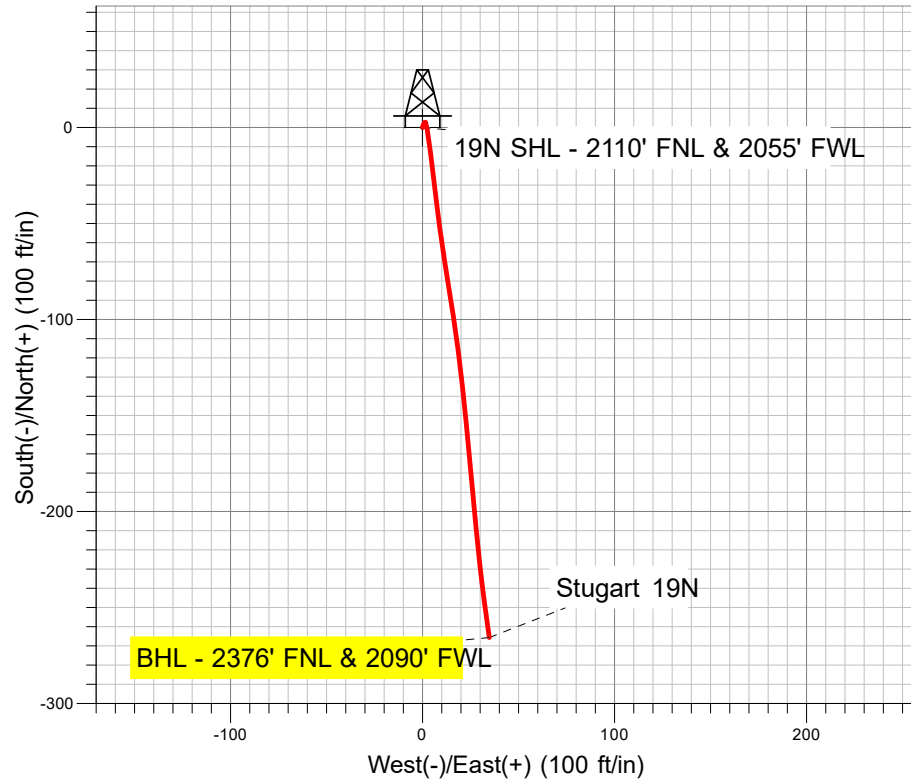




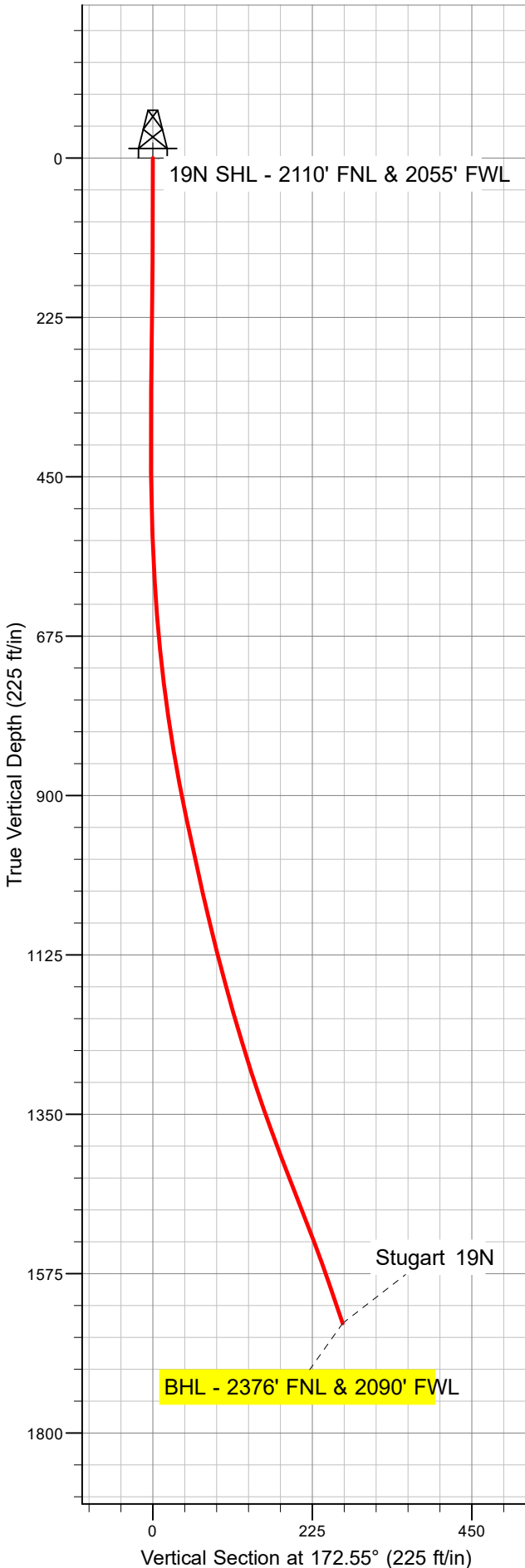
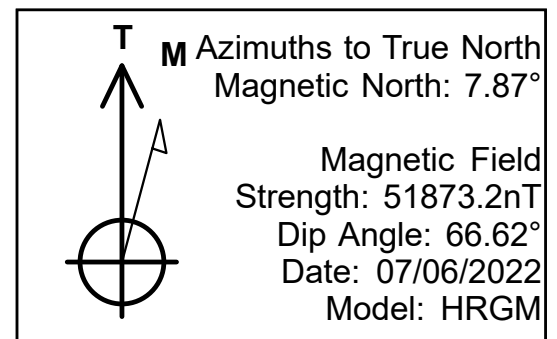
Well Name: Stugart 19N
Surface Location: Stugart State 6-20
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4885.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1384397.25 3193393.25 40.38650 -104.80576
Ensign 122 - RKB 13' WELL @ 4898.0ft (Ensign 122 - RKB 13')

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.20-T5N-R66W
Site: Stugart State 6-20
Well: Stugart 19N
Plan: Stugart 19N Wellbore #1





PDC Energy Inc. DJ Basin

SEC.20-T5N-R66W

Stugart State 6-20

Stugart 19N

Stugart 19N

Design: Stugart 19N Wellbore #1

Standard Survey Report

21 July, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 19N
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 19N	North Reference:	True
Wellbore:	Stugart 19N	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 19N 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:		Northing:	1,384,531.67 usft
From:	Lat/Long	Easting:	3,193,390.47 usft
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "
		Latitude:	40.386863
		Longitude:	-104.805753
		Grid Convergence:	0.45 °

Well	Stugart 19N		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.38650
		Longitude:	-104.80576
		Ground Level:	4,885.0 ft

Wellbore	Stugart 19N		
Magnetics	Model Name	Sample Date	Declination (°)
	HRGM	07/06/2022	7.87
			Dip Angle (°)
			66.62
			Field Strength (nT)
			51,873.16400609

Design	Stugart 19N 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)
	0.0	0.0	0.0
			Direction (°)
			172.55

Survey Program	Date 07/21/2022		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
145.0	1,683.0	Survey #1 (Stugart 19N)	MWD
			Description
			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	0.35	14.37	145.0	0.4	0.1	-0.4	0.24	0.24	0.00
237.0	0.79	17.36	237.0	1.3	0.4	-1.2	0.48	0.48	3.25
328.0	1.06	28.79	328.0	2.6	1.0	-2.5	0.36	0.30	12.56
444.0	0.70	165.72	444.0	2.9	1.7	-2.7	1.42	-0.31	118.04
531.0	2.02	168.71	530.9	0.9	2.1	-0.6	1.52	1.52	3.44
618.0	3.96	172.75	617.8	-3.6	2.8	3.9	2.24	2.23	4.64
702.0	5.63	170.87	701.5	-10.6	3.8	11.0	2.00	1.99	-2.24
787.0	8.18	173.28	785.9	-20.7	5.2	21.2	3.02	3.00	2.84
872.0	10.73	173.63	869.7	-34.5	6.7	35.1	3.00	3.00	0.41

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 19N
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 19N	North Reference:	True
Wellbore:	Stugart 19N	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 19N 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	11.96	172.05	954.1	-51.3	8.9	52.0	1.48	1.43	-1.84	
1,044.0	12.75	171.35	1,038.1	-69.5	11.5	70.4	0.93	0.92	-0.81	
1,129.0	14.33	170.47	1,120.7	-89.2	14.7	90.3	1.87	1.86	-1.04	
1,217.0	15.92	172.40	1,205.7	-111.9	18.1	113.3	1.90	1.81	2.19	
1,304.0	17.67	174.16	1,288.9	-136.9	21.0	138.4	2.09	2.01	2.02	
1,389.0	19.96	174.33	1,369.4	-164.1	23.7	165.8	2.69	2.69	0.20	
1,476.0	21.63	174.86	1,450.7	-194.9	26.6	196.7	1.93	1.92	0.61	
1,562.0	20.66	173.81	1,530.9	-225.7	29.7	227.7	1.21	-1.13	-1.22	
1,623.0	18.91	172.40	1,588.3	-246.2	32.2	248.3	2.97	-2.87	-2.31	
1,683.0	18.91	172.40	1,645.1	-265.5	34.7	267.8	0.00	0.00	0.00	
BHL - 2376' FNL & 2090' FWL										

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,683.0	1,645.1	-265.5	34.7	BHL - 2376' FNL & 2090' FWL

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------