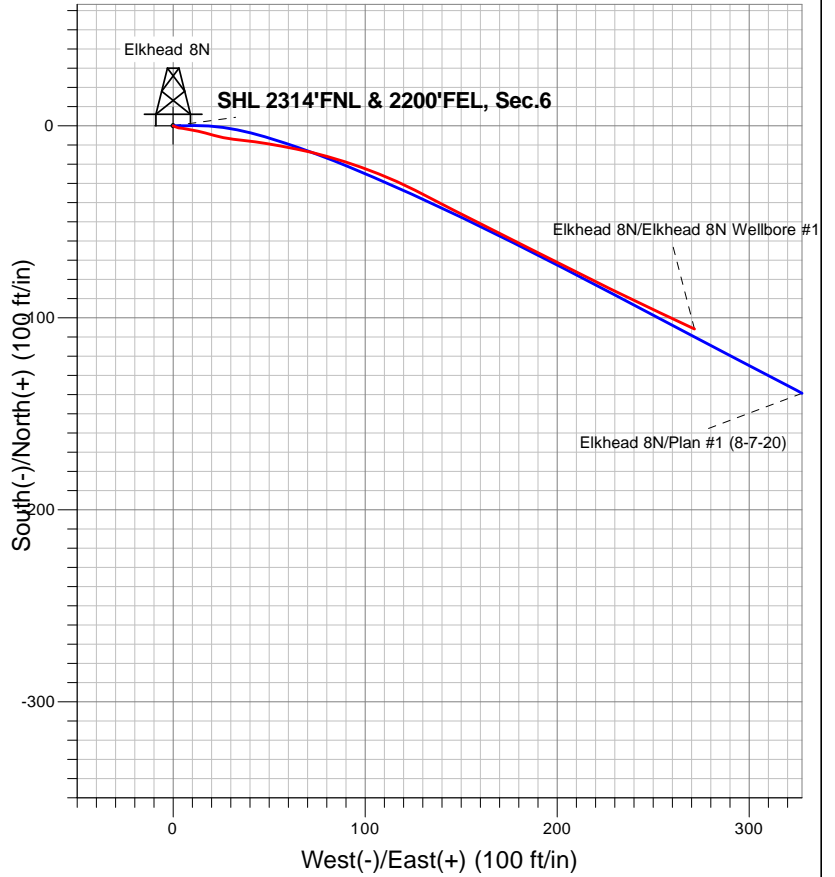


PDC Energy Inc. DJ Basin

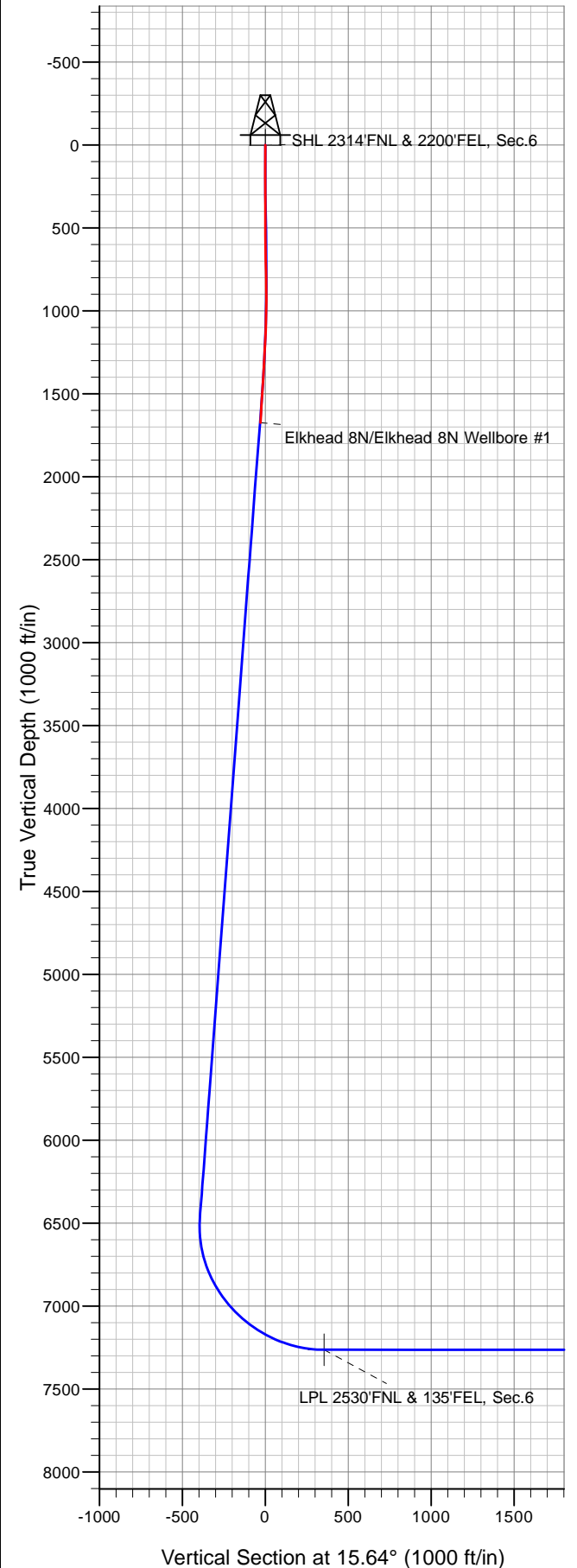


LEGEND

- Elkhead 8N, Elkhead 8N Wellbore #1, Plan #1 (8-7-20) V0
- Elkhead 8N Wellbore #1

Final Survey Plot

Project: SEC.6-T3N-R65W
 Site: Elkhead 03N65W06 1-16 Pad
 Well: Elkhead 8N
 Plan: Elkhead 8N Wellbore #1





PDC Energy Inc. DJ Basin

SEC.6-T3N-R65W

Elkhead 03N65W06 1-16 Pad

Elkhead 8N

Elkhead 8N Wellbore #1

Design: Elkhead 8N Wellbore #1

Standard Survey Report

23 November, 2020

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Elkhead 8N
Project:	SEC.6-T3N-R65W	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site:	Elkhead 03N65W06 1-16 Pad	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Well:	Elkhead 8N	North Reference:	True
Wellbore:	Elkhead 8N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Elkhead 8N Wellbore #1	Database:	US_EDM

Project	SEC.6-T3N-R65W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Elkhead 03N65W06 1-16 Pad						
Site Position:		Northing:	1,336,763.37	usft	Latitude:	40.255081		
From:	Lat/Long	Easting:	3,222,007.75	usft	Longitude:	-104.704564		
Position Uncertainty:	0.0	ft	Slot Radius:	13-3/16	"	Grid Convergence:	0.51	°

Well	Elkhead 8N					
Well Position	+N/-S	0.0 ft	Northing:	1,336,853.34 usft	Latitude:	40.255328
	+E/-W	0.0 ft	Easting:	3,222,006.61 usft	Longitude:	-104.704565
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,975.0 ft

Wellbore	Elkhead 8N Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	08/07/2020	7.98	66.62	52,048

Design	Elkhead 8N 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	15.64	

Survey Program	Date	11/23/2020			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
147.0	1,710.0	Survey #1 (Elkhead 8N Wellbore #1)	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	
147.0	0.18	110.28	147.0	-0.1	0.2	0.0	0.12	0.12	0.00	
239.0	1.41	113.98	239.0	-0.6	1.4	-0.2	1.34	1.34	4.02	
330.0	3.25	96.57	329.9	-1.3	5.0	0.0	2.14	2.02	-19.13	
450.0	4.57	103.08	449.6	-2.8	13.0	0.8	1.16	1.10	5.43	
539.0	6.42	106.07	538.2	-5.0	21.2	0.9	2.10	2.08	3.36	
628.0	6.77	96.57	626.6	-7.0	31.2	1.7	1.29	0.39	-10.67	
717.0	8.09	97.45	714.9	-8.4	42.7	3.4	1.49	1.48	0.99	
806.0	9.67	100.27	802.8	-10.5	56.2	5.0	1.84	1.78	3.17	
896.0	11.17	103.25	891.3	-13.9	72.1	6.1	1.77	1.67	3.31	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Elkhead 8N
Project:	SEC.6-T3N-R65W	TVD Reference:	WELL @ 4988.0ft (Original Well Elev)
Site:	Elkhead 03N65W06 1-16 Pad	MD Reference:	WELL @ 4988.0ft (Original Well Elev)
Well:	Elkhead 8N	North Reference:	True
Wellbore:	Elkhead 8N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Elkhead 8N 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)	
985.0	12.22	107.65	978.5	-18.7	89.5	6.1	1.55	1.18	4.94	
1,070.0	12.93	111.52	1,061.4	-24.9	106.9	4.8	1.30	0.84	4.55	
1,161.0	13.72	116.96	1,150.0	-33.5	126.0	1.7	1.63	0.87	5.98	
1,250.0	15.30	117.84	1,236.2	-43.8	145.8	-2.9	1.79	1.78	0.99	
1,339.0	16.09	115.91	1,321.8	-54.7	167.3	-7.6	1.06	0.89	-2.17	
1,429.0	17.32	117.14	1,408.0	-66.3	190.4	-12.5	1.42	1.37	1.37	
1,519.0	18.20	116.61	1,493.7	-78.7	214.9	-17.8	0.99	0.98	-0.59	
1,609.0	19.35	115.56	1,579.0	-91.4	240.9	-23.1	1.33	1.28	-1.17	
1,650.0	19.61	115.21	1,617.6	-97.2	253.3	-25.4	0.70	0.63	-0.85	
1,710.0	19.61	115.21	1,674.1	-105.8	271.5	-28.7	0.00	0.00	0.00	

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