

# PDC Energy Inc. DJ Basin

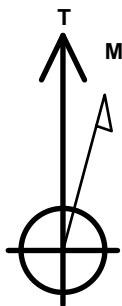
Well Name: **High Plains 25A-241**

Surface Location: High Plains 5N65W25AF Pad Sec.25-T5N-R65W  
North American Datum 1983 , US State Plane 1983 Colorado Northern Zone  
Ground Elevation: 4639.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1380524.45 3245642.78 40.374589 -104.618328  
Original Well Elev WELL @ 4662.0ft (Original Well Elev)

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1039'FNL, 748'FWL, SEC.25	1.0	0.0	0.0	Point
BHL 50'FNL, 1007'FWL, SEC.13	6782.0	11615.0	237.3	Point
LPL 280'FSL, 985'FWL, SEC.24	6802.0	1318.6	237.3	Point



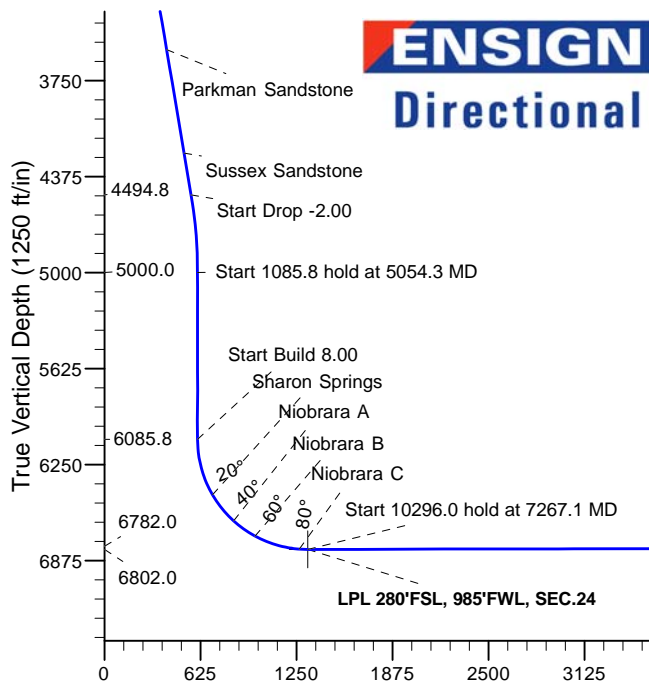
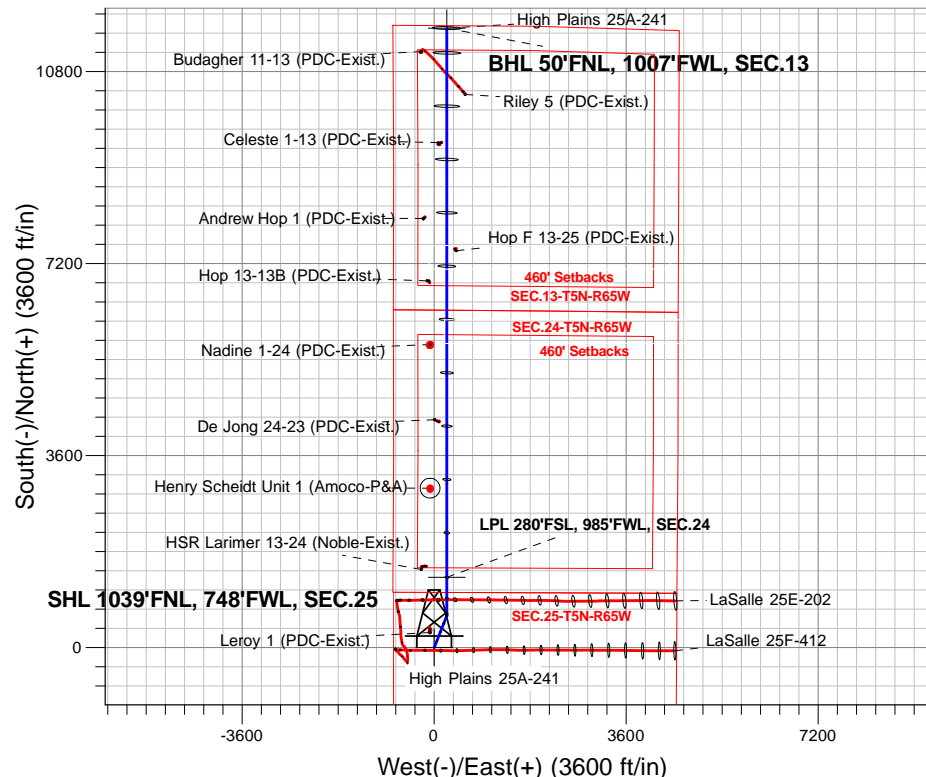
Azimuths to True North  
Magnetic North: 8.02°

Magnetic Field  
Strength: 52539.1snT  
Dip Angle: 66.86°  
Date: 2/8/2017  
Model: IGRF2010

High Plains 5N65W25AF Pad Sec.25-T5N-R65W  
High Plains 25A-241  
Plan #1 (2-03-17)  
10:16, February 08 2017

## ANNOTATIONS

TVD	MD	Annotation
800.0	800.0	KOP - Start Build 1.50
4494.8	4546.4	Start Drop -2.00
5000.0	5054.3	Start 1085.8 hold at 5054.3 MD
6085.8	6140.1	Start Build 8.00
6802.0	7267.1	Start 10296.0 hold at 7267.1 MD
6782.0	17563.0	TD at 17563.0



## 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	1477.2	10.16	21.55	1473.6	55.7	22.0	1.50	21.55	56.1	
4	4546.4	10.16	21.55	4494.8	559.1	220.8	0.00	0.00	563.5	
5	5054.3	0.00	0.00	5000.0	600.9	237.3	2.00	180.00	605.6	
6	6140.1	0.00	0.00	6085.8	600.9	237.3	0.00	0.00	605.6	
7	7266.5	90.11	0.00	6802.0	1318.5	237.3	8.00	0.00	1323.0	
8	7266.6	90.11	0.00	6802.0	1318.6	237.3	0.00	0.00	1323.2	LPL 280'FSL, 985'FWL, SEC.24
9	7267.1	90.11	360.00	6802.0	1319.1	237.3	0.50	-55.06	1323.6	
10	17563.0	90.11	360.00	6782.0	11615.0	237.3	0.00	0.00	11617.4	BHL 50'FNL, 1007'FWL, SEC.13

Vertical Section at 1.17° (1250 ft/in)



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

**SEC.25-T5N-R65W**

**High Plains 5N65W25AF Pad Sec.25-T5N-R65W**

**High Plains 25A-241**

**Wellbore #1**

**Plan #1 (2-03-17)**

## **Anticollision Report**

**08 February, 2017**



<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well High Plains 25A-241
<b>Project:</b>	SEC.25-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4662.0ft (Original Well Elev)
<b>Reference Site:</b>	High Plains 5N65W25AF Pad Sec.25-T5N-R65W	<b>MD Reference:</b>	WELL @ 4662.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	High Plains 25A-241	<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 (2-03-17)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (2-03-17)		
<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 800.0 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> 2/8/2017			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	17,563.0	Plan #1 (2-03-17) (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						
Existing Wells Sec.13-T5N-R65W						
Andrew Hop 1 (PDC-Exist.) - Wellbore #1 - Wellbore #1	13,986.9	6,759.9	441.6	236.4	2.153	CC
Andrew Hop 1 (PDC-Exist.) - Wellbore #1 - Wellbore #1	14,000.0	6,760.0	441.8	236.3	2.150	ES, SF
Budagher 11-13 (PDC-Exist.) - Wellbore #1 - Wellbore #1	17,121.2	6,737.5	479.6	203.3	1.736	CC, ES, SF
Celeste 1-13 (PDC-Exist.) - Wellbore #1 - Wellbore #1	15,411.1	6,743.4	164.9	-73.0	0.693	Level 1, CC, ES, SF
Hop 13-13B (PDC-Exist.) - Wellbore #1 - Wellbore #1	12,825.4	6,768.0	371.2	193.1	2.085	CC, ES, SF
Hop F 13-25 (PDC-Exist.) - Wellbore #1 - Wellbore #1	13,388.8	6,762.9	175.7	-14.7	0.923	Level 1, CC, ES, SF
Riley 5 (PDC-Exist.) - Wellbore #1 - Wellbore #1	16,336.2	6,858.4	334.9	70.1	1.265	Level 3, CC, ES, SF
Existing Wells Sec.24-T5N-R65W						
De Jong 24-23 (PDC-Exist.) - Wellbore #1 - Wellbore #1	10,221.5	6,775.3	229.5	113.1	1.971	CC, ES, SF
Henry Scheidt Unit 1 (Amoco-P&A) - Wellbore #1 - Wellb	8,937.5	6,772.8	315.0	77.7	1.328	Level 3, CC, ES, SF
Nadine 1-24 (PDC-Exist.) - Wellbore #1 - Wellbore #1	11,626.9	6,770.5	314.5	166.7	2.128	CC, ES, SF
Existing Wells Sec.24-T5N-R65W (GRID)						
HSR Larimer 13-24 (Noble-Exist.) - Wellbore #1 - Wellbo	7,429.8	6,776.3	475.4	418.6	8.360	CC, ES
HSR Larimer 13-24 (Noble-Exist.) - Wellbore #1 - Wellbo	7,500.0	6,772.4	480.6	422.3	8.244	SF
Existing Wells Sec.25-T5N-R65W						
Leroy 1 (PDC-Exist.) - Wellbore #1 - Wellbore #1	2,913.1	2,868.5	198.8	180.7	10.957	CC, ES
Leroy 1 (PDC-Exist.) - Wellbore #1 - Wellbore #1	3,200.0	3,147.9	207.9	187.9	10.371	SF

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well High Plains 25A-241
<b>Project:</b>	SEC.25-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4662.0ft (Original Well Elev)
<b>Reference Site:</b>	High Plains 5N65W25AF Pad Sec.25-T5N-R65W	<b>MD Reference:</b>	WELL @ 4662.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	High Plains 25A-241	<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 (2-03-17)	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
High Plains 5N65W25AF Pad Sec.25-T5N-R65W						
High Plains 25A-221 - Wellbore #1 - Plan #1 (2-03-17)	800.0	800.0	30.2	26.1	7.322	CC, ES
High Plains 25A-221 - Wellbore #1 - Plan #1 (2-03-17)	17,563.7	17,638.0	664.2	119.6	1.220	Level 2, SF
High Plains 25A-321 - Wellbore #1 - Plan #1 (2-03-17)	822.1	822.5	44.2	40.0	10.465	CC, ES
High Plains 25A-321 - Wellbore #1 - Plan #1 (2-03-17)	1,000.0	999.8	48.9	43.7	9.378	SF
High Plains 25A-341 - Wellbore #1 - Plan #1 (2-03-17)	600.0	600.0	14.9	11.9	4.933	CC
High Plains 25A-341 - Wellbore #1 - Plan #1 (2-03-17)	17,563.7	17,881.9	350.2	-185.2	0.654	Level 1, ES, SF
High Plains 25A-401 - Wellbore #1 - Plan #1 (2-03-17)	800.0	800.0	14.9	10.8	3.616	CC
High Plains 25A-401 - Wellbore #1 - Plan #1 (2-03-17)	17,563.7	17,995.4	410.7	-95.9	0.811	Level 1, ES, SF
High Plains 25F-221 - Wellbore #1 - Plan #1 (2-03-17)	400.0	400.0	29.9	27.9	15.500	CC, ES
High Plains 25F-221 - Wellbore #1 - Plan #1 (2-03-17)	17,563.7	17,815.5	636.2	91.9	1.169	Level 2, SF
High Plains 25F-301 - Wellbore #1 - Plan #1 (2-03-17)	200.0	200.0	44.8	44.0	54.253	CC
High Plains 25F-301 - Wellbore #1 - Plan #1 (2-03-17)	300.0	299.6	45.3	43.9	33.108	ES
High Plains 25F-301 - Wellbore #1 - Plan #1 (2-03-17)	700.0	695.1	64.2	60.6	17.801	SF
High Plains 25N-241 - Wellbore #1 - Plan #1 (2-03-17)	810.1	811.0	55.5	51.3	13.189	CC, ES
High Plains 25N-241 - Wellbore #1 - Plan #1 (2-03-17)	1,000.0	999.2	62.7	57.4	11.684	SF
High Plains 25N-301 - Wellbore #1 - Plan #1 (2-03-17)	508.2	508.5	74.0	71.5	29.353	CC
High Plains 25N-301 - Wellbore #1 - Plan #1 (2-03-17)	600.0	599.8	74.5	71.4	24.400	ES
High Plains 25N-301 - Wellbore #1 - Plan #1 (2-03-17)	900.0	894.6	90.6	85.7	18.369	SF
LaSalle 25F-HZ Pad Sec.25-T5N-R65W						
LaSalle 25E-202 - Wellbore #1 - Wellbore #1	6,879.6	7,491.4	100.5	64.2	2.765	CC, ES, SF
LaSalle 25F-412 - Wellbore #1 - Wellbore #1	844.1	842.3	577.3	573.1	137.525	CC, ES
LaSalle 25F-412 - Wellbore #1 - Wellbore #1	2,500.0	2,447.7	792.1	777.5	54.247	SF

Offset Design Existing Wells Sec.13-T5N-R65W - Andrew Hop 1 (PDC-Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
13,400.0	6,790.1	6,754.3	6,753.9	174.9	16.6	-88.95	8,038.8	-204.3	734.4	543.1	191.37	3.838		
13,500.0	6,789.9	6,755.3	6,754.8	177.2	16.6	-89.08	8,038.8	-204.3	657.3	463.6	193.72	3.393		
13,600.0	6,789.7	6,756.2	6,755.8	179.6	16.6	-89.20	8,038.8	-204.3	587.1	391.0	196.07	2.994		
13,700.0	6,789.5	6,757.2	6,756.8	181.9	16.6	-89.33	8,038.8	-204.3	526.6	328.2	198.41	2.654		
13,800.0	6,789.3	6,758.1	6,757.7	184.2	16.6	-89.45	8,038.8	-204.3	479.5	278.7	200.76	2.388		
13,900.0	6,789.1	6,759.1	6,758.7	186.6	16.6	-89.57	8,038.8	-204.3	450.0	246.9	203.10	2.216		
13,986.9	6,788.9	6,759.9	6,759.5	188.6	16.6	-89.68	8,038.8	-204.3	441.6	236.4	205.14	2.153	CC	
14,000.0	6,788.9	6,760.0	6,759.6	188.9	16.6	-89.69	8,038.8	-204.3	441.8	236.3	205.45	2.150	ES, SF	
14,100.0	6,788.7	6,760.9	6,760.5	191.2	16.6	-89.82	8,038.9	-204.3	455.8	248.0	207.79	2.194		
14,200.0	6,788.5	6,761.9	6,761.5	193.6	16.6	-89.94	8,038.9	-204.3	490.3	280.2	210.14	2.333		
14,300.0	6,788.3	6,762.8	6,762.4	195.9	16.6	-90.05	8,038.9	-204.3	541.3	328.8	212.48	2.548		
14,400.0	6,788.1	6,763.7	6,763.3	198.3	16.6	-90.17	8,038.9	-204.3	604.7	389.9	214.82	2.815		
14,500.0	6,787.9	6,764.6	6,764.2	200.6	16.6	-90.29	8,038.9	-204.3	677.0	459.8	217.17	3.117		
14,600.0	6,787.8	6,765.5	6,765.1	202.9	16.6	-90.41	8,038.9	-204.3	755.6	536.1	219.51	3.442		