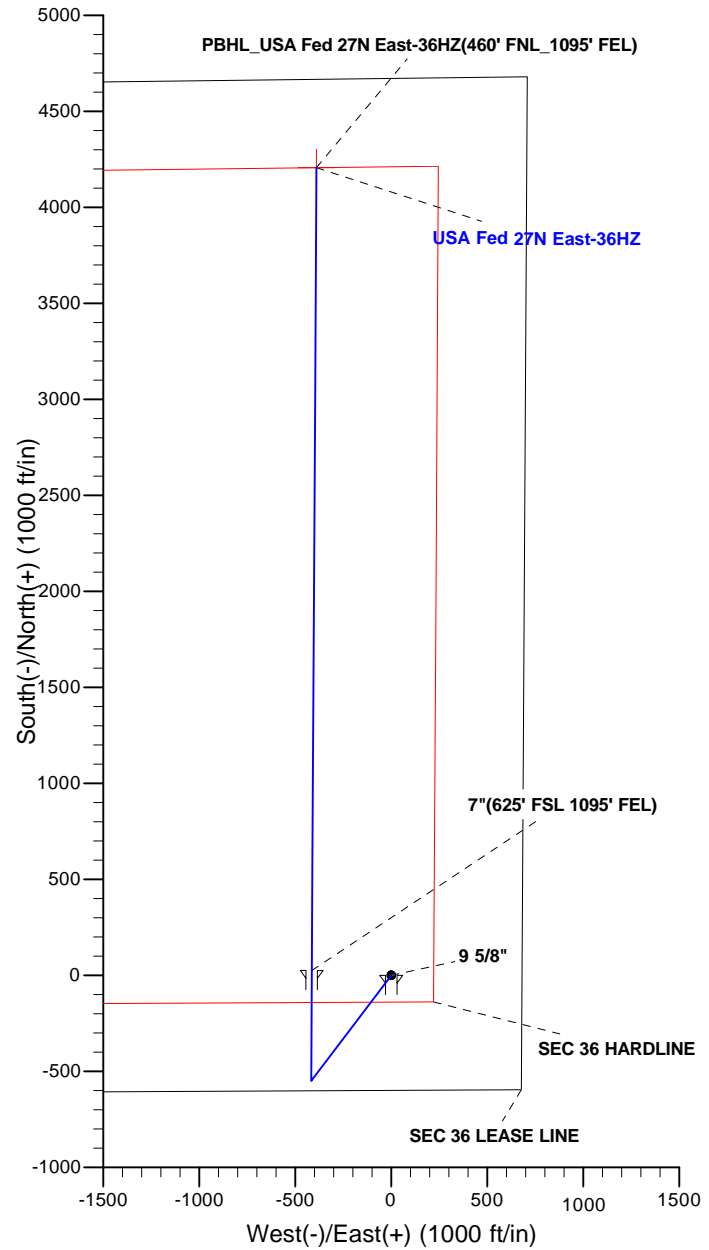
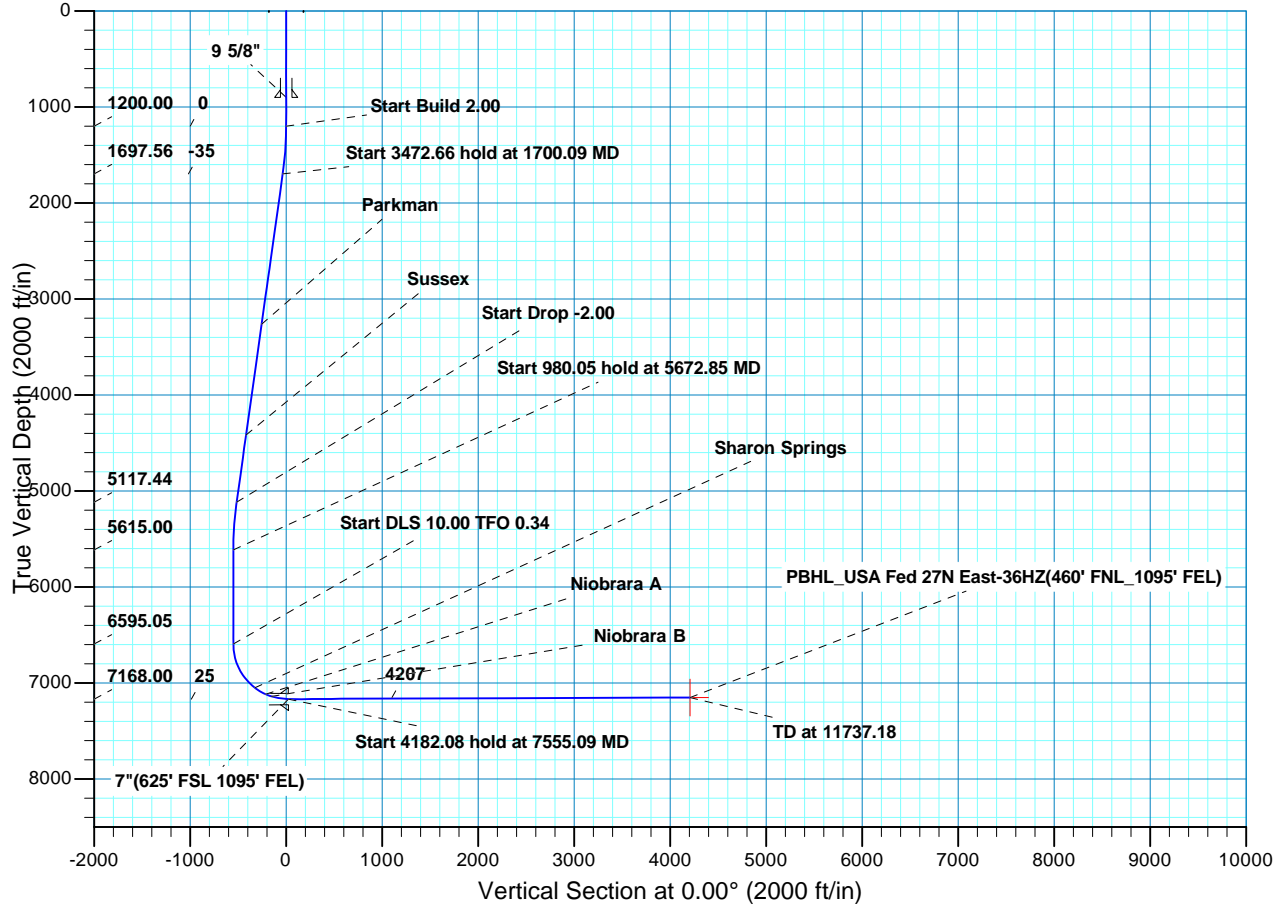




Project: COLORADO NORTHERN ZONE - 83
Site: USA FED 16-36-HZ PAD
Well: USA Fed 27N East-36HZ
Wellbore: OH
Design: PLAN #2



WELL DETAILS: USA Fed 27N East-36HZ																			
GL 4985 & KB 17 @ 5002.00ft (ASSUMED)																			
+N/-S		+E/-W		Northing		Easting		Latitude		Longitude									
0.00		0.00		1308047.44		3218434.78		40.1763429		-104.7182720									
SECTION DETAILS																			
MD		Inc		Azi		TVD		+N/-S		+E/-W		Dleg		TFace		VSept		Target	
0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00			
1200.00		0.00		0.00		1200.00		0.00		0.00		0.00		0.00		0.00			
1700.09		10.00		217.17		1697.56		-34.69		-26.30		2.00		217.17		-34.69			
5172.76		10.00		217.17		5117.44		-515.31		-390.70		0.00		0.00		-515.31			
5672.85		0.00		0.00		5615.00		-550.00		-417.00		2.00		180.00		-550.00			
6652.90		0.00		0.00		6595.05		-550.00		-417.00		0.00		0.00		-550.00			
7555.09		90.22		0.34		7168.00		25.14		-413.64		10.00		0.34		25.14			
11737.18		90.22		0.34		7152.00		4207.12		-389.18		0.00		0.00		4207.12		PBHL_USA Fed 27N East-36HZ(460' FNL_1095' FEL)	
FORMATION TOP DETAILS												CASING DETAILS							
TVDPPath		MDPath		Formation		Inc						TVD		MD		Name		Size	
3265.00		3291.73		Parkman		10.00						900.00		900.00		9 5/8"		9.625	
4416.00		4460.49		Sussex		10.00						7168.00		7555.09		7"		7.000	
7050.00		7178.54		Sharon Springs		52.56													
7117.00		7309.30		Niobrara A		65.64													
7140.00		7373.01		Niobrara B		72.01													





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

USA FED 16-36-HZ PAD

USA Fed 27N East-36HZ

OH

Plan: PLAN #2

Standard Planning Report

13 May, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Site:	USA FED 16-36-HZ PAD	North Reference:	True
Well:	USA Fed 27N East-36HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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		USA FED 16-36-HZ PAD, SECTION 36 T3B R66W			
Site Position:		Northing:	1,308,056.82 usft	Latitude:	40.1763680
From:	Lat/Long	Easting:	3,218,463.48 usft	Longitude:	-104.7181690
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.51

Well	USA Fed 27N East-36HZ, 599' FSL 681' FEL					
Well Position	+N/-S	-9.12 ft	Northing:	1,308,047.44 usft	Latitude:	40.1763430
	+E/-W	-28.78 ft	Easting:	3,218,434.78 usft	Longitude:	-104.7182720
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,985.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2013/05/07	8.62	66.79	52,719

Design	PLAN #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.00

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.09	10.00	217.17	1,697.56	-34.69	-26.30	2.00	2.00	0.00	217.17	
5,172.76	10.00	217.17	5,117.44	-515.31	-390.70	0.00	0.00	0.00	0.00	
5,672.85	0.00	0.00	5,615.00	-550.00	-417.00	2.00	-2.00	0.00	180.00	
6,652.90	0.00	0.00	6,595.05	-550.00	-417.00	0.00	0.00	0.00	0.00	
7,555.09	90.22	0.34	7,168.00	25.14	-413.64	10.00	10.00	0.04	0.34	
11,737.18	90.22	0.34	7,152.00	4,207.12	-389.18	0.00	0.00	0.00	0.00	PBHL_USA Fed 27N

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Site:	USA FED 16-36-HZ PAD	North Reference:	True
Well:	USA Fed 27N East-36HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,300.00	2.00	217.17	1,299.98	-1.39	-1.05	-1.39	2.00	2.00	0.00
1,400.00	4.00	217.17	1,399.84	-5.56	-4.22	-5.56	2.00	2.00	0.00
1,500.00	6.00	217.17	1,499.45	-12.51	-9.48	-12.51	2.00	2.00	0.00
1,600.00	8.00	217.17	1,598.70	-22.22	-16.84	-22.22	2.00	2.00	0.00
1,700.00	10.00	217.17	1,697.47	-34.68	-26.29	-34.68	2.00	2.00	0.00
1,700.09	10.00	217.17	1,697.56	-34.69	-26.30	-34.69	2.00	2.00	0.00
Start 3472.66 hold at 1700.09 MD									
1,800.00	10.00	217.17	1,795.95	-48.52	-36.79	-48.52	0.00	0.00	0.00
1,900.00	10.00	217.17	1,894.43	-62.36	-47.28	-62.36	0.00	0.00	0.00
2,000.00	10.00	217.17	1,992.91	-76.20	-57.77	-76.20	0.00	0.00	0.00
2,100.00	10.00	217.17	2,091.39	-90.04	-68.27	-90.04	0.00	0.00	0.00
2,200.00	10.00	217.17	2,189.87	-103.88	-78.76	-103.88	0.00	0.00	0.00
2,300.00	10.00	217.17	2,288.35	-117.72	-89.25	-117.72	0.00	0.00	0.00
2,400.00	10.00	217.17	2,386.83	-131.56	-99.75	-131.56	0.00	0.00	0.00
2,500.00	10.00	217.17	2,485.31	-145.40	-110.24	-145.40	0.00	0.00	0.00
2,600.00	10.00	217.17	2,583.79	-159.24	-120.73	-159.24	0.00	0.00	0.00
2,700.00	10.00	217.17	2,682.27	-173.08	-131.23	-173.08	0.00	0.00	0.00
2,800.00	10.00	217.17	2,780.75	-186.92	-141.72	-186.92	0.00	0.00	0.00
2,900.00	10.00	217.17	2,879.23	-200.76	-152.21	-200.76	0.00	0.00	0.00
3,000.00	10.00	217.17	2,977.71	-214.60	-162.71	-214.60	0.00	0.00	0.00
3,100.00	10.00	217.17	3,076.19	-228.44	-173.20	-228.44	0.00	0.00	0.00
3,200.00	10.00	217.17	3,174.67	-242.28	-183.69	-242.28	0.00	0.00	0.00
3,291.73	10.00	217.17	3,265.00	-254.97	-193.32	-254.97	0.00	0.00	0.00
Parkman									
3,300.00	10.00	217.17	3,273.15	-256.12	-194.18	-256.12	0.00	0.00	0.00
3,400.00	10.00	217.17	3,371.63	-269.96	-204.68	-269.96	0.00	0.00	0.00
3,500.00	10.00	217.17	3,470.11	-283.80	-215.17	-283.80	0.00	0.00	0.00
3,600.00	10.00	217.17	3,568.59	-297.64	-225.66	-297.64	0.00	0.00	0.00
3,700.00	10.00	217.17	3,667.07	-311.48	-236.16	-311.48	0.00	0.00	0.00
3,800.00	10.00	217.17	3,765.55	-325.32	-246.65	-325.32	0.00	0.00	0.00
3,900.00	10.00	217.17	3,864.03	-339.16	-257.14	-339.16	0.00	0.00	0.00
4,000.00	10.00	217.17	3,962.51	-353.00	-267.64	-353.00	0.00	0.00	0.00
4,100.00	10.00	217.17	4,060.99	-366.84	-278.13	-366.84	0.00	0.00	0.00
4,200.00	10.00	217.17	4,159.47	-380.68	-288.62	-380.68	0.00	0.00	0.00
4,300.00	10.00	217.17	4,257.95	-394.52	-299.12	-394.52	0.00	0.00	0.00
4,400.00	10.00	217.17	4,356.43	-408.36	-309.61	-408.36	0.00	0.00	0.00
4,460.49	10.00	217.17	4,416.00	-416.73	-315.96	-416.73	0.00	0.00	0.00
Sussex									
4,500.00	10.00	217.17	4,454.91	-422.20	-320.10	-422.20	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Site:	USA FED 16-36-HZ PAD	North Reference:	True
Well:	USA Fed 27N East-36HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)
4,600.00	10.00	217.17	4,553.39	-436.04	-330.60	-436.04	0.00	0.00	0.00
4,700.00	10.00	217.17	4,651.87	-449.88	-341.09	-449.88	0.00	0.00	0.00
4,800.00	10.00	217.17	4,750.35	-463.72	-351.58	-463.72	0.00	0.00	0.00
4,900.00	10.00	217.17	4,848.83	-477.56	-362.07	-477.56	0.00	0.00	0.00
5,000.00	10.00	217.17	4,947.31	-491.40	-372.57	-491.40	0.00	0.00	0.00
5,100.00	10.00	217.17	5,045.79	-505.24	-383.06	-505.24	0.00	0.00	0.00
5,172.76	10.00	217.17	5,117.44	-515.31	-390.70	-515.31	0.00	0.00	0.00
Start Drop -2.00									
5,200.00	9.46	217.17	5,144.30	-518.97	-393.48	-518.97	2.00	-2.00	0.00
5,300.00	7.46	217.17	5,243.20	-530.69	-402.36	-530.69	2.00	-2.00	0.00
5,400.00	5.46	217.17	5,342.56	-539.65	-409.16	-539.65	2.00	-2.00	0.00
5,500.00	3.46	217.17	5,442.26	-545.85	-413.85	-545.85	2.00	-2.00	0.00
5,600.00	1.46	217.17	5,542.16	-549.26	-416.44	-549.26	2.00	-2.00	0.00
5,672.85	0.00	0.00	5,615.00	-550.00	-417.00	-550.00	2.00	-2.00	0.00
Start 980.05 hold at 5672.85 MD									
5,700.00	0.00	0.00	5,642.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,742.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,842.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,942.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,042.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,142.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,242.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,342.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,442.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,542.15	-550.00	-417.00	-550.00	0.00	0.00	0.00
6,652.90	0.00	0.00	6,595.05	-550.00	-417.00	-550.00	0.00	0.00	0.00
Start DLS 10.00 TFO 0.34									
6,700.00	4.71	0.34	6,642.10	-548.07	-416.99	-548.07	10.00	10.00	0.00
6,800.00	14.71	0.34	6,740.54	-531.22	-416.89	-531.22	10.00	10.00	0.00
6,900.00	24.71	0.34	6,834.56	-497.54	-416.69	-497.54	10.00	10.00	0.00
7,000.00	34.71	0.34	6,921.31	-448.04	-416.40	-448.04	10.00	10.00	0.00
7,100.00	44.71	0.34	6,998.14	-384.23	-416.03	-384.23	10.00	10.00	0.00
7,178.54	52.56	0.34	7,050.00	-325.33	-415.69	-325.33	10.00	10.00	0.00
Sharon Springs									
7,200.00	54.71	0.34	7,062.72	-308.05	-415.59	-308.05	10.00	10.00	0.00
7,300.00	64.71	0.34	7,113.09	-221.81	-415.08	-221.81	10.00	10.00	0.00
7,309.30	65.64	0.34	7,117.00	-213.37	-415.03	-213.37	10.00	10.00	0.00
Niobrara A									
7,373.01	72.01	0.34	7,140.00	-154.00	-414.68	-154.00	10.00	10.00	0.00
Niobrara B									
7,400.00	74.71	0.34	7,147.73	-128.14	-414.53	-128.14	10.00	10.00	0.00
7,500.00	84.71	0.34	7,165.57	-29.88	-413.96	-29.88	10.00	10.00	0.00
7,555.09	90.22	0.34	7,168.00	25.14	-413.64	25.14	10.00	10.00	0.00
Start 4182.08 hold at 7555.09 MD - 7"(625' FSL 1095' FEL)									
7,600.00	90.22	0.34	7,167.83	70.05	-413.37	70.05	0.00	0.00	0.00
7,700.00	90.22	0.34	7,167.45	170.05	-412.79	170.05	0.00	0.00	0.00
7,800.00	90.22	0.34	7,167.07	270.04	-412.20	270.04	0.00	0.00	0.00
7,900.00	90.22	0.34	7,166.68	370.04	-411.62	370.04	0.00	0.00	0.00
8,000.00	90.22	0.34	7,166.30	470.04	-411.03	470.04	0.00	0.00	0.00
8,100.00	90.22	0.34	7,165.92	570.04	-410.45	570.04	0.00	0.00	0.00
8,200.00	90.22	0.34	7,165.54	670.03	-409.87	670.03	0.00	0.00	0.00
8,300.00	90.22	0.34	7,165.15	770.03	-409.28	770.03	0.00	0.00	0.00
8,400.00	90.22	0.34	7,164.77	870.03	-408.70	870.03	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Site:	USA FED 16-36-HZ PAD	North Reference:	True
Well:	USA Fed 27N East-36HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)	
8,500.00	90.22	0.34	7,164.39	970.03	-408.11	970.03	0.00	0.00	0.00	
8,600.00	90.22	0.34	7,164.01	1,070.02	-407.53	1,070.02	0.00	0.00	0.00	
8,700.00	90.22	0.34	7,163.62	1,170.02	-406.94	1,170.02	0.00	0.00	0.00	
8,800.00	90.22	0.34	7,163.24	1,270.02	-406.36	1,270.02	0.00	0.00	0.00	
8,900.00	90.22	0.34	7,162.86	1,370.02	-405.77	1,370.02	0.00	0.00	0.00	
9,000.00	90.22	0.34	7,162.47	1,470.01	-405.19	1,470.01	0.00	0.00	0.00	
9,100.00	90.22	0.34	7,162.09	1,570.01	-404.60	1,570.01	0.00	0.00	0.00	
9,200.00	90.22	0.34	7,161.71	1,670.01	-404.02	1,670.01	0.00	0.00	0.00	
9,300.00	90.22	0.34	7,161.33	1,770.01	-403.43	1,770.01	0.00	0.00	0.00	
9,400.00	90.22	0.34	7,160.94	1,870.00	-402.85	1,870.00	0.00	0.00	0.00	
9,500.00	90.22	0.34	7,160.56	1,970.00	-402.26	1,970.00	0.00	0.00	0.00	
9,600.00	90.22	0.34	7,160.18	2,070.00	-401.68	2,070.00	0.00	0.00	0.00	
9,700.00	90.22	0.34	7,159.80	2,170.00	-401.09	2,170.00	0.00	0.00	0.00	
9,800.00	90.22	0.34	7,159.41	2,269.99	-400.51	2,269.99	0.00	0.00	0.00	
9,900.00	90.22	0.34	7,159.03	2,369.99	-399.92	2,369.99	0.00	0.00	0.00	
10,000.00	90.22	0.34	7,158.65	2,469.99	-399.34	2,469.99	0.00	0.00	0.00	
10,100.00	90.22	0.34	7,158.27	2,569.99	-398.75	2,569.99	0.00	0.00	0.00	
10,200.00	90.22	0.34	7,157.88	2,669.98	-398.17	2,669.98	0.00	0.00	0.00	
10,300.00	90.22	0.34	7,157.50	2,769.98	-397.58	2,769.98	0.00	0.00	0.00	
10,400.00	90.22	0.34	7,157.12	2,869.98	-397.00	2,869.98	0.00	0.00	0.00	
10,500.00	90.22	0.34	7,156.73	2,969.98	-396.41	2,969.98	0.00	0.00	0.00	
10,600.00	90.22	0.34	7,156.35	3,069.97	-395.83	3,069.97	0.00	0.00	0.00	
10,700.00	90.22	0.34	7,155.97	3,169.97	-395.24	3,169.97	0.00	0.00	0.00	
10,800.00	90.22	0.34	7,155.59	3,269.97	-394.66	3,269.97	0.00	0.00	0.00	
10,900.00	90.22	0.34	7,155.20	3,369.97	-394.08	3,369.97	0.00	0.00	0.00	
11,000.00	90.22	0.34	7,154.82	3,469.96	-393.49	3,469.96	0.00	0.00	0.00	
11,100.00	90.22	0.34	7,154.44	3,569.96	-392.91	3,569.96	0.00	0.00	0.00	
11,200.00	90.22	0.34	7,154.06	3,669.96	-392.32	3,669.96	0.00	0.00	0.00	
11,300.00	90.22	0.34	7,153.67	3,769.96	-391.74	3,769.96	0.00	0.00	0.00	
11,400.00	90.22	0.34	7,153.29	3,869.96	-391.15	3,869.96	0.00	0.00	0.00	
11,500.00	90.22	0.34	7,152.91	3,969.95	-390.57	3,969.95	0.00	0.00	0.00	
11,600.00	90.22	0.34	7,152.53	4,069.95	-389.98	4,069.95	0.00	0.00	0.00	
11,700.00	90.22	0.34	7,152.14	4,169.95	-389.40	4,169.95	0.00	0.00	0.00	
11,737.18	90.22	0.34	7,152.00	4,207.12	-389.18	4,207.12	0.00	0.00	0.00	
TD at 11737.18 - PBHL_USA Fed 27N East-36HZ(460' FNL_1095' 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_USA Fed 27N Ea	0.00	0.00	7,152.00	4,207.12	-389.18	1,312,250.96	3,218,008.53	40.1878920		-104.7196650
- plan hits target center										
- Point										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (in)	Hole Diameter (in)
900.00	900.00	9 5/8"		9.625	12.250
7,555.09	7,168.00	7"(625' FSL 1095' FEL)		7.000	7.500

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well USA Fed 27N East-36HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4985 & KB 17 @ 5002.00ft (ASSUMED)
Site:	USA FED 16-36-HZ PAD	North Reference:	True
Well:	USA Fed 27N East-36HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,291.73	3,265.00	Parkman			
4,460.49	4,416.00	Sussex			
7,178.54	7,050.00	Sharon Springs			
7,309.30	7,117.00	Niobrara A			
7,373.01	7,140.00	Niobrara B			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,200.00	1,200.00	0.00	0.00	Start Build 2.00
1,700.09	1,697.56	-34.69	-26.30	Start 3472.66 hold at 1700.09 MD
5,172.76	5,117.44	-515.31	-390.70	Start Drop -2.00
5,672.85	5,615.00	-550.00	-417.00	Start 980.05 hold at 5672.85 MD
6,652.90	6,595.05	-550.00	-417.00	Start DLS 10.00 TFO 0.34
7,555.09	7,168.00	25.14	-413.64	Start 4182.08 hold at 7555.09 MD
11,737.18	7,152.00	4,207.12	-389.18	TD at 11737.18