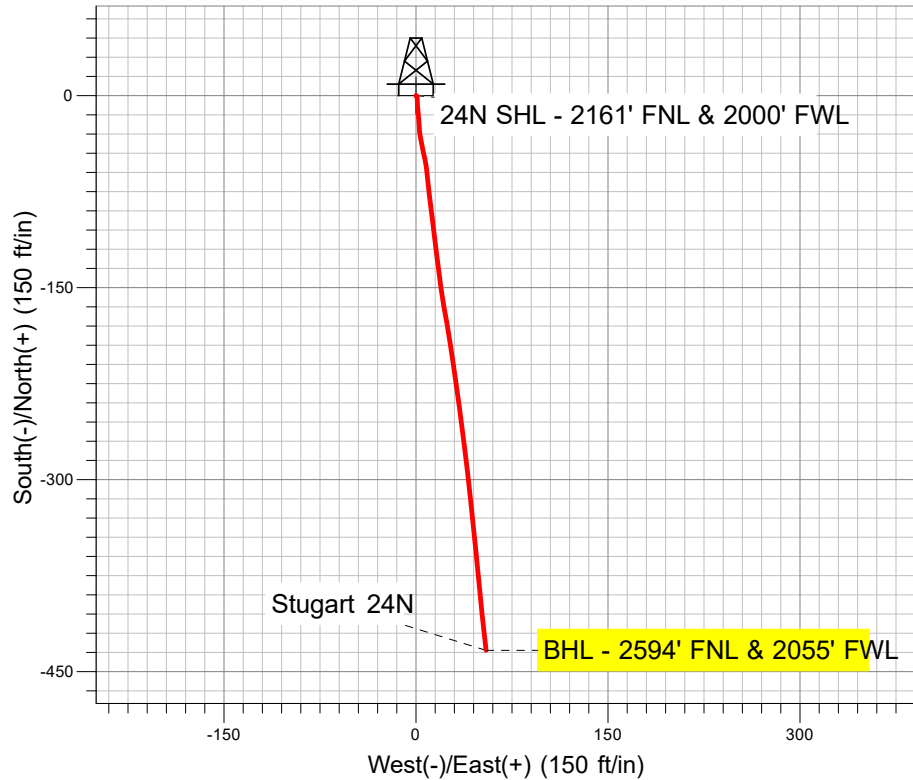
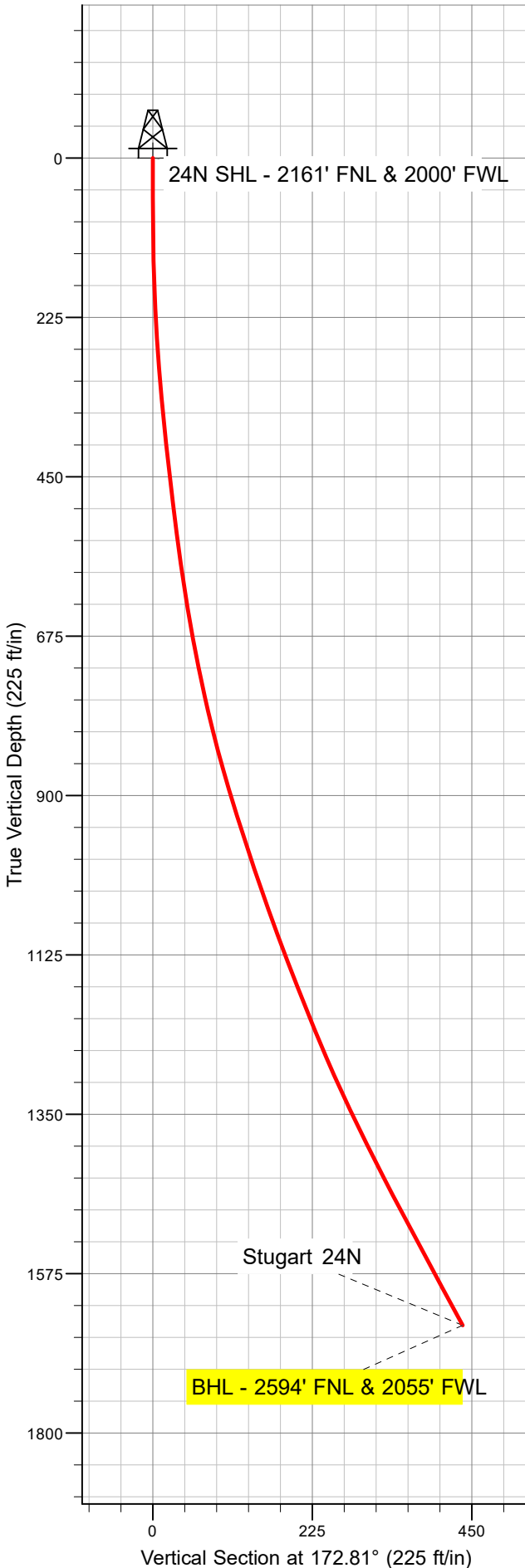




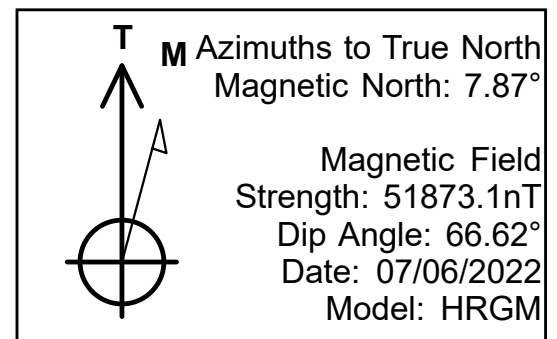
Well Name: Stugart 24N
Surface Location: Stugart State 6-20
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4885.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1384346.18 3193338.60 40.38637 -104.80595
Ensign 122 - RKB 13' WELL @ 4898.0ft (Ensign 122 - RKB 13')

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.20-T5N-R66W
Site: Stugart State 6-20
Well: Stugart 24N
Plan: Stugart 24N





PDC Energy Inc. DJ Basin

SEC.20-T5N-R66W

Stugart State 6-20

Stugart 24N

Stugart 24N

Design: Stugart 24N

Standard Survey Report

26 July, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 24N
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 24N	North Reference:	True
Wellbore:	Stugart 24N	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 24N	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 24N					
Well Position	+N/-S	0.0 ft	Northing:	1,384,346.18 usf	Latitude:	40.38637
	+E/-W	0.0 ft	Easting:	3,193,338.60 usf	Longitude:	-104.80595
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,885.0 ft

Wellbore	Stugart 24N				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	07/06/2022	7.87	66.62	51,873.08764907

Design	Stugart 24N				
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	172.81	

Survey Program	Date	07/26/2022			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
55.0	1,728.0	Survey #1 (Stugart 24N)	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
55.0	0.44	77.13	55.0	0.0	0.2	0.0	0.80	0.80	0.00
145.0	1.32	169.41	145.0	-0.9	0.7	1.0	1.56	0.98	102.53
237.0	3.25	179.78	236.9	-4.5	0.9	4.6	2.14	2.10	11.27
328.0	5.19	173.28	327.7	-11.2	1.4	11.3	2.19	2.13	-7.14
444.0	6.60	177.50	443.0	-23.1	2.3	23.2	1.27	1.22	3.64
531.0	7.21	169.59	529.4	-33.4	3.5	33.6	1.30	0.70	-9.09
618.0	8.97	167.30	615.5	-45.4	6.0	45.8	2.06	2.02	-2.63
702.0	10.90	173.28	698.3	-59.7	8.4	60.3	2.60	2.30	7.12
787.0	13.10	173.63	781.4	-77.3	10.4	78.0	2.59	2.59	0.41

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 24N
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 24N	North Reference:	True
Wellbore:	Stugart 24N	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 24N	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)	
872.0	15.74	173.10	863.7	-98.3	12.8	99.1	3.11	3.11	-0.62	
958.0	18.11	173.28	946.0	-123.2	15.8	124.2	2.76	2.76	0.21	
1,044.0	18.82	171.52	1,027.6	-150.1	19.4	151.4	1.05	0.83	-2.05	
1,129.0	20.58	169.94	1,107.6	-178.4	24.1	180.0	2.16	2.07	-1.86	
1,217.0	21.54	171.70	1,189.7	-209.6	29.1	211.6	1.31	1.09	2.00	
1,304.0	23.30	172.23	1,270.1	-242.5	33.7	244.8	2.04	2.02	0.61	
1,389.0	25.59	172.93	1,347.5	-277.4	38.3	280.0	2.72	2.69	0.82	
1,476.0	27.00	173.98	1,425.5	-315.7	42.6	318.5	1.71	1.62	1.21	
1,562.0	28.23	174.69	1,501.7	-355.3	46.6	358.4	1.48	1.43	0.83	
1,668.0	28.23	173.81	1,595.1	-405.2	51.6	408.5	0.39	0.00	-0.83	
1,728.0	28.23	173.81	1,648.0	-433.4	54.7	436.9	0.00	0.00	0.00	
BHL - 2594' FNL & 2055' FWL										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,728.0	1,648.0	-433.4	54.7	BHL - 2594' FNL & 2055' FWL	

Checked By: _____	Approved By: _____	Date: _____
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