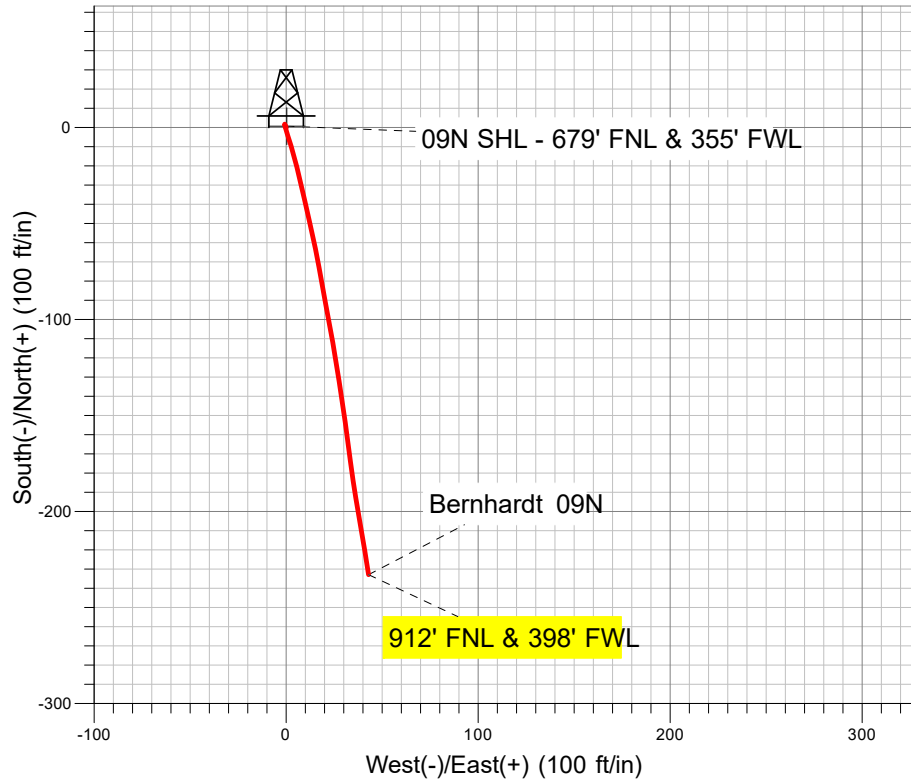
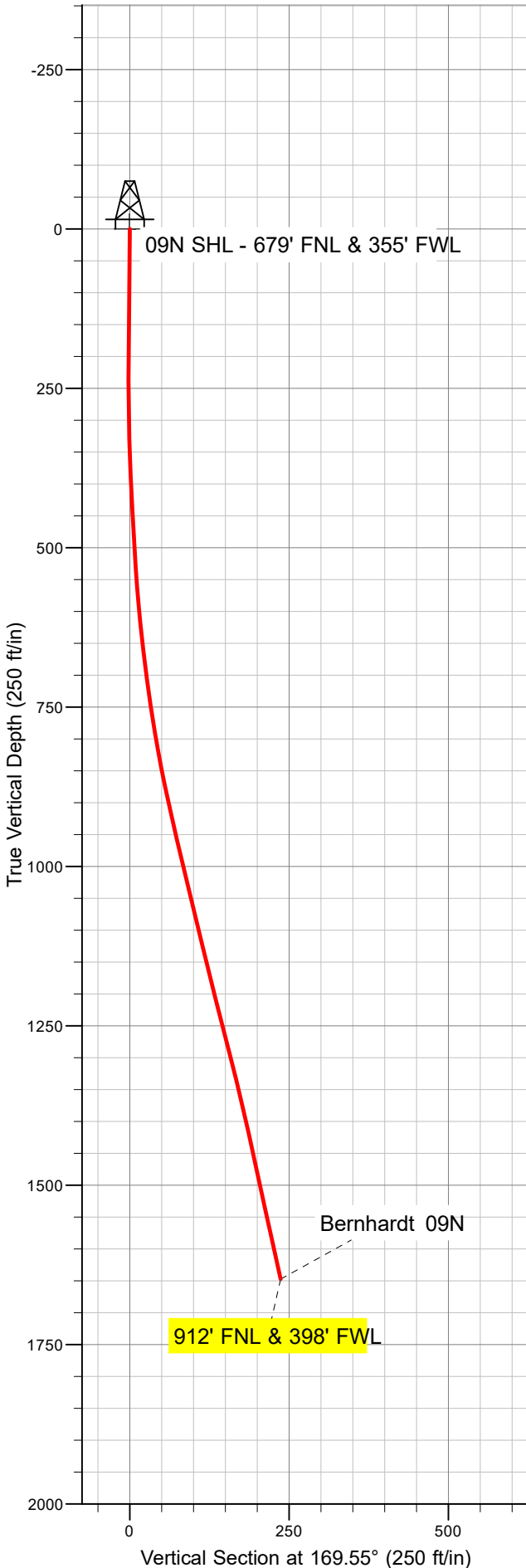




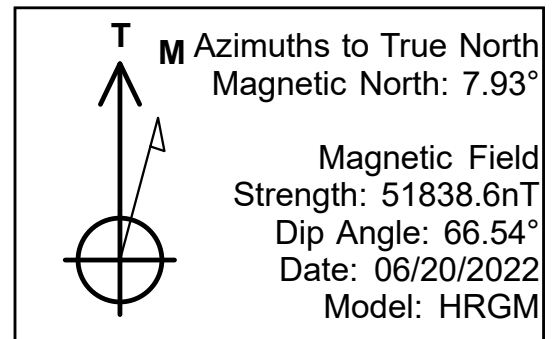
**Well Name:** Bernhardt 09N  
Surface Location: Bernhardt 4-18  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
Ground Elevation: 4736.0  
+N/-S +E/-W Northing Easting Latitude Longitude  
0.0 0.0 1359157.70 3187264.01 40.317342 -104.828435  
Ensign 122 - RKB 13' (As Built)WELL @ 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 09N  
Plan: Bernhardt 09N





# **PDC Energy Inc. DJ Basin**

**SEC.18-T4N-R66W**

**Bernhardt 4-18**

**Bernhardt 09N**

**Bernhardt 09N**

**Design: Bernhardt 09N**

## **Standard Survey Report**

**05 July, 2022**

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Bernhardt 09N
<b>Project:</b>	SEC.18-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
<b>Site:</b>	Bernhardt 4-18	<b>MD Reference:</b>	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
<b>Well:</b>	Bernhardt 09N	<b>North Reference:</b>	True
<b>Wellbore:</b>	Bernhardt 09N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Bernhardt 09N	<b>Database:</b>	US_EDM

<b>Project</b>	SEC.18-T4N-R66W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 09N					
Well Position	+N/-S	0.0 ft	Northing:	1,359,157.70 usf	Latitude:	40.317342
	+E/-W	0.0 ft	Easting:	3,187,264.01 usf	Longitude:	-104.828435
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,736.0 ft

<b>Wellbore</b>	Bernhardt 09N				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HRGM	06/20/2022	7.93	66.54	51,838.61739383

Design	Bernhardt 09N				
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	169.55	

<b>Survey Program</b>	<b>Date</b>	07/05/2022			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
146.0	1,672.0	Survey #1 (Bernhardt 09N)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
146.0	0.97	336.82	146.0	1.1	-0.5	-1.2	0.66	0.66	0.00	
238.0	0.09	118.32	238.0	1.8	-0.7	-1.9	1.13	-0.96	153.80	
329.0	1.67	170.18	329.0	0.5	-0.4	-0.5	1.78	1.74	56.99	
444.0	3.17	162.09	443.9	-4.2	0.8	4.3	1.33	1.30	-7.03	
531.0	3.69	161.91	530.7	-9.2	2.4	9.4	0.60	0.60	-0.21	
619.0	5.80	164.73	618.4	-16.1	4.5	16.7	2.41	2.40	3.20	
706.0	7.56	167.36	704.8	-26.0	6.9	26.8	2.05	2.02	3.02	
791.0	9.41	166.66	788.9	-38.2	9.7	39.3	2.18	2.18	-0.82	

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Bernhardt 09N
<b>Project:</b>	SEC.18-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
<b>Site:</b>	Bernhardt 4-18	<b>MD Reference:</b>	WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))
<b>Well:</b>	Bernhardt 09N	<b>North Reference:</b>	True
<b>Wellbore:</b>	Bernhardt 09N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Bernhardt 09N	<b>Database:</b>	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	12.05	167.72	874.4	-54.0	13.3	55.5	3.04	3.03	1.22	
965.0	13.10	168.95	959.3	-72.5	17.1	74.4	1.25	1.21	1.41	
1,050.0	13.72	170.18	1,041.9	-91.9	20.7	94.1	0.80	0.73	1.45	
1,135.0	13.63	169.30	1,124.5	-111.7	24.3	114.2	0.27	-0.11	-1.04	
1,221.0	14.16	171.58	1,208.0	-132.0	27.7	134.9	0.89	0.62	2.65	
1,308.0	14.51	172.11	1,292.3	-153.4	30.7	156.4	0.43	0.40	0.61	
1,395.0	13.19	172.46	1,376.8	-174.0	33.5	177.2	1.52	-1.52	0.40	
1,482.0	11.96	171.06	1,461.7	-192.8	36.2	196.1	1.46	-1.41	-1.61	
1,569.0	12.57	169.47	1,546.7	-211.0	39.4	214.6	0.80	0.70	-1.83	
1,612.0	12.40	171.06	1,588.7	-220.1	40.9	223.9	0.89	-0.40	3.70	
1,672.0	12.40	171.06	1,647.3	-232.9	42.9	236.8	0.00	0.00	0.00	
912' FNL & 398' FWL										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,672.0	1,647.3	-232.9	42.9	912' FNL & 398' FWL	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------