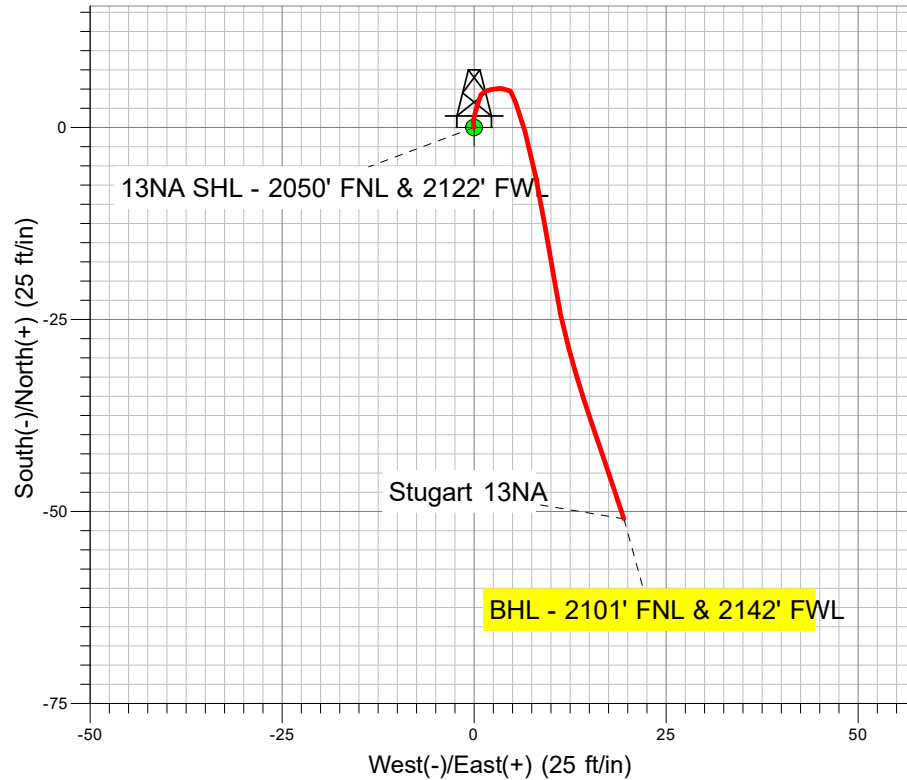
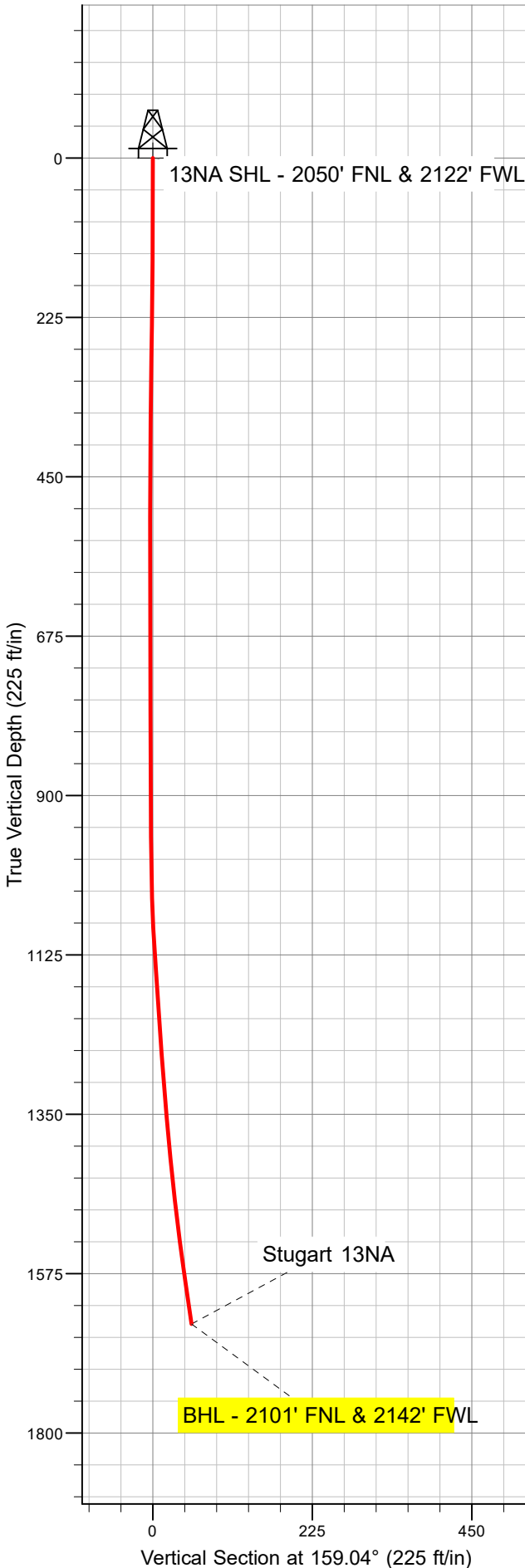




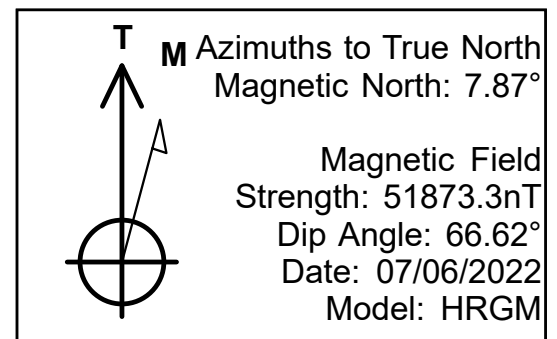
Well Name: Stugart 13NA
Surface Location: Stugart State 6-20
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4885.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1384458.60 3193458.91 40.38667 -104.80552
Ensign 122 - RKB 13' WELL @ 4898.0ft (Ensign 122 - RKB 13')

PDC Energy Inc. DJ Basin

Final Survey Plot



Project: SEC.20-T5N-R66W
Site: Stugart State 6-20
Well: Stugart 13NA
Plan: Stugart 13NA Wellbore #1





PDC Energy Inc. DJ Basin

SEC.20-T5N-R66W

Stugart State 6-20

Stugart 13NA

Stugart 13NA

Design: Stugart 13NA Wellbore #1

Standard Survey Report

18 July, 2022

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 13NA
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 13NA	North Reference:	True
Wellbore:	Stugart 13NA	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 13NA 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 13NA		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.38667
		Longitude:	-104.80552
		Ground Level:	4,885.0 ft

Wellbore	Stugart 13NA		
Magnetics	Model Name	Sample Date	Declination (°)
	HRGM	07/06/2022	7.87
			Dip Angle (°)
			66.62
			Field Strength (nT)
			51,873.25544358

Design	Stugart 13NA 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 (°)
			159.04

Survey Program	Date 07/18/2022		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
145.0	1,649.0	Survey #1 (Stugart 13NA)	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	0.44	349.76	145.0	0.5	-0.1	-0.5	0.30	0.30	0.00
237.0	0.70	19.12	237.0	1.4	0.0	-1.3	0.42	0.28	31.91
329.0	1.49	13.32	329.0	3.1	0.5	-2.7	0.87	0.86	-6.30
444.0	0.62	74.84	444.0	4.7	1.4	-3.9	1.14	-0.76	53.50
531.0	0.44	74.49	531.0	5.0	2.2	-3.8	0.21	-0.21	-0.40
622.0	0.35	91.89	622.0	5.0	2.8	-3.7	0.16	-0.10	19.12
702.0	0.35	70.80	702.0	5.1	3.3	-3.6	0.16	0.00	-26.36
787.0	0.26	129.16	787.0	5.1	3.7	-3.4	0.36	-0.11	68.66
872.0	0.53	96.46	871.9	4.9	4.2	-3.1	0.40	0.32	-38.47

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stugart 13NA
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 13NA	North Reference:	True
Wellbore:	Stugart 13NA	Survey Calculation Method:	Minimum Curvature
Design:	Stugart 13NA 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	0.26	131.09	957.9	4.7	4.8	-2.7	0.41	-0.31	40.27
1,045.0	1.85	159.75	1,044.9	3.3	5.4	-1.1	1.87	1.83	32.94
1,129.0	3.61	163.08	1,128.8	-0.5	6.6	2.9	2.10	2.10	3.96
1,217.0	4.31	169.94	1,216.6	-6.4	8.0	8.9	0.96	0.80	7.80
1,304.0	4.66	168.71	1,303.4	-13.1	9.3	15.6	0.42	0.40	-1.41
1,389.0	5.19	171.52	1,388.0	-20.3	10.5	22.7	0.68	0.62	3.31
1,476.0	6.16	165.19	1,474.6	-28.7	12.3	31.2	1.33	1.11	-7.28
1,562.0	8.35	160.98	1,559.9	-39.1	15.5	42.0	2.62	2.55	-4.90
1,589.0	8.27	161.50	1,586.6	-42.8	16.8	45.9	0.41	-0.30	1.93
1,649.0	8.27	161.50	1,646.0	-50.9	19.5	54.6	0.00	0.00	0.00
BHL - 2101' FNL & 2142' FWL									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,649.0	1,646.0	-50.9	19.5	BHL - 2101' FNL & 2142' FWL

Checked By: _____ Approved By: _____ Date: _____