

PDC Energy Inc. DJ Basin

Well Name: **Bath-Sch 32H-212**

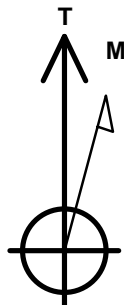
Surface Location: Bath-Sch 5N64W32G Pad Sec.32-T5N-R64W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone

Ground Elevation: 4772.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1373422.90 3255908.03 40.354810 -104.581750
RKB - 23' WELL @ 4795.0ft (RKB - 23')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2305'FSL & 379'FWL, Sec.32	1.0	0.0	0.0	Point
BHL 1854'FSL & 150'FEL, Sec.33	6765.0	-424.2	10053.2	Point
LPL 1881'FSL & 732'FWL, Sec.32	6820.0	-424.2	353.5	Point



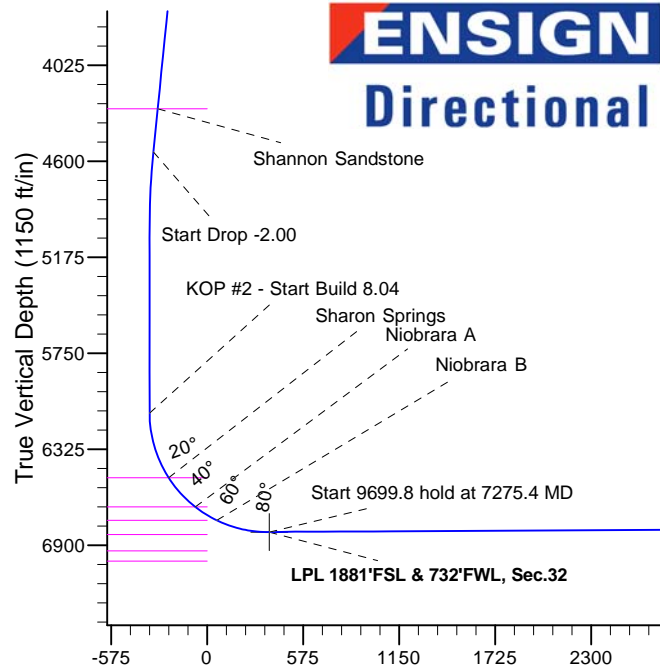
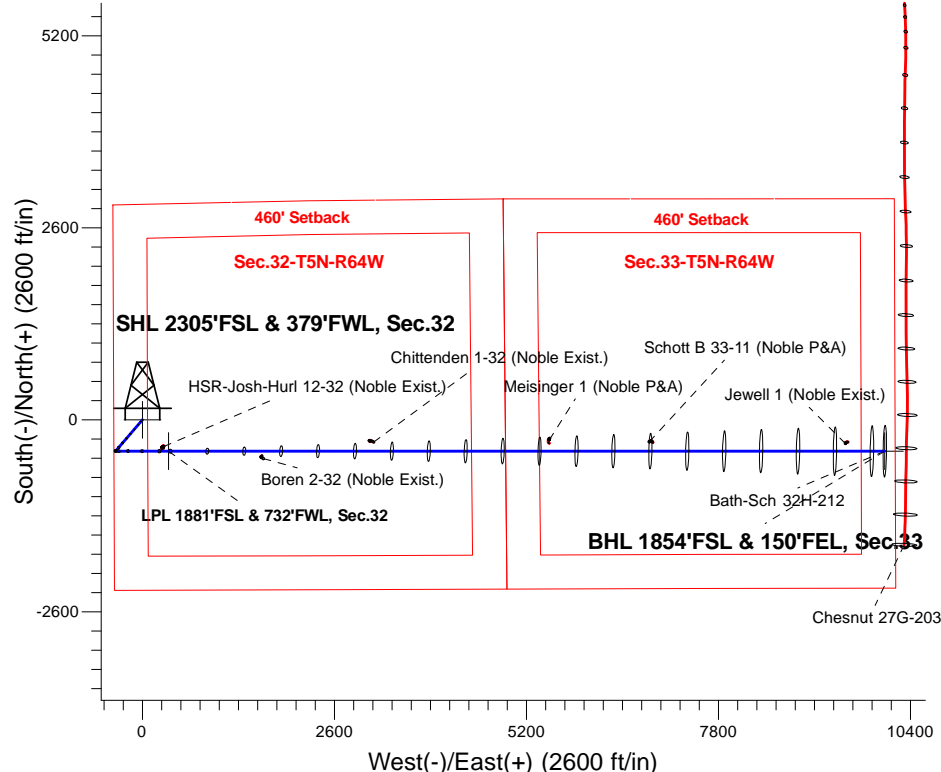
Azimuths to True North
Magnetic North: 8.00°

Magnetic Field
Strength: 52533.4snT
Dip Angle: 66.85°
Date: 2/1/2017
Model: IGRF2010

Bath-Sch 5N64W32G Pad Sec.32-T5N-R64W
Bath-Sch 32H-212
Plan #1 (1-31-17)
17:44, February 08 2017

ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP - Start Build 1.50
4544.0	4584.5	Start Drop -2.00
6108.0	6150.5	KOP #2 - Start Build 8.04
6820.0	7275.4	Start 9699.8 hold at 7275.4 MD
6765.8	16975.3	TD at 16975.3



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	1610.6	9.16	220.59	1608.1	-37.0	-31.7	1.50	220.59	-30.1	
4	4584.5	9.16	220.59	4544.0	-396.5	-339.7	0.00	0.00	-322.7	
5	5042.5	0.00	0.00	5000.0	-424.2	-363.5	2.00	180.00	-345.3	
6	6150.5	0.00	0.00	6108.0	-424.2	-363.5	0.00	0.00	-345.3	
7	7274.4	90.32	90.00	6820.0	-424.2	352.5	8.04	90.00	370.1	
8	7275.4	90.32	90.00	6820.0	-424.2	353.5	0.00	0.00	371.1	LPL 1881'FSL & 732'FWL, Sec.32
9	16975.3	90.32	90.00	6765.8	-424.3	10053.2	0.00	0.00	0062.1	BHL 1854'FSL & 150'FEL, Sec.33

BHL 1854'FSL & 150'FEL, Sec.33

Vertical Section at 92.42° (1150 ft/in)



PDC Energy Inc. DJ Basin

SEC.32-T5N-R64W

Bath-Sch 5N64W32G Pad Sec.32-T5N-R64W

Bath-Sch 32H-212

Wellbore #1

Plan #1 (1-31-17)

Anticollision Report

08 February, 2017



Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Bath-Sch 32H-212
Project:	SEC.32-T5N-R64W	TVD Reference:	WELL @ 4795.0ft (RKB - 23')
Reference Site:	Bath-Sch 5N64W32G Pad Sec.32-T5N-R64W	MD Reference:	WELL @ 4795.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Bath-Sch 32H-212	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 (1-31-17)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (1-31-17)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,200.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Not applied

Survey Tool Program	Date 2/8/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,975.0	Plan #1 (1-31-17) (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						
Bath-Sch 5N64W32G Pad Sec.32-T5N-R64W						
Bath-Sch 32G-202 - Wellbore #1 - Plan #1 (1-31-17)	1,000.0	1,000.0	29.1	23.9	5.571	CC
Bath-Sch 32G-202 - Wellbore #1 - Plan #1 (1-31-17)	16,975.3	16,918.6	559.2	-143.4	0.796	Level 1, ES, SF
Bath-Sch 32G-332 - Wellbore #1 - Plan #1 (1-31-17)	1,000.0	1,000.0	14.6	9.3	2.786	CC
Bath-Sch 32G-332 - Wellbore #1 - Plan #1 (1-31-17)	16,975.3	17,042.5	291.1	-390.6	0.427	Level 1, ES, SF
Bath-Sch 32G-432 - Wellbore #1 - Plan #1 (1-30-17)	200.0	200.0	43.7	42.9	52.920	CC, ES
Bath-Sch 32G-432 - Wellbore #1 - Plan #1 (1-30-17)	16,975.3	17,163.2	867.6	177.9	1.258	Level 3, SF
Bath-Sch 32H-202 - Wellbore #1 - Plan #1 (2-1-17)	600.0	600.0	29.1	26.1	9.623	CC
Bath-Sch 32H-202 - Wellbore #1 - Plan #1 (2-1-17)	16,975.3	17,033.6	469.8	-233.6	0.668	Level 1, ES, SF
Bath-Sch 32H-312 - Wellbore #1 - Plan #1 (1-31-17)	800.0	800.0	14.6	10.4	3.528	CC
Bath-Sch 32H-312 - Wellbore #1 - Plan #1 (1-31-17)	16,975.3	17,087.2	228.0	-438.9	0.342	Level 1, ES, SF
Chesnut 27G-HZ Pad Sec.27-T5N-R64W						
Chesnut 27G-203 - Wellbore #1 - Wellbore #1	16,975.3	12,504.8	291.5	-3.6	0.988	Level 1, CC, ES, SF
Existing Wells Sec.32-T5N-R64W (GRID)						
Boren 2-32 (Noble Exist.) - Wellbore #1 - Wellbore #1	8,544.4	6,791.0	91.8	12.5	1.158	Level 2, CC, ES, SF
Chittenden 1-32 (Noble Exist.) - Wellbore #1 - Wellbore #1	10,040.9	6,767.6	128.6	-0.2	0.998	Level 1, CC, ES, SF
HSR-Josh-Hurl 12-32 (Noble Exist.) - Wellbore #1 - Wellbore #1	7,200.9	6,802.2	67.4	28.2	1.718	CC, ES, SF
Existing Wells Sec.33-T5N-R64W (GRID)						
Jewell 1 (Noble Exist.) - Wellbore #1 - Wellbore #1	16,442.9	6,636.2	106.5	-241.6	0.306	Level 1, CC, ES, SF
Meisinger 1 (Noble P&A) - Wellbore #1 - Wellbore #1	12,430.6	6,693.8	155.1	-55.0	0.738	Level 1, CC, ES, SF
Schott B 33-11 (Noble P&A) - Wellbore #1 - Wellbore #1	13,784.1	6,673.2	128.7	-128.4	0.501	Level 1, CC, ES, SF

Offset Design		Bath-Sch 5N64W32G Pad Sec.32-T5N-R64W - Bath-Sch 32G-202 - Wellbore #1 - Plan #1 (1-31-17)											Offset Site Error:		0.0 ft	
Survey Program:		0-MWD											Offset Well Error:		0.0 ft	
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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
	0.0	0.0	0.0	0.0	0.0	0.00	29.1		0.0	29.1						
	100.0	100.0	100.0	100.0	0.1	0.1	0.00	29.1		0.0	29.1	28.9	0.28	105.851		
	200.0	200.0	200.0	200.0	0.4	0.4	0.00	29.1		0.0	29.1	28.3	0.83	35.284		
	300.0	300.0	300.0	300.0	0.7	0.7	0.00	29.1		0.0	29.1	27.8	1.38	21.170		
	400.0	400.0	400.0	400.0	1.0	1.0	0.00	29.1		0.0	29.1	27.2	1.93	15.122		
	500.0	500.0	500.0	500.0	1.2	1.2	0.00	29.1		0.0	29.1	26.7	2.48	11.761		

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