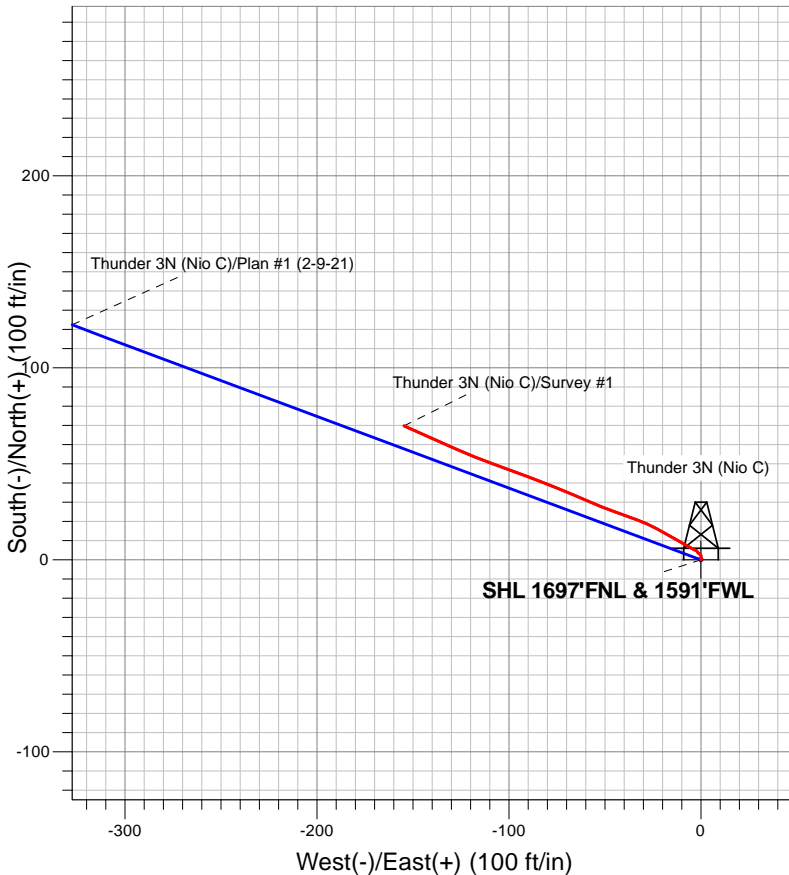


PDC Energy Inc. DJ Basin

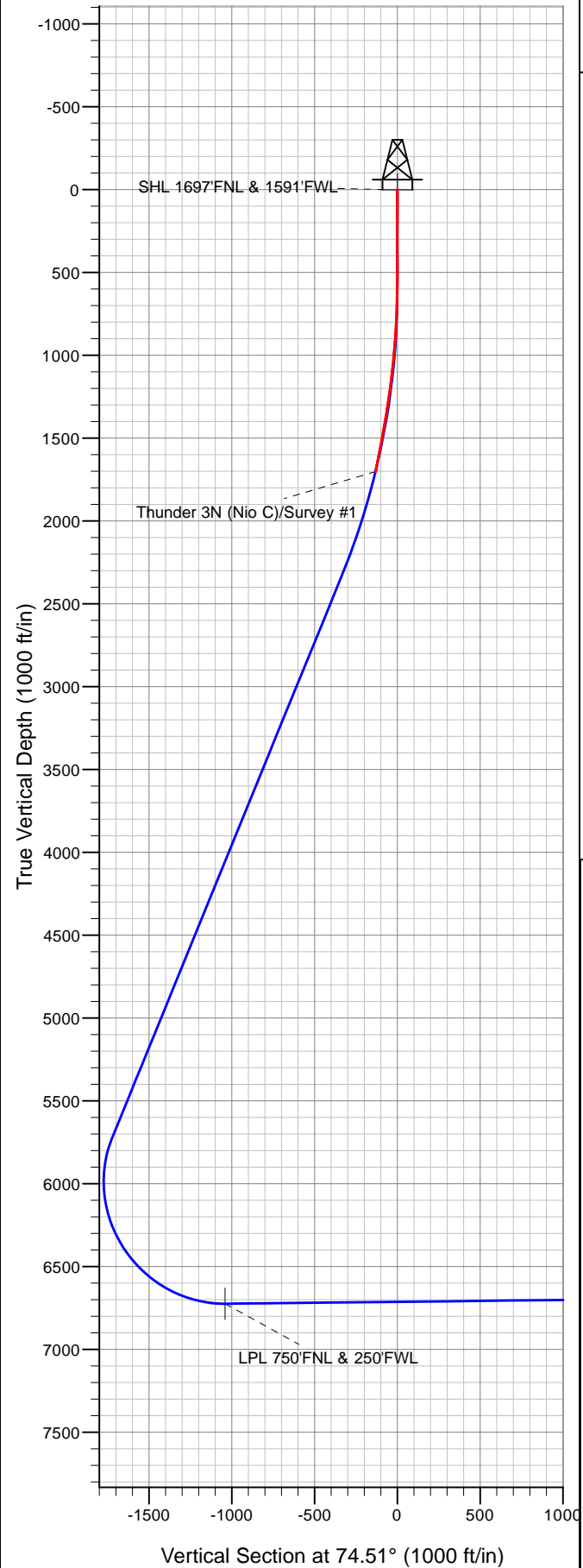


LEGEND

- Thunder 3N (Nio C), Thunder 3N Wellbore #1, Plan #1 (2-9-21)
- Thunder 3N Wellbore #1
- Survey #1

Final Survey Plot

Project: SEC.3-T5N-R64W
 Site: Thunder 5N64W02 1-10 Pad Sec.3-T5N-R64W
 Well: Thunder 3N (Nio C)
 Plan: Thunder 3N Wellbore #1





PDC Energy Inc. DJ Basin

SEC.3-T5N-R64W

Thunder 5N64W02 1-10 Pad Sec.3-T5N-R64W

Thunder 3N (Nio C)

Thunder 3N Wellbore #1

Survey: Survey #1

Standard Survey Report

02 March, 2021

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Thunder 3N (Nio C)
Project:	SEC.3-T5N-R64W	TVD Reference:	WELL @ 4634.0ft (Ensign 122 RKB - 13')
Site:	Thunder 5N64W02 1-10 Pad Sec.3-T5N-R64W	MD Reference:	WELL @ 4634.0ft (Ensign 122 RKB - 13')
Well:	Thunder 3N (Nio C)	North Reference:	True
Wellbore:	Thunder 3N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Thunder 3N Wellbore #1	Database:	US_EDM

Project	SEC.3-T5N-R64W, Weld County, Colorado		
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	Thunder 5N64W02 1-10 Pad Sec.3-T5N-R64W				
Site Position:		Northing:	1,401,281.16 usft	Latitude:	40.430948
From:	Lat/Long	Easting:	3,267,229.64 usft	Longitude:	-104.540047
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.62 °

Well	Thunder 3N (Nio C)					
Well Position	+N/-S	0.0 ft	Northing:	1,401,251.13 usft	Latitude:	40.430866
	+E/-W	0.0 ft	Easting:	3,267,229.80 usft	Longitude:	-104.540048
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,621.0 ft

Wellbore	Thunder 3N Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	02/09/2021	7.70	66.82	51,972

Design	Thunder 3N 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	74.51	

Survey Program	Date	03/02/2021			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
86.0	1,717.0	Survey #1 (Thunder 3N 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	
86.0	1.32	11.04	86.0	1.0	0.2	0.4	1.53	1.53	0.00	
177.0	0.53	314.09	177.0	2.3	0.1	0.7	1.23	-0.87	-62.58	
266.0	0.26	313.91	266.0	2.7	-0.4	0.4	0.30	-0.30	-0.20	
361.0	0.53	301.61	361.0	3.1	-0.9	0.0	0.30	0.28	-12.95	
450.0	0.35	321.82	450.0	3.5	-1.4	-0.4	0.26	-0.20	22.71	
540.0	0.44	329.73	540.0	4.0	-1.7	-0.6	0.12	0.10	8.79	
626.0	0.62	307.23	626.0	4.6	-2.3	-1.0	0.32	0.21	-26.16	
712.0	2.02	297.56	711.9	5.6	-4.0	-2.4	1.64	1.63	-11.24	
798.0	3.96	299.15	797.8	7.7	-7.9	-5.6	2.26	2.26	1.85	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Thunder 3N (Nio C)
Project:	SEC.3-T5N-R64W	TVD Reference:	WELL @ 4634.0ft (Ensign 122 RKB - 13')
Site:	Thunder 5N64W02 1-10 Pad Sec.3-T5N-R64W	MD Reference:	WELL @ 4634.0ft (Ensign 122 RKB - 13')
Well:	Thunder 3N (Nio C)	North Reference:	True
Wellbore:	Thunder 3N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Thunder 3N 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)
888.0	5.89	299.32	887.5	11.5	-14.7	-11.1	2.14	2.14	0.19
977.0	6.68	298.79	976.0	16.2	-23.2	-18.0	0.89	0.89	-0.60
1,066.0	7.74	290.18	1,064.2	20.8	-33.4	-26.6	1.70	1.19	-9.67
1,156.0	8.88	289.83	1,153.3	25.3	-45.6	-37.2	1.27	1.27	-0.39
1,241.0	10.20	293.70	1,237.1	30.5	-58.6	-48.4	1.73	1.55	4.55
1,330.0	11.17	292.29	1,324.6	36.9	-73.8	-61.3	1.13	1.09	-1.58
1,415.0	12.40	290.36	1,407.8	43.2	-90.0	-75.2	1.52	1.45	-2.27
1,505.0	12.49	290.00	1,495.7	49.9	-108.2	-90.9	0.13	0.10	-0.40
1,594.0	14.07	293.52	1,582.3	57.5	-127.2	-107.2	1.99	1.78	3.96
1,657.0	14.16	294.05	1,643.4	63.7	-141.2	-119.1	0.25	0.14	0.84
1,717.0	14.16	294.05	1,701.6	69.7	-154.6	-130.4	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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