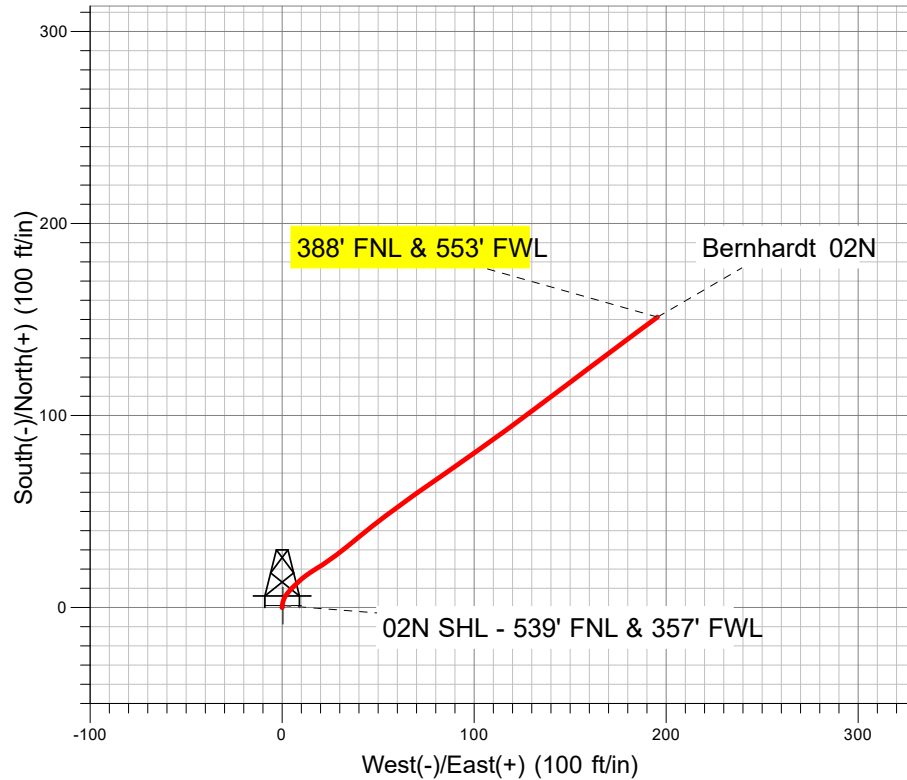
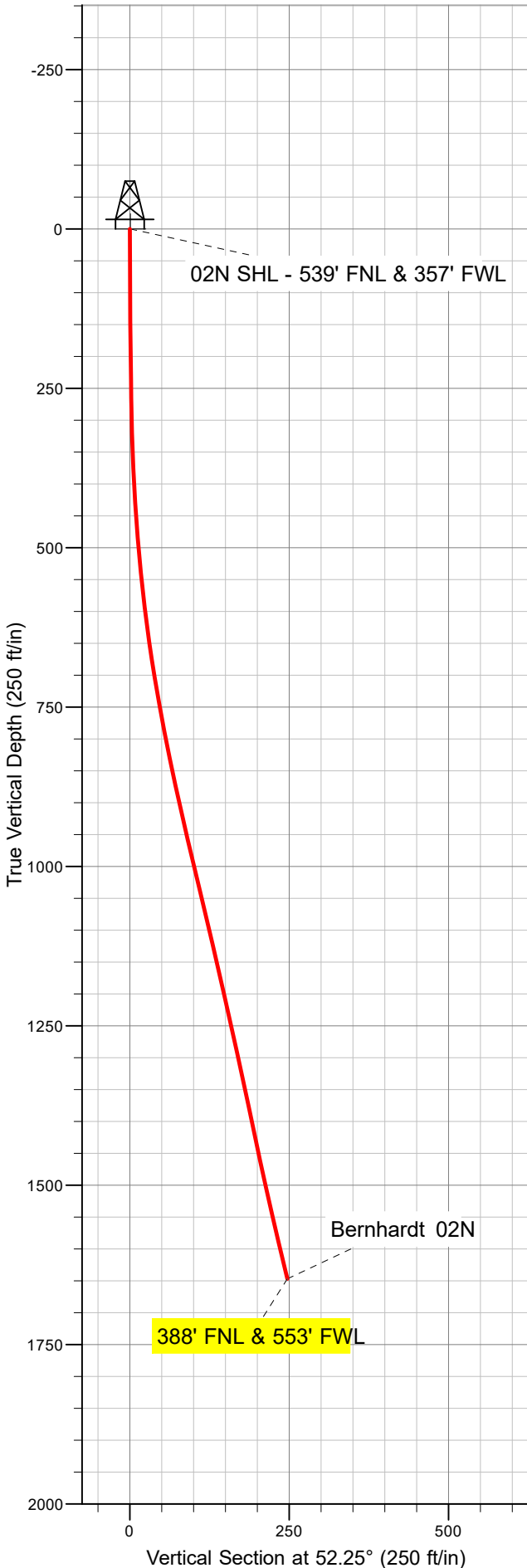




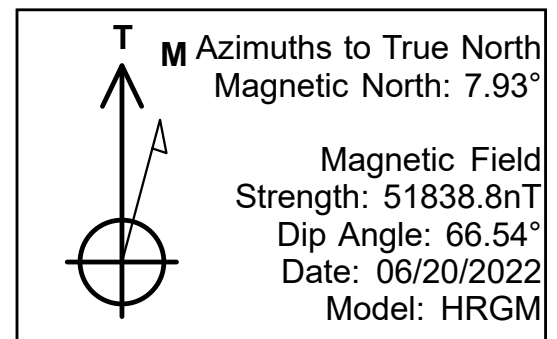
Well Name: Bernhardt 02N
Surface Location: Bernhardt 4-18
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4736.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1359297.23 3187264.51 40.317725 -104.828430
Ensign 122 - RKB 13' (As Built) WELL @ 4749.0ft (Ensign 122 - RKB 13' (As Built))

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.18-T4N-R66W
Site: Bernhardt 4-18
Well: Bernhardt 02N
Plan: Bernhardt 02N





PDC Energy Inc. DJ Basin

SEC.18-T4N-R66W

Bernhardt 4-18

Bernhardt 02N

Bernhardt 02N

Design: Bernhardt 02N

Standard Survey Report

05 July, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Bernhardt 02N
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 02N	North Reference:	True
Wellbore:	Bernhardt 02N	Survey Calculation Method:	Minimum Curvature
Design:	Bernhardt 02N	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 02N					
Well Position	+N/-S	0.0 ft	Northing:	1,359,297.24 usf	Latitude:	40.317725
	+E/-W	0.0 ft	Easting:	3,187,264.51 usf	Longitude:	-104.828430
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,736.0 ft

Wellbore	Bernhardt 02N				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	06/20/2022	7.93	66.54	51,838.84775636

Design	Bernhardt 02N				
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	52.25	

Survey Program	Date	07/05/2022			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
146.0	1,672.0	Survey #1 (Bernhardt 02N)	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	0.97	7.23	146.0	1.2	0.2	0.9	0.66	0.66	0.00	
238.0	1.06	5.29	238.0	2.8	0.3	2.0	0.10	0.10	-2.11	
329.0	1.85	28.14	328.9	5.0	1.1	3.9	1.06	0.87	25.11	
444.0	3.87	41.86	443.8	9.5	4.6	9.4	1.84	1.76	11.93	
531.0	5.63	48.54	530.5	14.5	9.7	16.6	2.12	2.02	7.68	
619.0	7.39	58.91	617.9	20.3	17.8	26.5	2.40	2.00	11.78	
706.0	9.41	52.93	704.0	27.5	28.3	39.2	2.53	2.32	-6.87	
791.0	10.82	50.64	787.7	36.7	40.0	54.1	1.72	1.66	-2.69	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Bernhardt 02N
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 02N	North Reference:	True
Wellbore:	Bernhardt 02N	Survey Calculation Method:	Minimum Curvature
Design:	Bernhardt 02N	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	12.49	52.40	872.9	47.6	53.8	71.7	1.96	1.92	2.02
965.0	13.19	54.86	957.7	59.1	69.3	91.0	1.02	0.80	2.83
1,050.0	13.54	55.74	1,040.4	70.3	85.5	110.6	0.48	0.41	1.04
1,135.0	13.10	54.34	1,123.1	81.5	101.5	130.2	0.64	-0.52	-1.65
1,221.0	12.75	53.81	1,206.9	92.8	117.1	149.4	0.43	-0.41	-0.62
1,308.0	12.57	53.28	1,291.8	104.1	132.4	168.5	0.25	-0.21	-0.61
1,395.0	11.61	52.75	1,376.9	115.1	147.0	186.7	1.11	-1.10	-0.61
1,482.0	12.13	53.11	1,462.0	125.9	161.3	204.6	0.60	0.60	0.41
1,569.0	13.19	53.46	1,546.9	137.3	176.6	223.6	1.22	1.22	0.40
1,612.0	13.28	53.28	1,588.8	143.1	184.5	233.5	0.23	0.21	-0.42
1,672.0	13.28	53.28	1,647.2	151.4	195.5	247.3	0.00	0.00	0.00
388' FNL & 553' FWL									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,672.0	1,647.2	151.4	195.5	388' FNL & 553' FWL

Checked By: _____	Approved By: _____	Date: _____
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