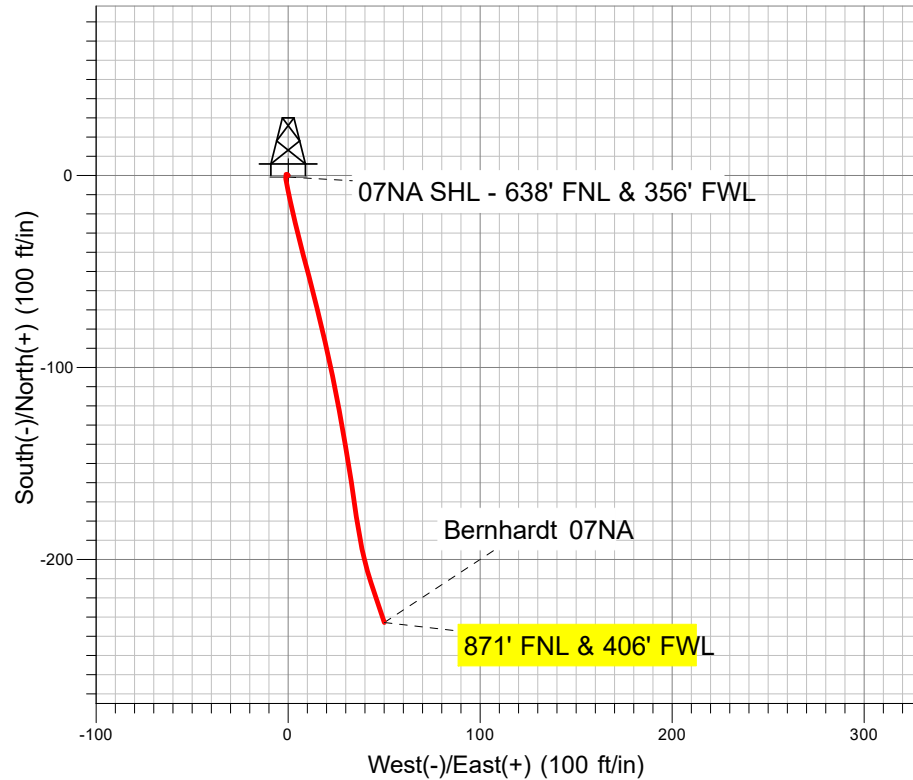




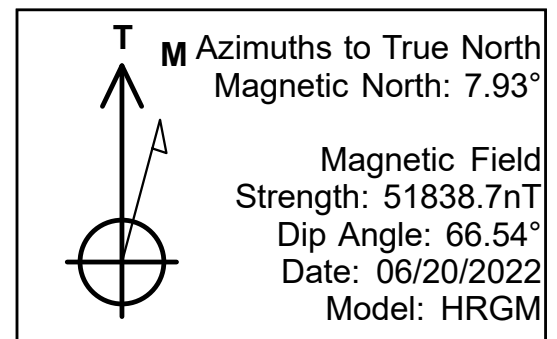
Well Name: Bernhardt 07NA
Surface Location: Bernhardt 4-18
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4736.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1359198.87 3187264.42 40.317455 -104.828433
Ensign 122 - RKB 13' (As Built) WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.18-T4N-R66W
Site: Bernhardt 4-18
Well: Bernhardt 07NA
Plan: Bernhardt 07NA





PDC Energy Inc. DJ Basin

SEC.18-T4N-R66W

Bernhardt 4-18

Bernhardt 07NA

Bernhardt 07NA

Design: Bernhardt 07NA

Standard Survey Report

05 July, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Bernhardt 07NA
Project:	SEC.18-T4N-R66W	TVD Reference:	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
Site:	Bernhardt 4-18	MD Reference:	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
Well:	Bernhardt 07NA	North Reference:	True
Wellbore:	Bernhardt 07NA	Survey Calculation Method:	Minimum Curvature
Design:	Bernhardt 07NA	Database:	US_EDM

Project	SEC.18-T4N-R66W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Bernhardt 4-18			
Site Position:		Northing:	1,359,288.20 usft	Latitude:	40.317700
From:	Lat/Long	Easting:	3,187,272.84 usft	Longitude:	-104.828400
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.43 °

Well	Bernhardt 07NA					
Well Position	+N/-S	0.0 ft	Northing:	1,359,198.87 usf	Latitude:	40.317455
	+E/-W	0.0 ft	Easting:	3,187,264.42 usf	Longitude:	-104.828433
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,736.0 ft

Wellbore	Bernhardt 07NA				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	06/20/2022	7.93	66.54	51,838.68546491

Design	Bernhardt 07NA				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	167.83	

Survey Program	Date	07/05/2022			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
146.0	1,669.0	Survey #1 (Bernhardt 07NA)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
146.0	0.62	324.34	146.0	0.6	-0.5	-0.7	0.42	0.42	0.00	
238.0	0.62	222.03	238.0	0.7	-1.1	-0.9	1.05	0.00	-111.21	
329.0	2.37	174.39	329.0	-1.6	-1.2	1.3	2.20	1.92	-52.35	
444.0	3.87	165.96	443.8	-7.7	-0.1	7.5	1.36	1.30	-7.33	
531.0	5.72	168.42	530.5	-14.8	1.5	14.8	2.14	2.13	2.83	
619.0	7.83	167.01	617.9	-24.9	3.8	25.2	2.40	2.40	-1.60	
706.0	9.58	164.73	703.9	-37.7	7.0	38.3	2.05	2.01	-2.62	
791.0	11.17	165.78	787.5	-52.5	10.9	53.6	1.88	1.87	1.24	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Bernhardt 07NA
Project:	SEC.18-T4N-R66W	TVD Reference:	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
Site:	Bernhardt 4-18	MD Reference:	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
Well:	Bernhardt 07NA	North Reference:	True
Wellbore:	Bernhardt 07NA	Survey Calculation Method:	Minimum Curvature
Design:	Bernhardt 07NA	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
878.0	11.78	165.78	872.7	-69.3	15.1	70.9	0.70	0.70	0.00
965.0	11.96	167.36	957.9	-86.7	19.3	88.8	0.43	0.21	1.82
1,050.0	12.40	167.72	1,041.0	-104.2	23.2	106.7	0.53	0.52	0.42
1,135.0	12.49	170.35	1,124.0	-122.2	26.6	125.0	0.68	0.11	3.09
1,221.0	12.66	170.18	1,207.9	-140.6	29.8	143.7	0.20	0.20	-0.20
1,308.0	12.84	171.23	1,292.7	-159.6	32.9	162.9	0.34	0.21	1.21
1,395.0	11.43	171.93	1,377.8	-177.7	35.6	181.2	1.63	-1.62	0.80
1,482.0	11.08	168.59	1,463.1	-194.4	38.4	198.1	0.85	-0.40	-3.84
1,569.0	13.01	161.91	1,548.2	-211.9	43.1	216.2	2.73	2.22	-7.68
1,609.0	12.66	161.21	1,587.2	-220.3	46.0	225.1	0.96	-0.88	-1.75
1,669.0	12.66	161.21	1,645.8	-232.8	50.2	238.1	0.00	0.00	0.00
871' FNL & 406' FWL									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,669.0	1,645.8	-232.8	50.2	871' FNL & 406' FWL

Checked By: _____	Approved By: _____	Date: _____
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