

PDC Energy Inc. DJ Basin

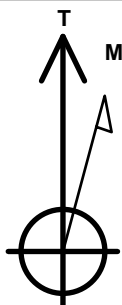
Well Name: **Stella 4N**

Surface Location: Stella 5N65W22Y Pad Sec.22-T5N-R65W
North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4647.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1382363.27 3239196.47 40.379810 -104.641400
RKB - 23' WELL @ 4670.0ft (RKB - 23')

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 839'FSL & 418'FEL, Sec.22	1.0	0.0	0.0	Point
BHL 155'FSL & 500'FWL, Sec.21	6860.0	-737.5	-9638.6	Point
LPL 102'FSL & 732'FEL, Sec.22	6870.0	-737.5	-317.0	Point



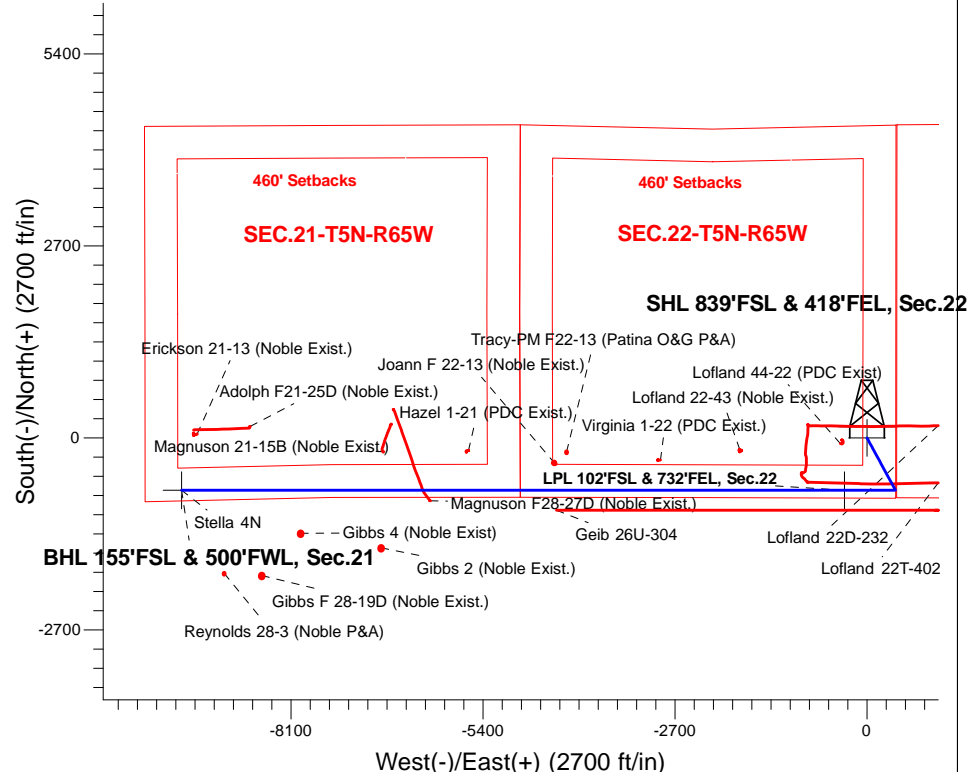
Azimuths to True North
Magnetic North: 7.99°

Magnetic Field
Strength: 52502.5snT
Dip Angle: 66.84°
Date: 6/16/2017
Model: IGRF2010

Stella 5N65W22Y Pad Sec.22-T5N-R65W
Stella 4N
Plan #2 (6-16-17)
14:17, June 16 2017

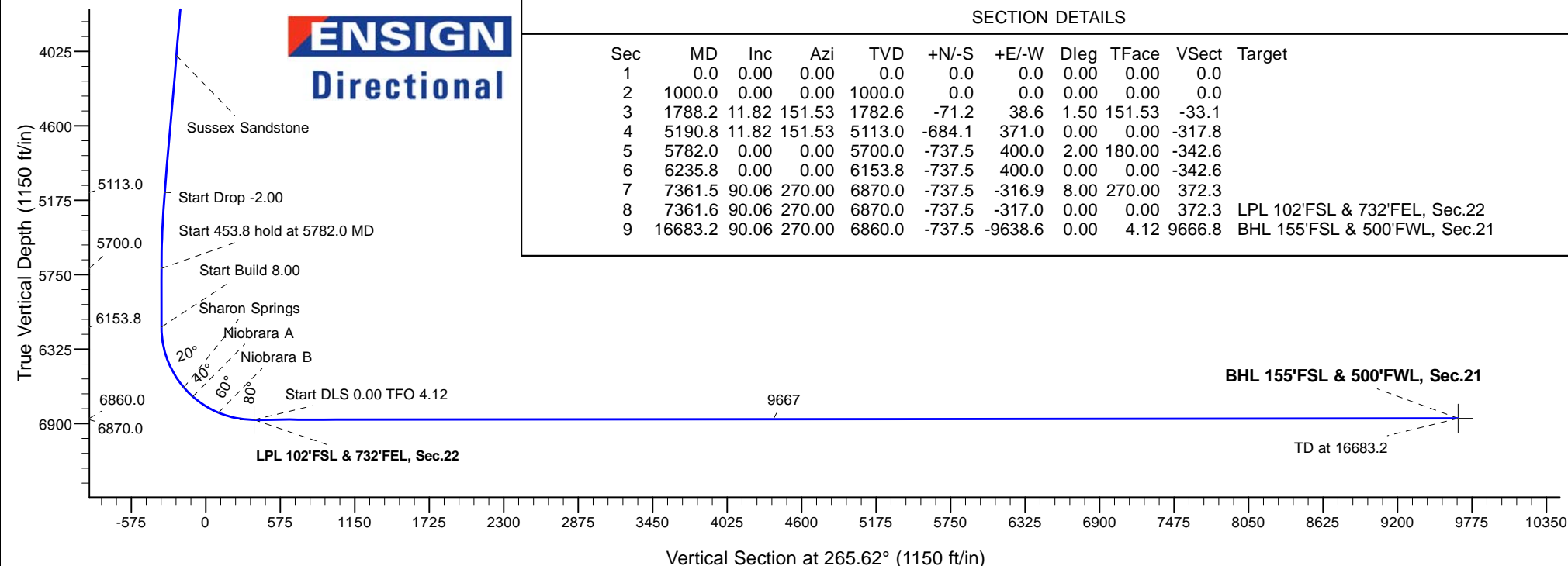
ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP - Start Build 1.50
5113.0	5190.8	Start Drop -2.00
5700.0	5782.0	Start 453.8 hold at 5782.0 MD
6153.8	6235.8	Start Build 8.00
6870.0	7361.6	Start DLS 0.00 TFO 4.12
6860.0	16683.2	TD at 16683.2



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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1788.2	11.82	151.53	1782.6	-71.2	38.6	1.50	151.53	-33.1	
4	5190.8	11.82	151.53	5113.0	-684.1	371.0	0.00	0.00	-317.8	
5	5782.0	0.00	0.00	5700.0	-737.5	400.0	2.00	180.00	-342.6	
6	6235.8	0.00	0.00	6153.8	-737.5	400.0	0.00	0.00	-342.6	
7	7361.5	90.06	270.00	6870.0	-737.5	-316.9	8.00	270.00	372.3	
8	7361.6	90.06	270.00	6870.0	-737.5	-317.0	0.00	0.00	372.3	LPL 102'FSL & 732'FEL, Sec.22
9	16683.2	90.06	270.00	6860.0	-737.5	-9638.6	0.00	4.12	9666.8	BHL 155'FSL & 500'FWL, Sec.21





PDC Energy Inc. DJ Basin

SEC.22-T5N-R65W

Stella 5N65W22Y Pad Sec.22-T5N-R65W

Stella 4N

Wellbore #1

Plan #2 (6-16-17)

Anticollision Report

16 June, 2017

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stella 4N
Project:	SEC.22-T5N-R65W	TVD Reference:	WELL @ 4670.0ft (RKB - 23')
Reference Site:	Stella 5N65W22Y Pad Sec.22-T5N-R65W	MD Reference:	WELL @ 4670.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Stella 4N	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 #2 (6-16-17)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (6-16-17)		
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 1,000.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Not applied

Survey Tool Program	Date 6/16/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,683.2	Plan #2 (6-16-17) (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						
Adolph F21-25D Pad Sec.21-T5N-R65W						
Adolph F21-25D (Noble Exist.) - Wellbore #1 - Wellbore #	15,720.7	6,925.5	898.0	567.7	2.718	CC, ES
Adolph F21-25D (Noble Exist.) - Wellbore #1 - Wellbore #	15,800.0	6,925.0	901.5	568.4	2.707	SF
Erickson 21-13 (Noble Exist.) - Wellbore #1 - Wellbore #1	16,463.6	6,830.5	788.9	442.4	2.277	CC
Erickson 21-13 (Noble Exist.) - Wellbore #1 - Wellbore #1	16,500.0	6,830.7	789.8	442.0	2.271	ES, SF
Existing Wells Sec.21-T5N-R65W						
Hazel 1-21 (PDC Exist.) - Wellbore #1 - Wellbore #1	12,651.0	6,832.1	558.8	343.5	2.596	CC, ES
Hazel 1-21 (PDC Exist.) - Wellbore #1 - Wellbore #1	12,700.0	6,831.9	561.0	344.0	2.585	SF
Magnuson 21-15B (Noble Exist.) - Wellbore #1 - Wellbor	13,843.5	6,877.9	539.7	282.1	2.095	CC, ES
Magnuson 21-15B (Noble Exist.) - Wellbore #1 - Wellbor	13,900.0	6,877.4	542.6	283.1	2.091	SF
Existing Wells Sec.22-T5N-R65W						
Gibbs 2 (Noble Exist.) - Wellbore #1 - Wellbore #1	13,879.2	6,839.1	809.9	400.2	1.977	CC
Gibbs 2 (Noble Exist.) - Wellbore #1 - Wellbore #1	13,900.0	6,839.0	810.2	399.7	1.974	ES, SF
Gibbs F 28-19D (Noble Exist.) - Wellbore #1 - Wellbore #						Out of range
Lofland 44-22 (PDC Exist.) - Wellbore #1 - Wellbore #1	100.0	75.1	353.0	352.8	1,358.672	CC
Lofland 44-22 (PDC Exist.) - Wellbore #1 - Wellbore #1	1,000.0	974.7	355.0	349.5	64.661	ES
Lofland 44-22 (PDC Exist.) - Wellbore #1 - Wellbore #1	7,700.0	6,848.7	717.6	667.4	14.282	SF
Reynolds 28-3 (Noble P&A) - Wellbore #1 - Wellbore #1						Out of range
Tracy-PM F22-13 (Patina O&G P&A) - Wellbore #1 - We	11,271.0	6,832.9	541.1	220.9	1.690	CC
Tracy-PM F22-13 (Patina O&G P&A) - Wellbore #1 - We	11,300.0	6,832.8	541.9	220.7	1.687	ES, SF
Virginia 1-22 (PDC Exist.) - Wellbore #1 - Wellbore #1	9,953.5	6,834.6	425.6	302.6	3.461	CC, ES
Virginia 1-22 (PDC Exist.) - Wellbore #1 - Wellbore #1	10,000.0	6,833.7	428.1	303.6	3.438	SF
Geib 5N65W26V Pad Sec.26-T5N-R65W						
Geib 26U-304 - Wellbore #1 - Plan #1 (10-13-16)	11,405.1	16,719.6	285.6	-203.2	0.584	Level 1, CC, ES, SF
Lofland 22T-HZ Pad Sec.22-T5N-R65W						
Lofland 22D-232 - Wellbore #1 - Wellbore #1	6,650.0	7,648.0	947.3	888.9	16.224	SF
Lofland 22D-232 - Wellbore #1 - Wellbore #1	7,000.0	7,438.0	897.6	843.8	16.686	ES
Lofland 22D-232 - Wellbore #1 - Wellbore #1	7,024.9	7,420.5	897.5	843.9	16.745	CC
Lofland 22T-402 - Wellbore #1 - Wellbore #1	7,521.1	6,992.6	103.6	52.6	2.029	CC, ES, SF
Lorenz F22-67-1HN Pad Sec.22-T5N-R65W						
Gibbs 4 (Noble Exist.) - Wellbore #1 - Wellbore #1	15,010.3	6,832.8	605.5	157.2	1.351	Level 3, CC, ES, SF
Joann F 22-13 (Noble Exist.) - Wellbore #1 - Wellbore #1	11,437.7	6,838.4	378.0	204.8	2.183	CC, ES, SF
Lofland 22-43 (Noble Exist.) - Wellbore #1 - Wellbore #1	8,838.5	6,828.8	572.8	486.8	6.660	CC, ES
Lofland 22-43 (Noble Exist.) - Wellbore #1 - Wellbore #1	9,000.0	6,827.0	595.1	503.8	6.516	SF

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

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Reference Site:	Stella 5N65W22Y Pad Sec.22-T5N-R65W	MD Reference:	WELL @ 4670.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Stella 4N	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 #2 (6-16-17)	Offset TVD Reference:	Offset Datum

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						
Magnuson Pad Sec.21-T5N-R65W						
Magnuson F28-27D (Noble Exist.) - Magnuson F28-27D	13,187.5	7,035.2	148.5	-92.9	0.615	Level 1, CC, ES, SF
Stella 5N65W22Y Pad Sec.22-T5N-R65W						
Stella 1N - Wellbore #1 - Plan #2 (6-16-17)	1,000.0	1,000.0	44.9	39.7	8.580	CC, ES
Stella 1N - Wellbore #1 - Plan #2 (6-16-17)	16,683.9	16,697.9	752.5	77.2	1.114	Level 2, SF
Stella 2N - Wellbore #1 - Plan #2 (6-16-17)	1,000.0	1,000.0	31.2	26.0	5.967	CC
Stella 2N - Wellbore #1 - Plan #2 (6-16-17)	16,683.9	16,634.1	466.3	-210.5	0.689	Level 1, ES, SF
Stella 3N - Wellbore #1 - Plan #2 (6-16-17)	1,000.0	1,000.0	15.6	10.4	2.984	CC
Stella 3N - Wellbore #1 - Plan #2 (6-16-17)	16,683.9	16,723.5	232.5	-427.0	0.353	Level 1, ES, SF

Offset Design													Offset Site Error:	0.0 ft
Adolph F21-25D Pad Sec.21-T5N-R65W - Adolph F21-25D (Noble Exist.) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 78-														
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
15,300.0	6,861.5	6,928.4	6,840.2	291.0	25.0	89.94	160.5	-8,676.1	991.7	675.7	315.91	3.139		
15,400.0	6,861.4	6,927.7	6,839.5	294.5	25.0	89.90	160.5	-8,676.1	953.6	634.2	319.35	2.986		
15,500.0	6,861.3	6,927.0	6,838.8	297.9	25.0	89.86	160.5	-8,676.1	924.7	602.0	322.78	2.865		
15,600.0	6,861.2	6,926.3	6,838.1	301.3	25.0	89.81	160.5	-8,676.1	906.1	579.9	326.21	2.778		
15,700.0	6,861.1	6,925.7	6,837.5	304.8	25.0	89.77	160.5	-8,676.1	898.3	568.6	329.64	2.725		
15,720.7	6,861.1	6,925.5	6,837.3	305.5	25.0	89.76	160.5	-8,676.1	898.0	567.7	330.35	2.718	CC, ES	
15,800.0	6,861.0	6,925.0	6,836.8	308.2	25.0	89.73	160.5	-8,676.1	901.5	568.4	333.08	2.707	SF	
15,900.0	6,860.9	6,924.3	6,836.1	311.6	25.0	89.69	160.5	-8,676.1	915.7	579.2	336.51	2.721		
16,000.0	6,860.7	6,923.7	6,835.5	315.1	25.0	89.64	160.5	-8,676.1	940.4	600.5	339.94	2.766		
16,100.0	6,860.6	6,923.0	6,834.8	318.5	25.0	89.60	160.5	-8,676.1	974.8	631.5	343.37	2.839		