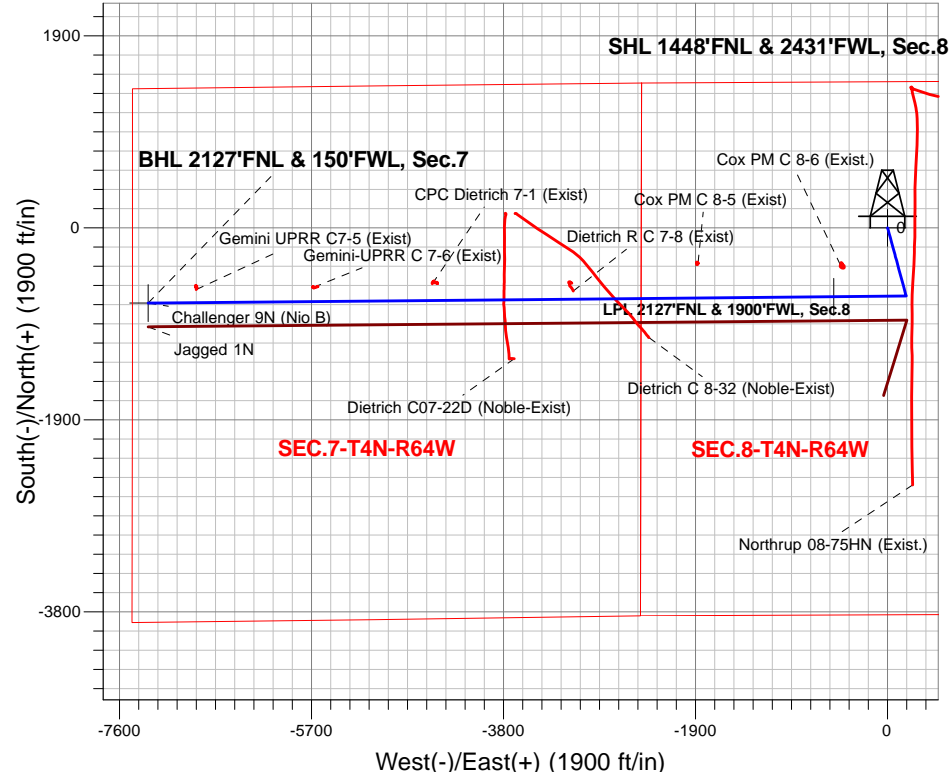
Azimuths to True North
 Magnetic North: 7.81°

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

Challenger 4N64W8 Pad Sec.8-T4N-R64W
 Challenger 9N (Nio B)
 Plan #1 (6-28-18)
 11:16, June 29 2018

ANNOTATIONS

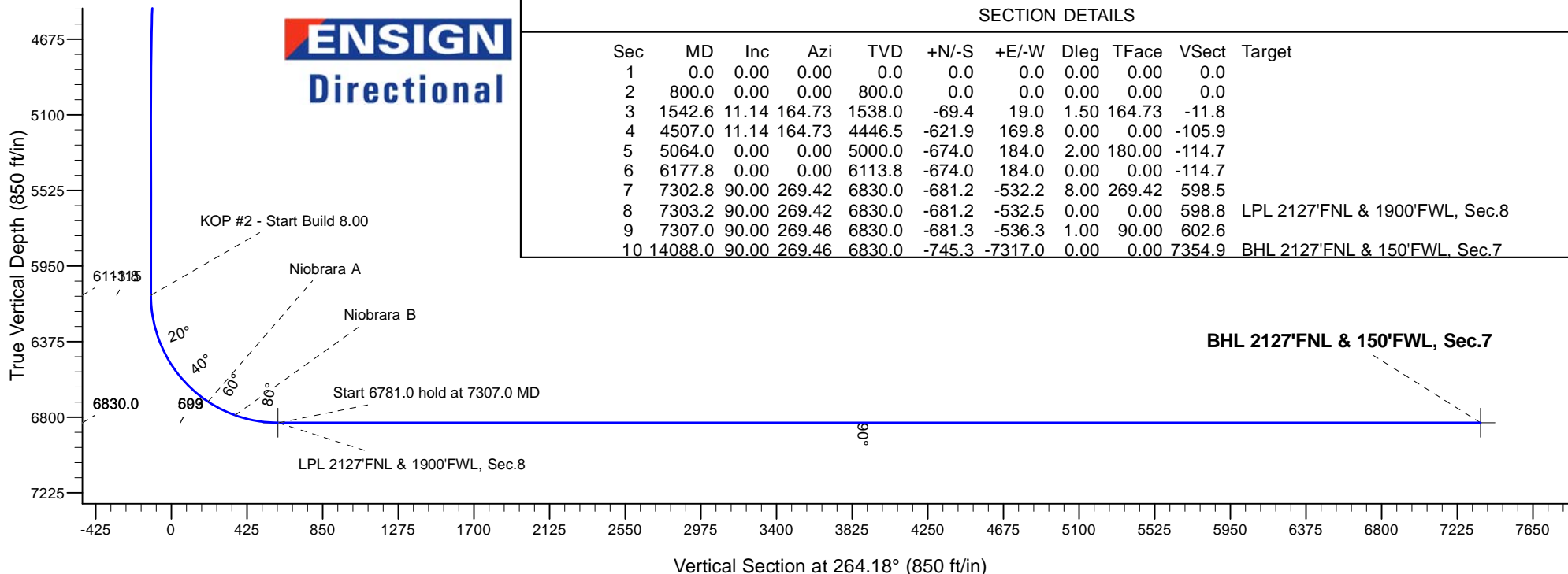
TVD	MD	Annotation
800.0	800.0	KOP - Start Build 1.50
4446.5	4507.0	Start Drop -2.00
6113.8	6177.8	KOP #2 - Start Build 8.00
6830.0	7303.2	Start DLS 1.00 TFO 90.00
6830.0	7307.0	Start 6781.0 hold at 7307.0 MD
6830.0	14088.0	TD at 14088.0



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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1542.6	11.14	164.73	1538.0	-69.4	19.0	1.50	164.73	-11.8	
4	4507.0	11.14	164.73	4446.5	-621.9	169.8	0.00	0.00	-105.9	
5	5064.0	0.00	0.00	5000.0	-674.0	184.0	2.00	180.00	-114.7	
6	6177.8	0.00	0.00	6113.8	-674.0	184.0	0.00	0.00	-114.7	
7	7302.8	90.00	269.42	6830.0	-681.2	-532.2	8.00	269.42	598.5	
8	7303.2	90.00	269.42	6830.0	-681.2	-532.5	0.00	0.00	598.8	LPL 2127'FNL & 1900'FWL, Sec.8
9	7307.0	90.00	269.46	6830.0	-681.3	-536.3	1.00	90.00	602.6	
10	14088.0	90.00	269.46	6830.0	-745.3	-7317.0	0.00	0.00	7354.9	BHL 2127'FNL & 150'FWL, Sec.7



PDC Energy Inc. DJ Basin

SEC.8-T4N-R64W

Challenger 4N64W8 Pad Sec.8-T4N-R64W

Challenger 9N (Nio B)

Wellbore #1

Plan #1 (6-28-18)

Anticollision Report

29 June, 2018

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 9N (Nio B)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4800.0ft (Original Well Elev)
Reference Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4800.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Challenger 9N (Nio B)	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 (6-28-18)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (6-28-18)		
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	14,087.3	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	197.0	120.2	119.4	147.009	CC, ES
Challenger 1N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	900.0	868.8	182.2	177.5	39.019	SF
Challenger 2N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	400.0	398.0	105.6	103.7	54.972	CC, ES
Challenger 2N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	900.0	882.1	138.0	133.3	29.711	SF
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	600.0	598.0	91.1	88.1	30.126	CC, ES
Challenger 3N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	900.0	890.6	103.4	98.7	22.297	SF
Challenger 4N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	800.0	798.0	76.5	72.4	18.549	CC, ES
Challenger 4N (Nio C) - Wellbore #1 - Plan #1 (6-27-18)	1,100.0	1,095.6	89.0	83.4	15.785	SF
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	800.0	799.0	61.9	57.8	15.005	CC, ES
Challenger 5N (Nio B) - Wellbore #1 - Plan #1 (6-27-18)	1,100.0	1,098.7	73.4	67.7	12.988	SF
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	800.0	799.0	47.4	43.2	11.475	CC, ES
Challenger 6N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	1,000.0	998.9	52.4	47.3	10.196	SF
Challenger 7N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	800.0	799.0	29.1	25.0	7.061	CC, ES
Challenger 7N (Nio B) - Wellbore #1 - Plan #1 (6-28-18)	900.0	899.0	30.4	25.8	6.545	SF
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	800.0	799.0	14.6	10.4	3.531	CC
Challenger 8N (Nio C) - Wellbore #1 - Plan #1 (6-28-18)	14,088.0	14,123.8	282.8	-208.7	0.575	Level 1, ES, SF
Dietrich C Pad Sec.7-T4N-R64W						
Dietrich C 8-32 (Noble-Exist) - Dietrich C 8-32 - Dietrich C	9,140.0	7,147.2	384.6	264.2	3.194	CC, ES
Dietrich C 8-32 (Noble-Exist) - Dietrich C 8-32 - Dietrich C	9,200.0	7,146.5	389.3	266.8	3.179	SF
Dietrich C07-18 Pad Sec.7-T4N-R64W						
Dietrich C07-22D (Noble-Exist) - Wellbore #1 - Wellbore						Out of range
Existing Wells Sec.7-T4N-R64W (GRID)						
CPC Dietrich 7-1 (Exist) - Wellbore #1 - Wellbore #1	11,275.8	6,874.1	175.3	2.2	1.013	Level 2, CC, ES, SF
Dietrich R C 7-8 (Exist) - Dietrich RC 7-8 - Dietrich RC 7-	9,888.3	6,860.5	96.9	-29.2	0.769	Level 1, CC, ES, SF
Gemini UPRR C7-5 (Exist) - Wellbore #1 - Wellbore #1	13,604.3	6,865.8	141.9	-110.3	0.563	Level 1, CC, ES, SF
Gemini-UPRR C 7-6 (Exist) - Wellbore #1 - Wellbore #1	12,453.0	6,894.9	143.1	-69.3	0.674	Level 1, CC, ES, SF
Existing Wells Sec.8-T4N-R64W (GRID)						
Cox PM C 8-5 (Exist) - Wellbore #1 - Wellbore #1	8,646.2	6,835.7	351.0	267.2	4.186	CC, ES
Cox PM C 8-5 (Exist) - Wellbore #1 - Wellbore #1	8,700.0	6,835.4	355.1	269.5	4.147	SF
Cox PM C 8-6 (Exist) - Wellbore #1 - Wellbore #1	7,234.7	6,807.7	307.8	268.0	7.725	CC, ES
Cox PM C 8-6 (Exist) - Wellbore #1 - Wellbore #1	7,302.8	6,810.5	315.2	273.8	7.603	SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,650.0	8,810.1	402.2	344.4	6.951	SF
Northrup 08-75HN (Exist.) - Wellbore #1 - Wellbore #1	6,744.0	8,811.7	385.0	331.6	7.209	CC, ES

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