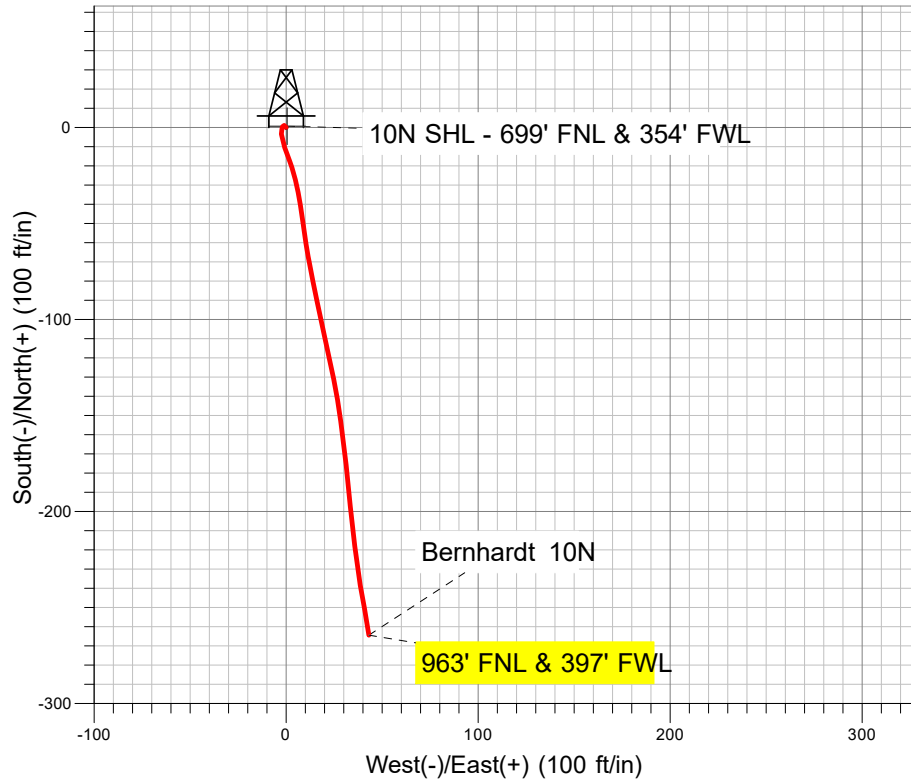
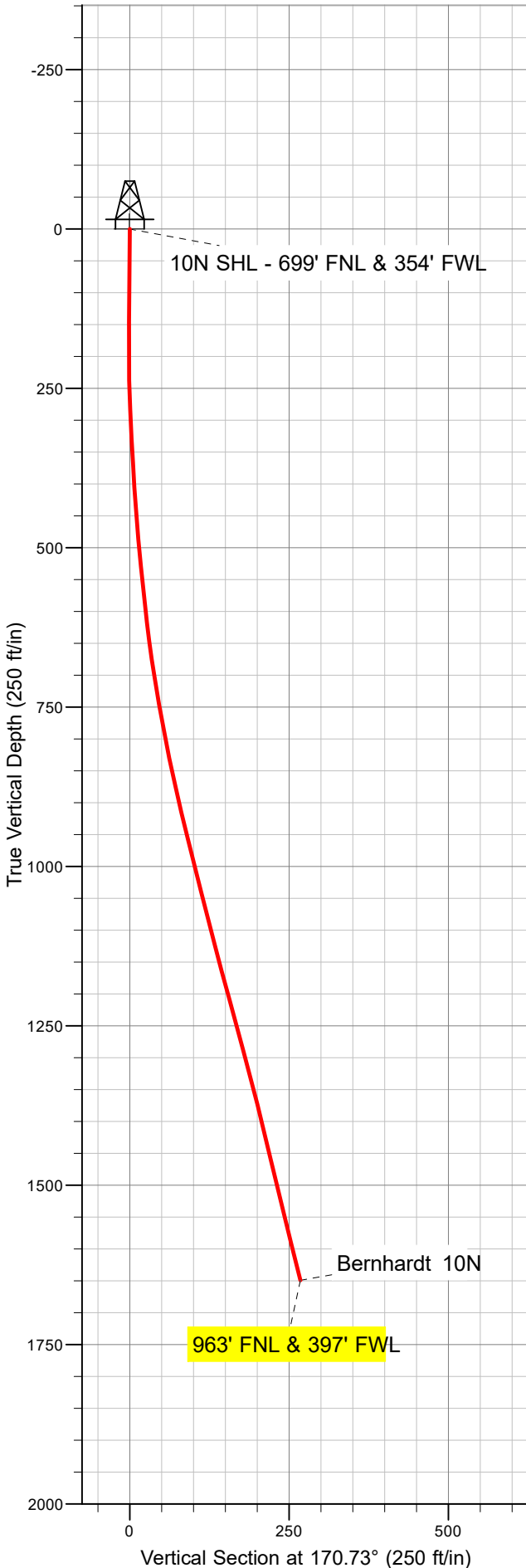




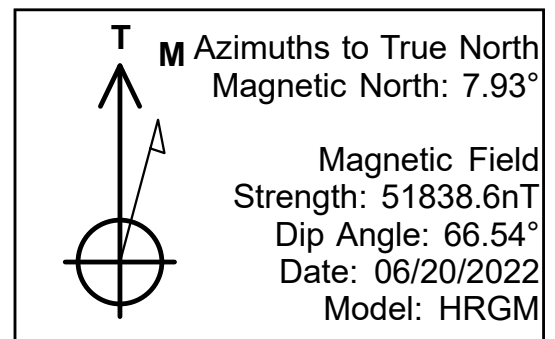
Well Name: Bernhardt 10N
Surface Location: Bernhardt 4-18
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4736.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1359137.66 3187263.66 40.317287 -104.828437
Ensign 122 - RKB 13' (As Built) WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.18-T4N-R66W
Site: Bernhardt 4-18
Well: Bernhardt 10N
Plan: Bernhardt 10N





PDC Energy Inc. DJ Basin

SEC.18-T4N-R66W

Bernhardt 4-18

Bernhardt 10N

Bernhardt 10N

Design: Bernhardt 10N

Standard Survey Report

05 July, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Bernhardt 10N
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 10N	North Reference:	True
Wellbore:	Bernhardt 10N	Survey Calculation Method:	Minimum Curvature
Design:	Bernhardt 10N	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 10N					
Well Position	+N/-S	0.0 ft	Northing:	1,359,137.66 usf	Latitude:	40.317287
	+E/-W	0.0 ft	Easting:	3,187,263.66 usf	Longitude:	-104.828437
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,736.0 ft

Wellbore	Bernhardt 10N				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	06/20/2022	7.93	66.54	51,838.58419394

Design	Bernhardt 10N				
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	170.73	

Survey Program	Date	07/05/2022			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
146.0	1,679.0	Survey #1 (Bernhardt 10N)	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	1.14	319.77	146.0	1.1	-0.9	-1.2	0.78	0.78	0.00	
238.0	1.76	196.72	238.0	0.5	-1.9	-0.8	2.79	0.67	-133.75	
329.0	3.08	181.60	328.9	-3.3	-2.4	2.9	1.60	1.45	-16.62	
444.0	4.40	156.64	443.7	-10.5	-0.7	10.2	1.80	1.15	-21.70	
531.0	5.72	161.21	530.3	-17.6	2.0	17.7	1.59	1.52	5.25	
619.0	6.68	164.90	617.8	-26.7	4.7	27.1	1.18	1.09	4.19	
706.0	9.15	171.58	704.0	-38.5	7.1	39.1	3.02	2.84	7.68	
791.0	10.73	171.41	787.7	-53.0	9.2	53.8	1.86	1.86	-0.20	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Bernhardt 10N
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 10N	North Reference:	True
Wellbore:	Bernhardt 10N	Survey Calculation Method:	Minimum Curvature
Design:	Bernhardt 10N	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	12.66	169.65	872.9	-70.4	12.1	71.4	2.26	2.22	-2.02
965.0	13.98	168.07	957.5	-90.0	16.0	91.4	1.57	1.52	-1.82
1,050.0	14.33	167.72	1,040.0	-110.3	20.4	112.2	0.42	0.41	-0.41
1,135.0	14.42	168.59	1,122.3	-131.0	24.7	133.3	0.28	0.11	1.02
1,221.0	15.65	172.11	1,205.3	-153.0	28.4	155.6	1.78	1.43	4.09
1,308.0	14.86	174.04	1,289.3	-175.7	31.2	178.4	1.08	-0.91	2.22
1,395.0	14.24	174.22	1,373.5	-197.4	33.4	200.3	0.71	-0.71	0.21
1,482.0	13.37	172.99	1,458.0	-218.1	35.7	221.0	1.06	-1.00	-1.41
1,569.0	13.89	170.53	1,542.5	-238.4	38.7	241.5	0.89	0.60	-2.83
1,619.0	13.89	170.18	1,591.1	-250.2	40.7	253.5	0.17	0.00	-0.70
1,679.0	13.89	170.18	1,649.3	-264.4	43.2	267.9	0.00	0.00	0.00
963' FNL & 397' FWL									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,679.0	1,649.3	-264.4	43.2	963' FNL & 397' FWL

Checked By: _____	Approved By: _____	Date: _____
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