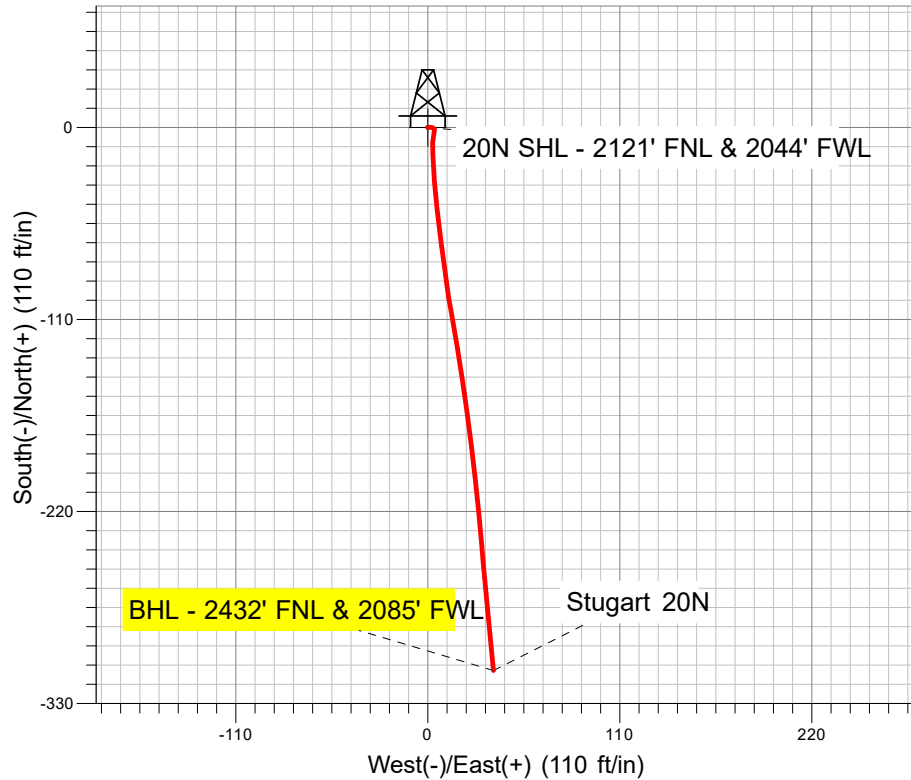
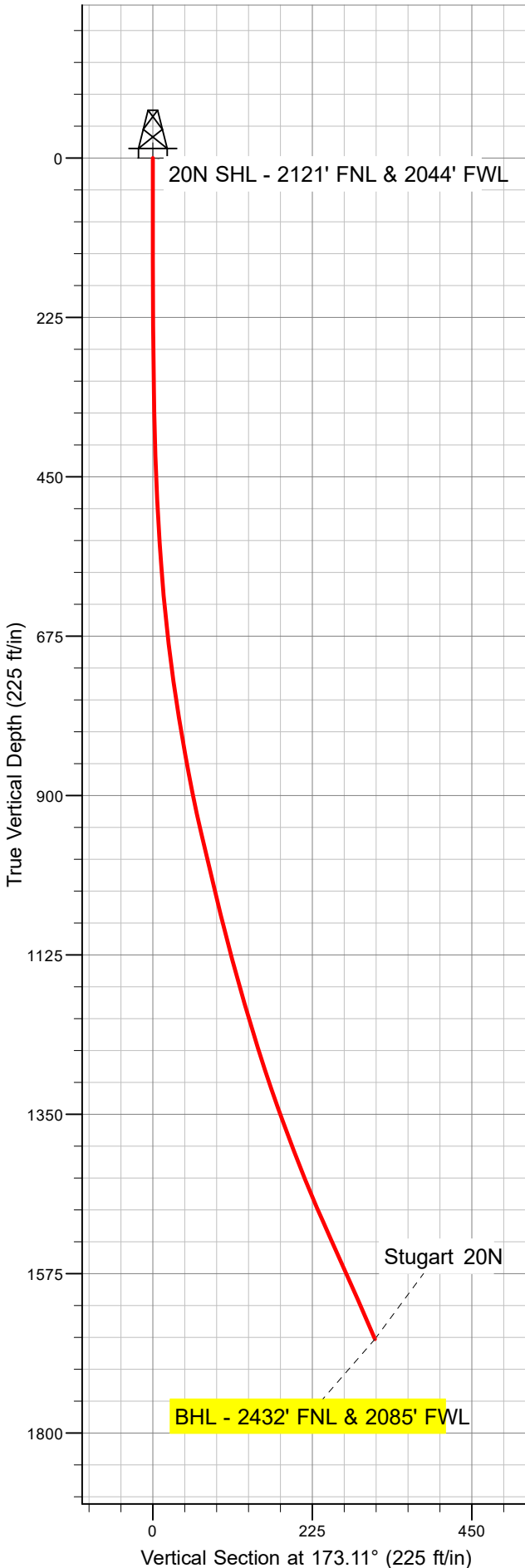




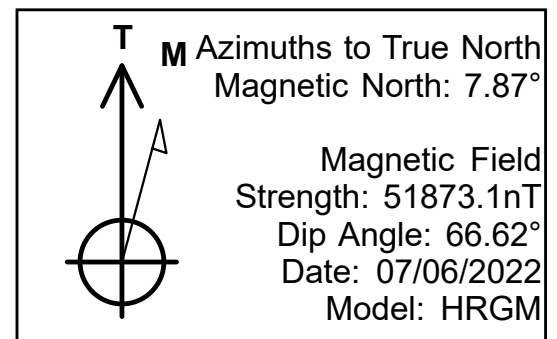
Well Name: Stugart 20N
Surface Location: Stugart State 6-20
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4885.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1384386.97 3193382.30 40.38647 -104.80580
Ensign 122 - RKB 13' WELL @ 4898.0ft (Ensign 122 - RKB 13')

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.20-T5N-R66W
Site: Stugart State 6-20
Well: Stugart 20N
Plan: Stugart 20N Wellbore #1





PDC Energy Inc. DJ Basin

SEC.20-T5N-R66W

Stugart State 6-20

Stugart 20N

Stugart 20N

Design: Stugart 20N Wellbore #1

Standard Survey Report

22 July, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 20N
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 20N	North Reference:	True
Wellbore:	Stugart 20N	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 20N 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 20N					
Well Position	+N/-S	0.0 ft	Northing:	1,384,386.97 usf	Latitude:	40.38647
	+E/-W	0.0 ft	Easting:	3,193,382.30 usf	Longitude:	-104.80580
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,885.0 ft

Wellbore	Stugart 20N				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	07/06/2022	7.87	66.62	51,873.14865070

Design	Stugart 20N 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	173.11	

Survey Program	Date	07/22/2022			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
145.0	1,715.0	Survey #1 (Stugart 20N)	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	0.88	83.10	145.0	0.1	1.1	0.0	0.61	0.61	0.00
237.0	1.14	102.62	237.0	0.0	2.7	0.3	0.46	0.28	21.22
328.0	0.88	155.00	328.0	-0.8	3.9	1.3	1.01	-0.29	57.56
444.0	2.64	198.07	443.9	-4.2	3.4	4.5	1.80	1.52	37.13
531.0	3.25	180.31	530.8	-8.5	2.8	8.8	1.25	0.70	-20.41
618.0	5.19	177.32	617.6	-14.9	3.0	15.2	2.24	2.23	-3.44
702.0	7.03	177.32	701.1	-23.9	3.4	24.1	2.19	2.19	0.00
787.0	9.06	174.69	785.2	-35.7	4.2	36.0	2.43	2.39	-3.09
872.0	10.73	173.46	869.0	-50.2	5.8	50.6	1.98	1.96	-1.45

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 20N
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 20N	North Reference:	True
Wellbore:	Stugart 20N	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 20N 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	13.01	172.40	953.1	-67.8	8.0	68.3	2.66	2.65	-1.23	
1,044.0	13.54	172.23	1,036.8	-87.4	10.6	88.0	0.62	0.62	-0.20	
1,129.0	14.68	170.47	1,119.3	-107.8	13.7	108.7	1.43	1.34	-2.07	
1,217.0	16.36	170.29	1,204.1	-131.1	17.7	132.2	1.91	1.91	-0.20	
1,304.0	18.20	171.70	1,287.1	-156.6	21.7	158.1	2.17	2.11	1.62	
1,389.0	20.14	173.63	1,367.4	-184.3	25.2	186.0	2.40	2.28	2.27	
1,476.0	22.25	173.98	1,448.5	-215.5	28.6	217.4	2.43	2.43	0.40	
1,562.0	24.45	175.04	1,527.5	-249.5	31.9	251.5	2.60	2.56	1.23	
1,655.0	23.57	174.51	1,612.4	-287.1	35.3	289.3	0.97	-0.95	-0.57	
1,715.0	23.57	174.51	1,667.4	-311.0	37.6	313.3	0.00	0.00	0.00	
BHL - 2432' FNL & 2085' FWL										

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,715.0	1,667.4	-311.0	37.6	BHL - 2432' FNL & 2085' FWL

Checked By: _____	Approved By: _____	Date: _____
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