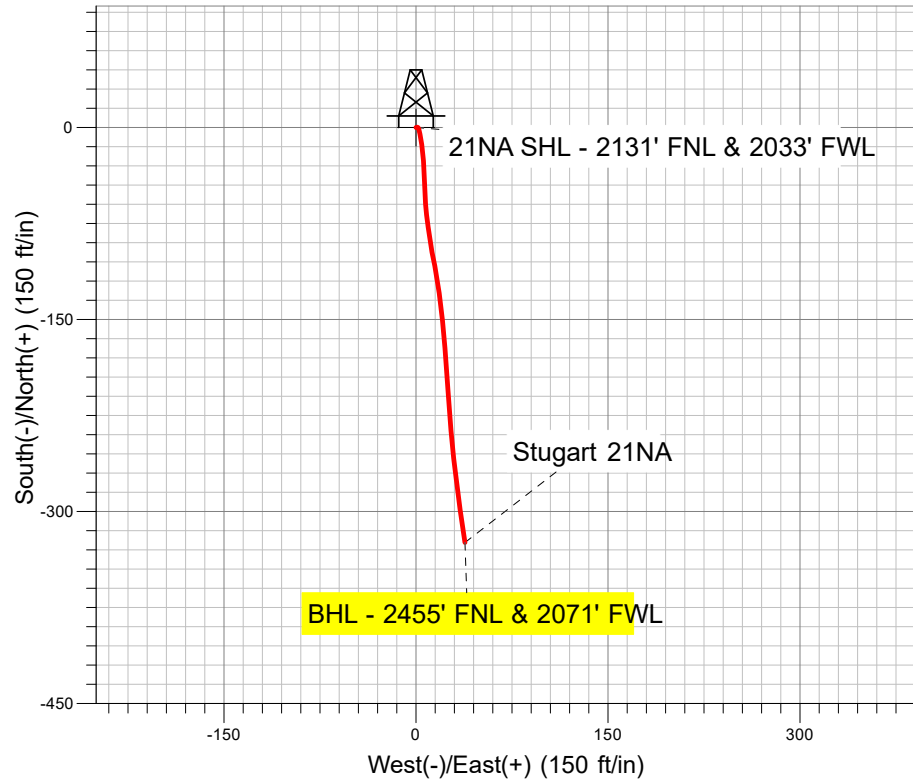
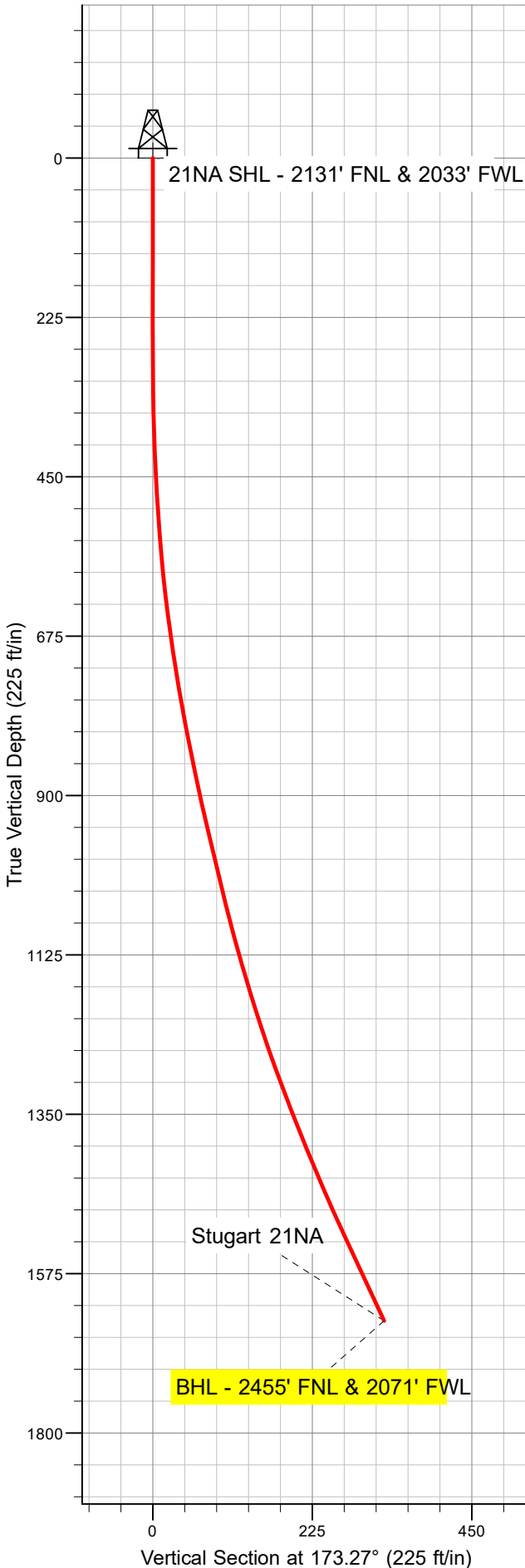




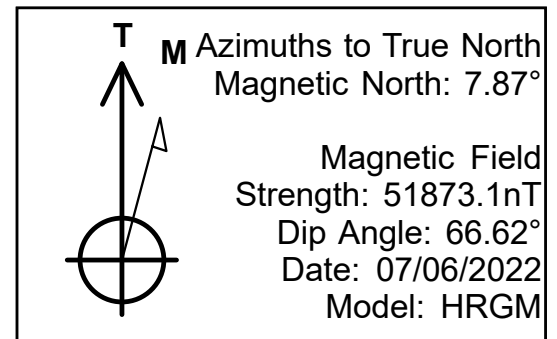
Well Name: Stugart 21NA
Surface Location: Stugart State 6-20
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4885.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1384376.68 3193371.24 40.38645 -104.80584
Ensign 122 - RKB 13' WELL @ 4898.0ft (Ensign 122 - RKB 13')

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.20-T5N-R66W
Site: Stugart State 6-20
Well: Stugart 21NA
Plan: Stugart 21NA





PDC Energy Inc. DJ Basin

SEC.20-T5N-R66W

Stugart State 6-20

Stugart 21NA

Stugart 21NA

Design: Stugart 21NA Wellbore #1

Standard Survey Report

24 October, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 21NA
Project:	SEC.20-T5N-R66W	TVD Reference:	WELL @ 4898.0ft (Ensign 122 - RKB 13')
Site:	Stugart State 6-20	MD Reference:	WELL @ 4898.0ft (Ensign 122 - RKB 13')
Well:	Stugart 21NA	North Reference:	True
Wellbore:	Stugart 21NA	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 21NA Wellbore #1	Database:	US_EDM

Project	SEC.20-T5N-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		Stugart State 6-20			
Site Position: From:	Lat/Long	Northing:	1,384,531.67 usft	Latitude:	40.386863
		Easting:	3,193,390.47 usft	Longitude:	-104.805753
	Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:

Well	Stugart 21NA					
Well Position	+N/-S	0.0 ft	Northing:	1,384,376.68 usf	Latitude:	40.38645
	+E/-W	0.0 ft	Easting:	3,193,371.24 usf	Longitude:	-104.80584
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,885.0 ft

Wellbore	Stugart 21NA				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	07/06/2022	7.87	66.62	51,873.13322959

Design	Stugart 21NA Wellbore #1				
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	173.27	

Survey Program	Date	07/28/2022			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	1,693.0	Survey #1 (Stugart 21NA)	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
145.0	0.44	85.57	145.0	0.0	0.6	0.0	0.30	0.30	0.00
237.0	0.35	32.66	237.0	0.3	1.1	-0.2	0.39	-0.10	-57.51
328.0	0.97	144.63	328.0	-0.1	1.7	0.3	1.26	0.68	123.04
444.0	2.90	170.29	443.9	-3.8	2.7	4.1	1.78	1.66	22.12
531.0	4.31	170.64	530.7	-9.2	3.6	9.5	1.62	1.62	0.40
618.0	6.68	171.35	617.3	-17.4	4.9	17.9	2.73	2.72	0.82
702.0	8.53	177.50	700.6	-28.5	5.9	29.0	2.40	2.20	7.32
787.0	10.55	177.85	784.4	-42.5	6.5	43.0	2.38	2.38	0.41
872.0	11.96	175.57	867.8	-59.1	7.5	59.6	1.74	1.66	-2.68

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 21NA
Project:	SEC.20-T5N-R66W	TVD Reference:	WELL @ 4898.0ft (Ensign 122 - RKB 13')
Site:	Stugart State 6-20	MD Reference:	WELL @ 4898.0ft (Ensign 122 - RKB 13')
Well:	Stugart 21NA	North Reference:	True
Wellbore:	Stugart 21NA	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 21NA Wellbore #1	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)	
958.0	13.28	172.93	951.7	-77.8	9.4	78.3	1.67	1.53	-3.07	
1,044.0	13.54	169.41	1,035.4	-97.5	12.4	98.3	1.00	0.30	-4.09	
1,129.0	15.65	169.41	1,117.6	-118.5	16.4	119.6	2.48	2.48	0.00	
1,217.0	17.59	173.98	1,201.9	-143.4	19.9	144.8	2.66	2.20	5.19	
1,304.0	19.79	175.92	1,284.3	-171.2	22.4	172.6	2.63	2.53	2.23	
1,389.0	21.90	175.92	1,363.8	-201.4	24.5	202.8	2.48	2.48	0.00	
1,476.0	22.95	174.86	1,444.2	-234.4	27.2	236.0	1.29	1.21	-1.22	
1,562.0	24.80	173.63	1,522.8	-269.1	30.7	270.8	2.23	2.15	-1.43	
1,633.0	25.15	171.70	1,587.2	-298.8	34.5	300.8	1.25	0.49	-2.72	
1,693.0	25.15	171.70	1,641.5	-324.0	38.2	326.3	0.00	0.00	0.00	
BHL - 2455' FNL & 2071' FWL										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,693.0	1,641.5	-324.0	38.2	BHL - 2455' FNL & 2071' FWL	

Checked By: _____	Approved By: _____	Date: _____
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