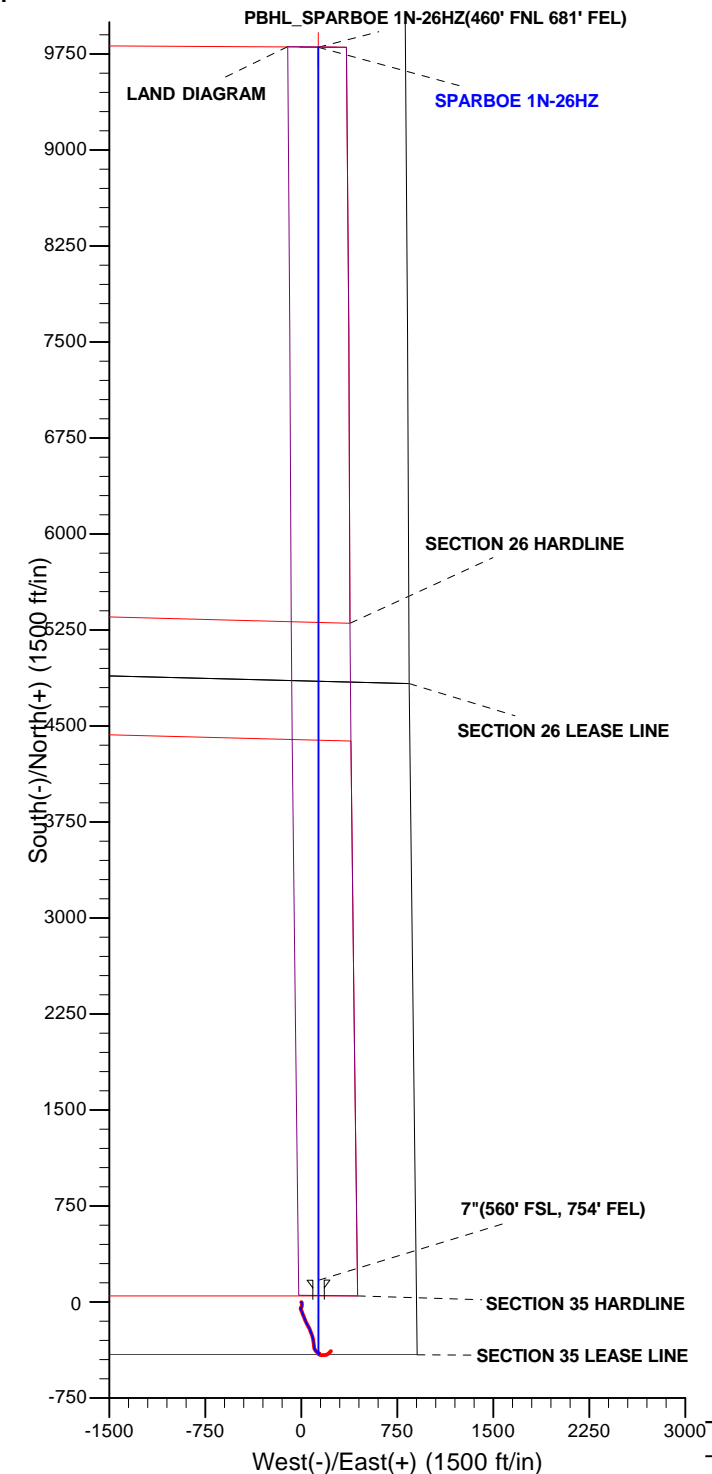
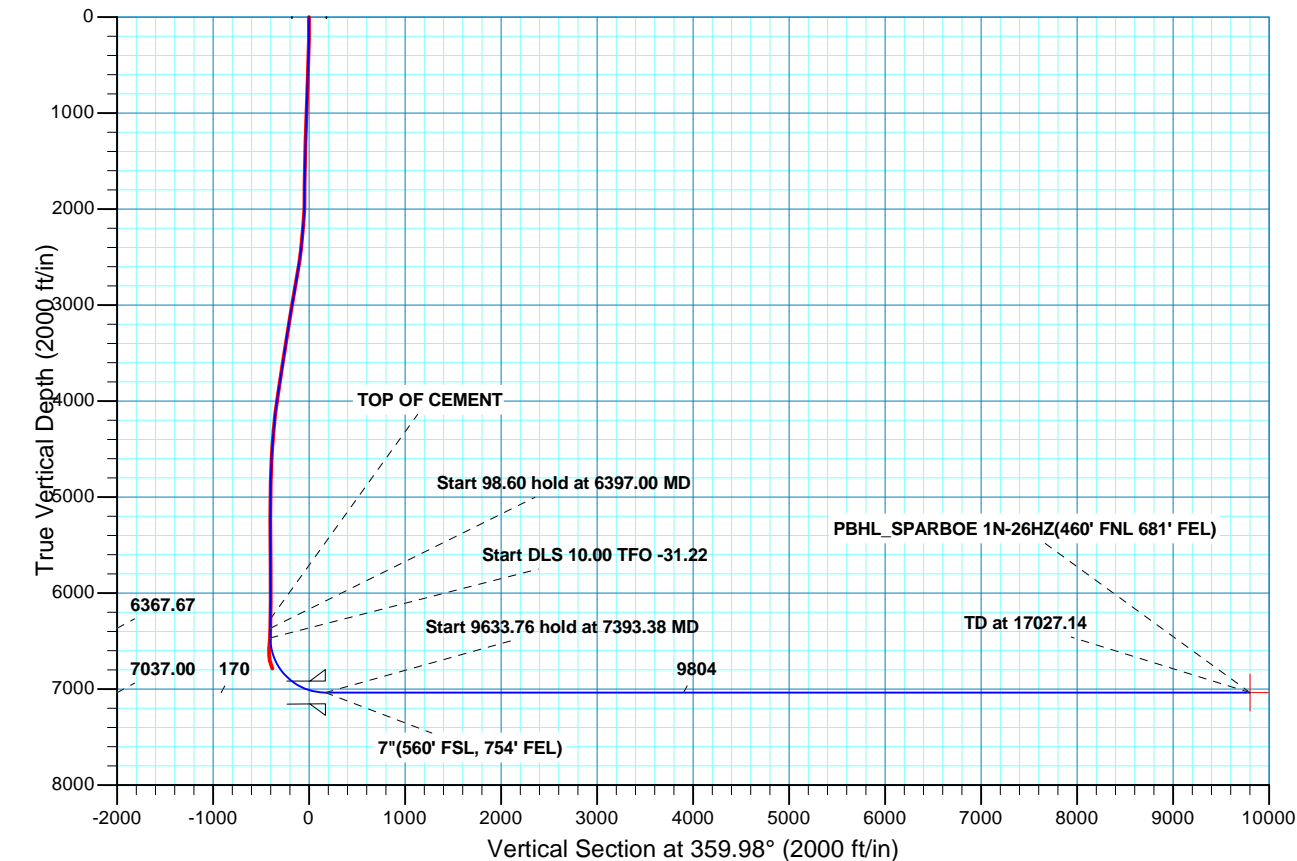
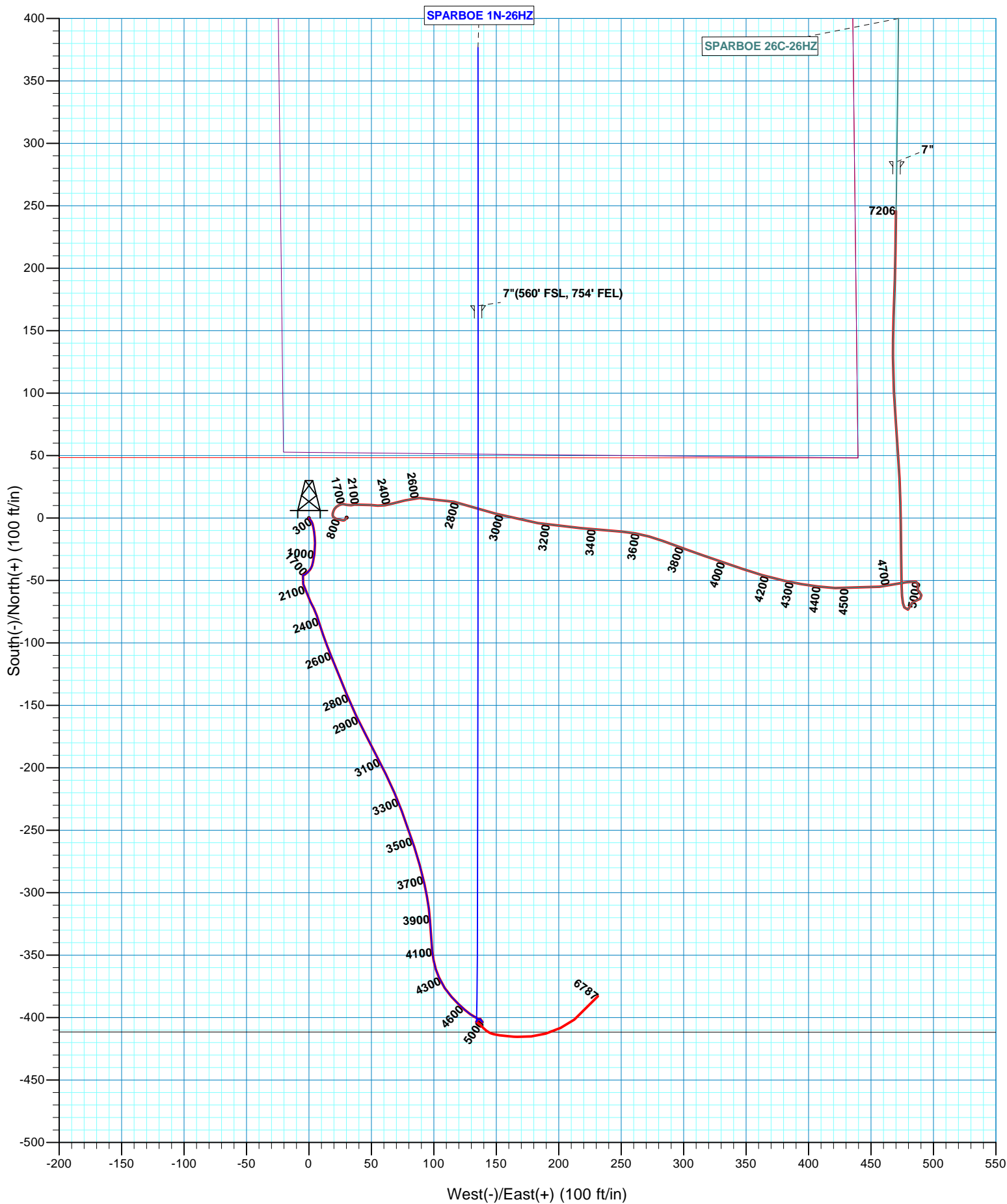
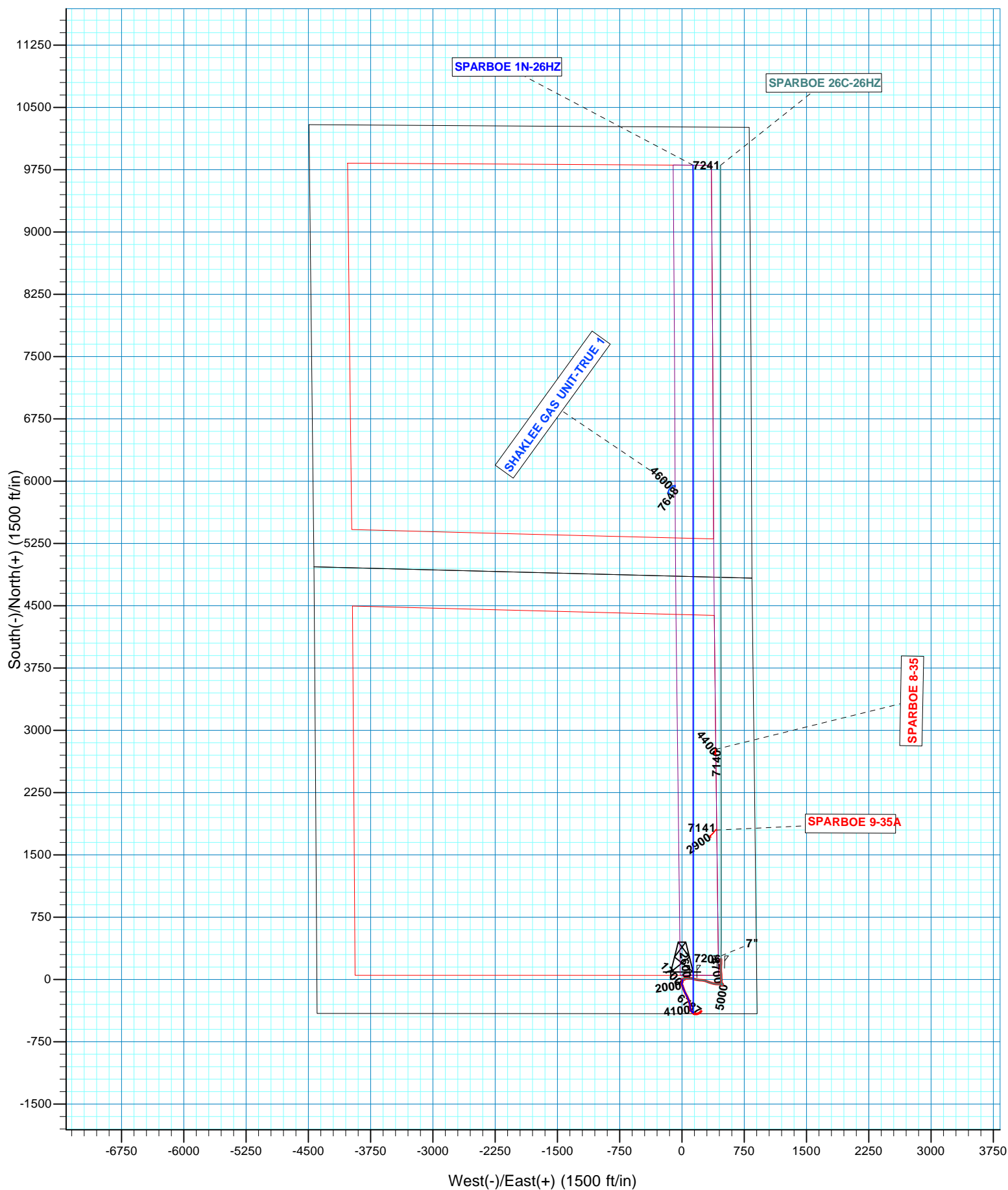


WELL DETAILS: SPARBOE 1N-26HZ									
GL 4946' & KB 25' @ 4971.00ft (HP 311)									
		+N/-S	+E/-W	Northing		Easting		Latitude	Longitude
		0.00	0.00	1276333.72		3244908.72		40.0886089	-104.6246540
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
6397.00	0.26	31.20	6367.67	-403.25	134.02	0.00	0.00	-403.29	
6495.60	0.26	31.20	6466.27	-402.86	134.25	0.00	0.00	-402.91	
7393.38	90.00	359.98	7037.00	170.09	135.44	10.00	-31.22	170.04	
17027.14	90.00	359.98	7037.00	9803.85	132.85	0.00	0.009803.80	PBHL_SPARBOE 1N-26HZ(460' FNL 681' FEL)	
FORMATION TOP DETAILS							CASING DETAILS		
TVDPath	MDPath	Formation		Inc		TVD	MD	Name	Size
6854.00	6922.28	Sharon Springs		42.89		7037.00	7393.38	7"	7.000
6879.00	6957.43	Niobrara A		46.41					
6965.00	7103.04	Niobrara B		60.97					









Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

SPARBOE 37-35HZ

SPARBOE 1N-26HZ

SPARBOE 1N-26HZX

Plan: PLAN #1

Standard Planning Report

01 March, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SPARBOE 1N-26HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	North Reference:	True
Well:	SPARBOE 1N-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	SPARBOE 1N-26HZX		
Design:	PLAN #1		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	SPARBOE 37-35HZ, SECTION 26 T2N R65W			
Site Position:		Northing:	1,276,334.39 usft	Latitude: 40.0886100
From:	Lat/Long	Easting:	3,244,938.93 usft	Longitude: -104.6245460
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.57 °

Well	SPARBOE 1N-26HZ, 399' FSL 889' FEL			
Well Position	+N/-S	-0.38 ft	Northing:	1,276,333.72 usft
	+E/-W	-30.22 ft	Easting:	3,244,908.72 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Latitude: 40.0886090
				Longitude: -104.6246540
				Ground Level: 4,946.00 ft

Wellbore	SPARBOE 1N-26HZX				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2013/03/01	8.59	66.74	52,709

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	6,397.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.98

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
6,397.00	0.26	31.20	6,367.67	-403.25	134.02	0.00	0.00	0.00	0.00	
6,495.60	0.26	31.20	6,466.27	-402.86	134.25	0.00	0.00	0.00	0.00	
7,393.38	90.00	359.98	7,037.00	170.09	135.44	10.00	10.00	-3.48	-31.22	
17,027.14	90.00	359.98	7,037.00	9,803.85	132.85	0.00	0.00	0.00	0.00	PBHL_SPARBOE 1N

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SPARBOE 1N-26HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	North Reference:	True
Well:	SPARBOE 1N-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	SPARBOE 1N-26HZX		
Design:	PLAN #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,397.00	0.26	31.20	6,367.67	-403.25	134.02	-403.29	0.00	0.00	0.00
Start 98.60 hold at 6397.00 MD									
6,400.00	0.26	31.20	6,370.67	-403.24	134.03	-403.28	0.00	0.00	0.00
6,495.60	0.26	31.20	6,466.27	-402.86	134.25	-402.91	0.00	0.00	0.00
Start DLS 10.00 TFO -31.22									
6,500.00	0.68	11.48	6,470.67	-402.83	134.26	-402.88	10.00	9.45	-448.11
6,600.00	10.66	0.70	6,570.05	-392.98	134.49	-393.02	10.00	9.99	-10.78
6,700.00	20.66	0.34	6,666.22	-366.01	134.71	-366.06	10.00	10.00	-0.36
6,800.00	30.66	0.21	6,756.24	-322.76	134.91	-322.81	10.00	10.00	-0.13
6,900.00	40.66	0.14	6,837.38	-264.53	135.09	-264.58	10.00	10.00	-0.07
6,922.28	42.89	0.13	6,854.00	-249.69	135.12	-249.74	10.00	10.00	-0.05
Sharon Springs									
6,957.43	46.41	0.11	6,879.00	-225.00	135.17	-225.04	10.00	10.00	-0.05
Niobrara A									
7,000.00	50.66	0.10	6,907.18	-193.10	135.23	-193.15	10.00	10.00	-0.04
7,100.00	60.66	0.06	6,963.52	-110.63	135.34	-110.68	10.00	10.00	-0.03
7,103.04	60.97	0.06	6,965.00	-107.98	135.34	-108.03	10.00	10.00	-0.03
Niobrara B									
7,200.00	70.66	0.03	7,004.68	-19.64	135.41	-19.68	10.00	10.00	-0.03
7,300.00	80.66	0.01	7,029.41	77.13	135.45	77.08	10.00	10.00	-0.03
7,393.38	90.00	359.98	7,037.00	170.09	135.44	170.05	10.00	10.00	-0.02
Start 9633.76 hold at 7393.38 MD - 7"(560' FSL, 754' FEL)									
7,400.00	90.00	359.98	7,037.00	176.71	135.44	176.67	0.00	0.00	0.00
7,500.00	90.00	359.98	7,037.00	276.71	135.41	276.67	0.00	0.00	0.00
7,600.00	90.00	359.98	7,037.00	376.71	135.38	376.67	0.00	0.00	0.00
7,700.00	90.00	359.98	7,037.00	476.71	135.36	476.67	0.00	0.00	0.00
7,800.00	90.00	359.98	7,037.00	576.71	135.33	576.67	0.00	0.00	0.00
7,900.00	90.00	359.98	7,037.00	676.71	135.30	676.67	0.00	0.00	0.00
8,000.00	90.00	359.98	7,037.00	776.71	135.28	776.67	0.00	0.00	0.00
8,100.00	90.00	359.98	7,037.00	876.71	135.25	876.67	0.00	0.00	0.00
8,200.00	90.00	359.98	7,037.00	976.71	135.22	976.67	0.00	0.00	0.00
8,300.00	90.00	359.98	7,037.00	1,076.71	135.20	1,076.67	0.00	0.00	0.00
8,400.00	90.00	359.98	7,037.00	1,176.71	135.17	1,176.67	0.00	0.00	0.00
8,500.00	90.00	359.98	7,037.00	1,276.71	135.14	1,276.67	0.00	0.00	0.00
8,600.00	90.00	359.98	7,037.00	1,376.71	135.11	1,376.67	0.00	0.00	0.00
8,700.00	90.00	359.98	7,037.00	1,476.71	135.09	1,476.67	0.00	0.00	0.00
8,800.00	90.00	359.98	7,037.00	1,576.71	135.06	1,576.67	0.00	0.00	0.00
8,900.00	90.00	359.98	7,037.00	1,676.71	135.03	1,676.67	0.00	0.00	0.00
9,000.00	90.00	359.98	7,037.00	1,776.71	135.01	1,776.67	0.00	0.00	0.00
9,100.00	90.00	359.98	7,037.00	1,876.71	134.98	1,876.67	0.00	0.00	0.00
9,200.00	90.00	359.98	7,037.00	1,976.71	134.95	1,976.67	0.00	0.00	0.00
9,300.00	90.00	359.98	7,037.00	2,076.71	134.93	2,076.67	0.00	0.00	0.00
9,400.00	90.00	359.98	7,037.00	2,176.71	134.90	2,176.67	0.00	0.00	0.00
9,500.00	90.00	359.98	7,037.00	2,276.71	134.87	2,276.67	0.00	0.00	0.00
9,600.00	90.00	359.98	7,037.00	2,376.71	134.85	2,376.67	0.00	0.00	0.00
9,700.00	90.00	359.98	7,037.00	2,476.71	134.82	2,476.67	0.00	0.00	0.00
9,800.00	90.00	359.98	7,037.00	2,576.71	134.79	2,576.67	0.00	0.00	0.00
9,900.00	90.00	359.98	7,037.00	2,676.71	134.76	2,676.67	0.00	0.00	0.00
10,000.00	90.00	359.98	7,037.00	2,776.71	134.74	2,776.67	0.00	0.00	0.00
10,100.00	90.00	359.98	7,037.00	2,876.71	134.71	2,876.67	0.00	0.00	0.00
10,200.00	90.00	359.98	7,037.00	2,976.71	134.68	2,976.67	0.00	0.00	0.00
10,300.00	90.00	359.98	7,037.00	3,076.71	134.66	3,076.67	0.00	0.00	0.00
10,400.00	90.00	359.98	7,037.00	3,176.71	134.63	3,176.67	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SPARBOE 1N-26HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	North Reference:	True
Well:	SPARBOE 1N-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	SPARBOE 1N-26HZX		
Design:	PLAN #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,500.00	90.00	359.98	7,037.00	3,276.71	134.60	3,276.67	0.00	0.00	0.00
10,600.00	90.00	359.98	7,037.00	3,376.71	134.58	3,376.67	0.00	0.00	0.00
10,700.00	90.00	359.98	7,037.00	3,476.71	134.55	3,476.67	0.00	0.00	0.00
10,800.00	90.00	359.98	7,037.00	3,576.71	134.52	3,576.67	0.00	0.00	0.00
10,900.00	90.00	359.98	7,037.00	3,676.71	134.50	3,676.67	0.00	0.00	0.00
11,000.00	90.00	359.98	7,037.00	3,776.71	134.47	3,776.67	0.00	0.00	0.00
11,100.00	90.00	359.98	7,037.00	3,876.71	134.44	3,876.67	0.00	0.00	0.00
11,200.00	90.00	359.98	7,037.00	3,976.71	134.42	3,976.67	0.00	0.00	0.00
11,300.00	90.00	359.98	7,037.00	4,076.71	134.39	4,076.67	0.00	0.00	0.00
11,400.00	90.00	359.98	7,037.00	4,176.71	134.36	4,176.67	0.00	0.00	0.00
11,500.00	90.00	359.98	7,037.00	4,276.71	134.33	4,276.67	0.00	0.00	0.00
11,600.00	90.00	359.98	7,037.00	4,376.71	134.31	4,376.67	0.00	0.00	0.00
11,700.00	90.00	359.98	7,037.00	4,476.71	134.28	4,476.67	0.00	0.00	0.00
11,800.00	90.00	359.98	7,037.00	4,576.71	134.25	4,576.67	0.00	0.00	0.00
11,900.00	90.00	359.98	7,037.00	4,676.71	134.23	4,676.67	0.00	0.00	0.00
12,000.00	90.00	359.98	7,037.00	4,776.71	134.20	4,776.67	0.00	0.00	0.00
12,100.00	90.00	359.98	7,037.00	4,876.71	134.17	4,876.67	0.00	0.00	0.00
12,200.00	90.00	359.98	7,037.00	4,976.71	134.15	4,976.67	0.00	0.00	0.00
12,300.00	90.00	359.98	7,037.00	5,076.71	134.12	5,076.67	0.00	0.00	0.00
12,400.00	90.00	359.98	7,037.00	5,176.71	134.09	5,176.67	0.00	0.00	0.00
12,500.00	90.00	359.98	7,037.00	5,276.71	134.07	5,276.67	0.00	0.00	0.00
12,600.00	90.00	359.98	7,037.00	5,376.71	134.04	5,376.67	0.00	0.00	0.00
12,700.00	90.00	359.98	7,037.00	5,476.71	134.01	5,476.67	0.00	0.00	0.00
12,800.00	90.00	359.98	7,037.00	5,576.71	133.98	5,576.67	0.00	0.00	0.00
12,900.00	90.00	359.98	7,037.00	5,676.71	133.96	5,676.67	0.00	0.00	0.00
13,000.00	90.00	359.98	7,037.00	5,776.71	133.93	5,776.67	0.00	0.00	0.00
13,100.00	90.00	359.98	7,037.00	5,876.71	133.90	5,876.67	0.00	0.00	0.00
13,200.00	90.00	359.98	7,037.00	5,976.71	133.88	5,976.67	0.00	0.00	0.00
13,300.00	90.00	359.98	7,037.00	6,076.71	133.85	6,076.67	0.00	0.00	0.00
13,400.00	90.00	359.98	7,037.00	6,176.71	133.82	6,176.67	0.00	0.00	0.00
13,500.00	90.00	359.98	7,037.00	6,276.71	133.80	6,276.67	0.00	0.00	0.00
13,600.00	90.00	359.98	7,037.00	6,376.71	133.77	6,376.67	0.00	0.00	0.00
13,700.00	90.00	359.98	7,037.00	6,476.71	133.74	6,476.67	0.00	0.00	0.00
13,800.00	90.00	359.98	7,037.00	6,576.71	133.72	6,576.67	0.00	0.00	0.00
13,900.00	90.00	359.98	7,037.00	6,676.71	133.69	6,676.67	0.00	0.00	0.00
14,000.00	90.00	359.98	7,037.00	6,776.71	133.66	6,776.67	0.00	0.00	0.00
14,100.00	90.00	359.98	7,037.00	6,876.71	133.64	6,876.67	0.00	0.00	0.00
14,200.00	90.00	359.98	7,037.00	6,976.71	133.61	6,976.67	0.00	0.00	0.00
14,300.00	90.00	359.98	7,037.00	7,076.71	133.58	7,076.67	0.00	0.00	0.00
14,400.00	90.00	359.98	7,037.00	7,176.71	133.55	7,176.67	0.00	0.00	0.00
14,500.00	90.00	359.98	7,037.00	7,276.71	133.53	7,276.67	0.00	0.00	0.00
14,600.00	90.00	359.98	7,037.00	7,376.71	133.50	7,376.67	0.00	0.00	0.00
14,700.00	90.00	359.98	7,037.00	7,476.71	133.47	7,476.67	0.00	0.00	0.00
14,800.00	90.00	359.98	7,037.00	7,576.71	133.45	7,576.67	0.00	0.00	0.00
14,900.00	90.00	359.98	7,037.00	7,676.71	133.42	7,676.67	0.00	0.00	0.00
15,000.00	90.00	359.98	7,037.00	7,776.71	133.39	7,776.67	0.00	0.00	0.00
15,100.00	90.00	359.98	7,037.00	7,876.71	133.37	7,876.67	0.00	0.00	0.00
15,200.00	90.00	359.98	7,037.00	7,976.71	133.34	7,976.67	0.00	0.00	0.00
15,300.00	90.00	359.98	7,037.00	8,076.71	133.31	8,076.67	0.00	0.00	0.00
15,400.00	90.00	359.98	7,037.00	8,176.71	133.29	8,176.67	0.00	0.00	0.00
15,500.00	90.00	359.98	7,037.00	8,276.71	133.26	8,276.67	0.00	0.00	0.00
15,600.00	90.00	359.98	7,037.00	8,376.71	133.23	8,376.67	0.00	0.00	0.00
15,700.00	90.00	359.98	7,037.00	8,476.71	133.20	8,476.67	0.00	0.00	0.00
15,800.00	90.00	359.98	7,037.00	8,576.71	133.18	8,576.67	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SPARBOE 1N-26HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4946' & KB 25' @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	North Reference:	True
Well:	SPARBOE 1N-26HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	SPARBOE 1N-26HZX		
Design:	PLAN #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,900.00	90.00	359.98	7,037.00	8,676.71	133.15	8,676.67	0.00	0.00	0.00
16,000.00	90.00	359.98	7,037.00	8,776.71	133.12	8,776.67	0.00	0.00	0.00
16,100.00	90.00	359.98	7,037.00	8,876.71	133.10	8,876.67	0.00	0.00	0.00
16,200.00	90.00	359.98	7,037.00	8,976.71	133.07	8,976.67	0.00	0.00	0.00
16,300.00	90.00	359.98	7,037.00	9,076.71	133.04	9,076.67	0.00	0.00	0.00
16,400.00	90.00	359.98	7,037.00	9,176.71	133.02	9,176.67	0.00	0.00	0.00
16,500.00	90.00	359.98	7,037.00	9,276.71	132.99	9,276.67	0.00	0.00	0.00
16,600.00	90.00	359.98	7,037.00	9,376.71	132.96	9,376.67	0.00	0.00	0.00
16,700.00	90.00	359.98	7,037.00	9,476.71	132.94	9,476.67	0.00	0.00	0.00
16,800.00	90.00	359.98	7,037.00	9,576.71	132.91	9,576.67	0.00	0.00	0.00
16,900.00	90.00	359.98	7,037.00	9,676.71	132.88	9,676.67	0.00	0.00	0.00
17,000.00	90.00	359.98	7,037.00	9,776.71	132.86	9,776.67	0.00	0.00	0.00
17,027.14	90.00	359.98	7,037.00	9,803.85	132.85	9,803.80	0.00	0.00	0.00
TD at 17027.14 - PBHL_SPARBOE 1N-26HZ(460' FNL 681' FEL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_SPARBOE 1N-26HZ	0.00	0.00	7,037.00	9,803.85	132.85	1,286,138.38	3,244,944.79	40.1155220	-104.6241790
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
7,393.38	7,037.00	7"(560' FSL, 754' FEL)	7.000	7.500	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,922.28	6,854.00	Sharon Springs			
6,957.43	6,879.00	Niobrara A			
7,103.04	6,965.00	Niobrara B			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,397.00	6,367.67	-403.25	134.02	Start 98.60 hold at 6397.00 MD	
6,495.60	6,466.27	-402.86	134.25	Start DLS 10.00 TFO -31.22	
7,393.38	7,037.00	170.09	135.44	Start 9633.76 hold at 7393.38 MD	
17,027.14	7,037.00	9,803.85	132.85	TD at 17027.14	