



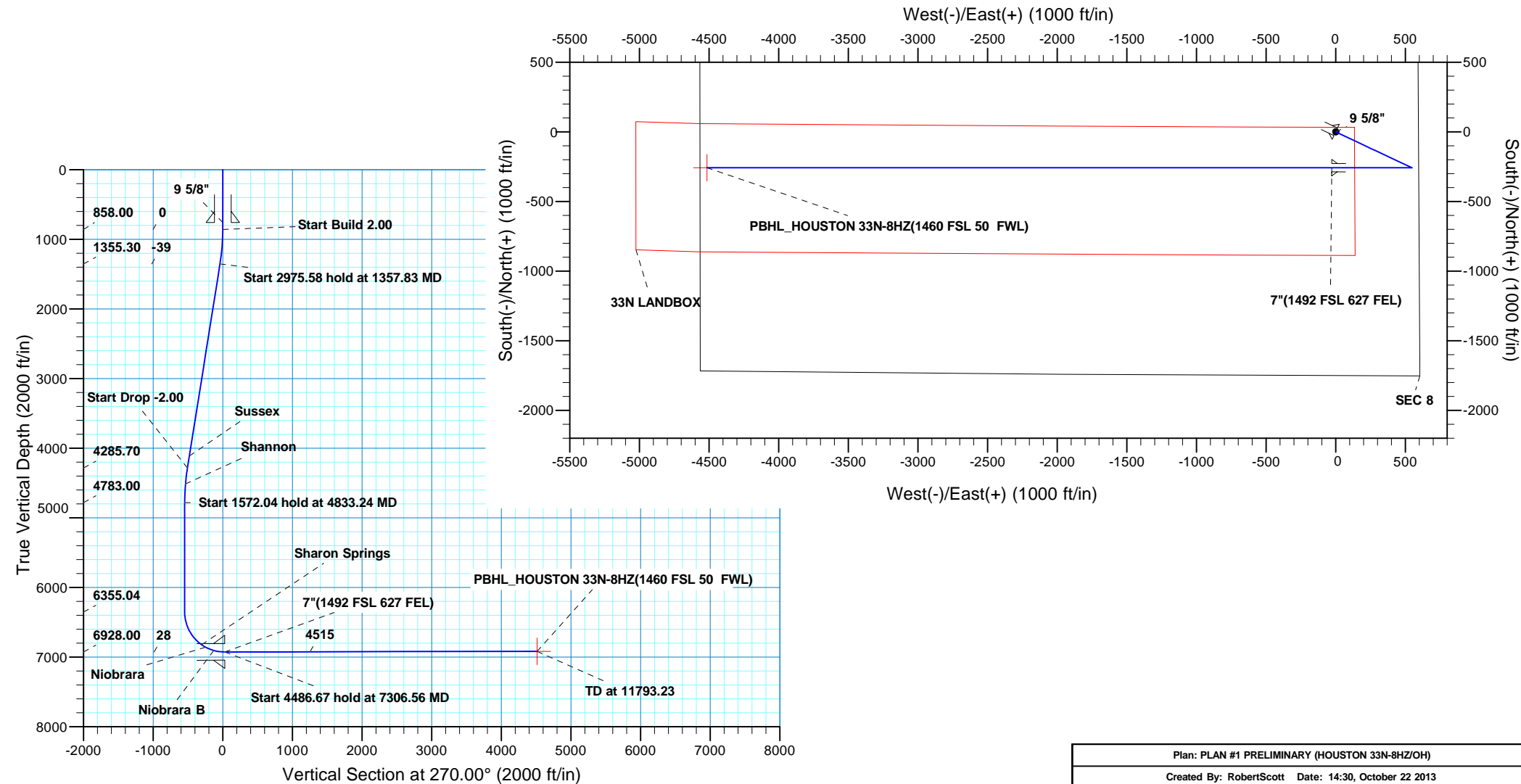
Project: COLORADO NORTHERN ZONE - 83  
Site: HOUSTON 9-8HZ PAD  
Well: HOUSTON 33N-8HZ  
Wellbore: OH  
Design: PLAN #1 PRELIMINARY



WELL DETAILS: HOUSTON 33N-8HZ											
GL 4824 & KB 17 @ 4824.00ft (ASSUMED)											
+N/-S 0.00		+E/-W 0.00		Northing 1330057.09		Easting 3165577.42		Latitude 40.2378850		Longitude -104.9069030	
SECTION DETAILS											
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
858.00	0.00	0.00	858.00	0.00	0.00	0.00	0.00	0.00			
1357.83	10.00	115.22	1355.30	-18.53	39.35	2.00	115.22	-39.35			
4333.41	10.00	115.22	4285.70	-238.60	506.65	0.00	0.00	-506.65			
4833.24	0.00	0.00	4783.00	-257.13	546.00	2.00	180.00	-546.00			
6405.28	0.00	0.00	6355.04	-257.13	546.00	0.00	0.00	-546.00			
7306.56	90.13	270.00	6928.00	-257.13	-28.23	10.00	270.00	28.23			
11793.23	90.13	270.00	6918.00	-257.13	-4514.90	0.00	0.004514.90	PBHL_HOUSTON 33N-8HZ(1460 FSL 50 FWL)			

CASING DETAILS			
TVD	MD	Name	Size
758.00	758.00	9 5/8"	9.625
6928.00	7306.56	7"	7.000

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	Inc
708.00	708.00	Fox Hills Base	0.00
4112.00	4157.03	Sussex	10.00
4515.00	4564.85	Shannon	5.37
6823.00	6952.88	Sharon Springs	54.76
6858.00	7019.10	Niobrara	61.38
6906.00	7146.00	Niobrara B	74.07





Scientific Drilling

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**HOUSTON 9-8HZ PAD**

**HOUSTON 33N-8HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**22 October, 2013**

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well HOUSTON 33N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Site:</b>	HOUSTON 9-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HOUSTON 33N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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

<b>Site</b>	HOUSTON 9-8HZ PAD, SECTION 8 T3N R67W			
<b>Site Position:</b>		<b>Northing:</b>	1,330,057.10 usft	<b>Latitude:</b> 40.2378850
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,165,577.42 usft	<b>Longitude:</b> -104.9069030
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.38 °

<b>Well</b>	HOUSTON 33N-8HZ, 1750 FSL 594FEL			
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,330,057.09 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,165,577.42 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
			<b>Ground Level:</b>	4,807.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2013	10/17/13	8.65	66.81	52,713

<b>Design</b>	PLAN #1 PRELIMINARY			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	270.00

<b>Plan Sections</b>										
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	
858.00	0.00	0.00	858.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,357.83	10.00	115.22	1,355.30	-18.53	39.35	2.00	2.00	0.00	115.22	
4,333.41	10.00	115.22	4,285.70	-238.60	506.65	0.00	0.00	0.00	0.00	
4,833.24	0.00	0.00	4,783.00	-257.13	546.00	2.00	-2.00	0.00	180.00	
6,405.28	0.00	0.00	6,355.04	-257.13	546.00	0.00	0.00	0.00	0.00	
7,306.56	90.13	270.00	6,928.00	-257.13	-28.23	10.00	10.00	-9.99	270.00	
11,793.23	90.13	270.00	6,918.00	-257.13	-4,514.90	0.00	0.00	0.00	0.00	PBHL_HOUSTON 33

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well HOUSTON 33N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Site:</b>	HOUSTON 9-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HOUSTON 33N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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
708.00	0.00	0.00	708.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fox Hills Base</b>									
758.00	0.00	0.00	758.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
858.00	0.00	0.00	858.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
900.00	0.84	115.22	900.00	-0.13	0.28	-0.28	2.00	2.00	0.00
1,000.00	2.84	115.22	999.94	-1.50	3.18	-3.18	2.00	2.00	0.00
1,100.00	4.84	115.22	1,099.71	-4.35	9.24	-9.24	2.00	2.00	0.00
1,200.00	6.84	115.22	1,199.19	-8.69	18.45	-18.45	2.00	2.00	0.00
1,300.00	8.84	115.22	1,298.25	-14.50	30.79	-30.79	2.00	2.00	0.00
1,357.83	10.00	115.22	1,355.30	-18.53	39.35	-39.35	2.00	2.00	0.00
<b>Start 2975.58 hold at 1357.83 MD</b>									
1,400.00	10.00	115.22	1,396.83	-21.65	45.97	-45.97	0.00	0.00	0.00
1,500.00	10.00	115.22	1,495.31	-29.05	61.68	-61.68	0.00	0.00	0.00
1,600.00	10.00	115.22	1,593.79	-36.44	77.38	-77.38	0.00	0.00	0.00
1,700.00	10.00	115.22	1,692.27	-43.84	93.08	-93.08	0.00	0.00	0.00
1,800.00	10.00	115.22	1,790.75	-51.23	108.79	-108.79	0.00	0.00	0.00
1,900.00	10.00	115.22	1,889.24	-58.63	124.49	-124.49	0.00	0.00	0.00
2,000.00	10.00	115.22	1,987.72	-66.03	140.20	-140.20	0.00	0.00	0.00
2,100.00	10.00	115.22	2,086.20	-73.42	155.90	-155.90	0.00	0.00	0.00
2,200.00	10.00	115.22	2,184.68	-80.82	171.61	-171.61	0.00	0.00	0.00
2,300.00	10.00	115.22	2,283.16	-88.21	187.31	-187.31	0.00	0.00	0.00
2,400.00	10.00	115.22	2,381.65	-95.61	203.02	-203.02	0.00	0.00	0.00
2,500.00	10.00	115.22	2,480.13	-103.01	218.72	-218.72	0.00	0.00	0.00
2,600.00	10.00	115.22	2,578.61	-110.40	234.43	-234.43	0.00	0.00	0.00
2,700.00	10.00	115.22	2,677.09	-117.80	250.13	-250.13	0.00	0.00	0.00
2,800.00	10.00	115.22	2,775.57	-125.19	265.84	-265.84	0.00	0.00	0.00
2,900.00	10.00	115.22	2,874.05	-132.59	281.54	-281.54	0.00	0.00	0.00
3,000.00	10.00	115.22	2,972.54	-139.99	297.24	-297.24	0.00	0.00	0.00
3,100.00	10.00	115.22	3,071.02	-147.38	312.95	-312.95	0.00	0.00	0.00
3,200.00	10.00	115.22	3,169.50	-154.78	328.65	-328.65	0.00	0.00	0.00
3,300.00	10.00	115.22	3,267.98	-162.17	344.36	-344.36	0.00	0.00	0.00
3,400.00	10.00	115.22	3,366.46	-169.57	360.06	-360.06	0.00	0.00	0.00
3,500.00	10.00	115.22	3,464.95	-176.97	375.77	-375.77	0.00	0.00	0.00
3,600.00	10.00	115.22	3,563.43	-184.36	391.47	-391.47	0.00	0.00	0.00
3,700.00	10.00	115.22	3,661.91	-191.76	407.18	-407.18	0.00	0.00	0.00
3,800.00	10.00	115.22	3,760.39	-199.15	422.88	-422.88	0.00	0.00	0.00
3,900.00	10.00	115.22	3,858.87	-206.55	438.59	-438.59	0.00	0.00	0.00
4,000.00	10.00	115.22	3,957.35	-213.94	454.29	-454.29	0.00	0.00	0.00
4,100.00	10.00	115.22	4,055.84	-221.34	470.00	-470.00	0.00	0.00	0.00
4,157.03	10.00	115.22	4,112.00	-225.56	478.95	-478.95	0.00	0.00	0.00
<b>Sussex</b>									
4,200.00	10.00	115.22	4,154.32	-228.74	485.70	-485.70	0.00	0.00	0.00
4,300.00	10.00	115.22	4,252.80	-236.13	501.41	-501.41	0.00	0.00	0.00

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Site:</b>	HOUSTON 9-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HOUSTON 33N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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)
4,333.41	10.00	115.22	4,285.70	-238.60	506.65	-506.65	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
4,400.00	8.66	115.22	4,351.41	-243.20	516.42	-516.42	2.00	-2.00	0.00
4,500.00	6.66	115.22	4,450.51	-248.89	528.49	-528.49	2.00	-2.00	0.00
4,564.85	5.37	115.22	4,515.00	-251.78	534.63	-534.63	2.00	-2.00	0.00
<b>Shannon</b>									
4,600.00	4.66	115.22	4,550.02	-253.09	537.41	-537.41	2.00	-2.00	0.00
4,700.00	2.66	115.22	4,649.81	-255.81	543.20	-543.20	2.00	-2.00	0.00
4,800.00	0.66	115.22	4,749.76	-257.05	545.83	-545.83	2.00	-2.00	0.00
4,833.24	0.00	0.00	4,783.00	-257.13	546.00	-546.00	2.00	-2.00	0.00
<b>Start 1572.04 hold at 4833.24 MD</b>									
4,900.00	0.00	0.00	4,849.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,949.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,049.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,149.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,249.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,349.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,449.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,549.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,649.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,749.76	-257.13	546.00	-546.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,849.76	-257.13	546.00	-546.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,949.76	-257.13	546.00	-546.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,049.76	-257.13	546.00	-546.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,149.76	-257.13	546.00	-546.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,249.76	-257.13	546.00	-546.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,349.76	-257.13	546.00	-546.00	0.00	0.00	0.00
6,405.28	0.00	0.00	6,355.04	-257.13	546.00	-546.00	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 270.00</b>									
6,500.00	9.47	270.00	6,449.33	-257.13	538.19	-538.19	10.00	10.00	0.00
6,600.00	19.47	270.00	6,546.03	-257.13	513.23	-513.23	10.00	10.00	0.00
6,700.00	29.47	270.00	6,636.93	-257.13	471.86	-471.86	10.00	10.00	0.00
6,800.00	39.47	270.00	6,719.27	-257.13	415.33	-415.33	10.00	10.00	0.00
6,900.00	49.47	270.00	6,790.54	-257.13	345.36	-345.36	10.00	10.00	0.00
6,952.88	54.76	270.00	6,823.00	-257.13	303.64	-303.64	10.00	10.00	0.00
<b>Sharon Springs</b>									
7,000.00	59.47	270.00	6,848.58	-257.13	264.08	-264.08	10.00	10.00	0.00
7,019.10	61.38	270.00	6,858.00	-257.13	247.47	-247.47	10.00	10.00	0.00
<b>Niobrara</b>									
7,100.00	69.47	270.00	6,891.62	-257.13	173.96	-173.96	10.00	10.00	0.00
7,146.00	74.07	270.00	6,906.00	-257.13	130.28	-130.28	10.00	10.00	0.00
<b>Niobrara B</b>									
7,200.00	79.47	270.00	6,918.35	-257.13	77.73	-77.73	10.00	10.00	0.00
7,300.00	89.47	270.00	6,927.97	-257.13	-21.68	21.68	10.00	10.00	0.00
7,306.56	90.13	270.00	6,928.00	-257.13	-28.24	28.24	9.99	9.99	0.00
<b>Start 4486.67 hold at 7306.56 MD - 7"(1492 FSL 627 FEL)</b>									
7,400.00	90.13	270.00	6,927.79	-257.13	-121.68	121.68	0.00	0.00	0.00
7,500.00	90.13	270.00	6,927.57	-257.13	-221.68	221.68	0.00	0.00	0.00
7,600.00	90.13	270.00	6,927.34	-257.13	-321.68	321.68	0.00	0.00	0.00
7,700.00	90.13	270.00	6,927.12	-257.13	-421.68	421.68	0.00	0.00	0.00
7,800.00	90.13	270.00	6,926.90	-257.13	-521.68	521.68	0.00	0.00	0.00
7,900.00	90.13	270.00	6,926.67	-257.13	-621.68	621.68	0.00	0.00	0.00
8,000.00	90.13	270.00	6,926.45	-257.13	-721.68	721.68	0.00	0.00	0.00

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well HOUSTON 33N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Site:</b>	HOUSTON 9-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HOUSTON 33N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

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)
8,100.00	90.13	270.00	6,926.23	-257.13	-821.68	821.68	0.00	0.00	0.00
8,200.00	90.13	270.00	6,926.01	-257.13	-921.68	921.68	0.00	0.00	0.00
8,300.00	90.13	270.00	6,925.78	-257.13	-1,021.68	1,021.68	0.00	0.00	0.00
8,400.00	90.13	270.00	6,925.56	-257.13	-1,121.68	1,121.68	0.00	0.00	0.00
8,500.00	90.13	270.00	6,925.34	-257.13	-1,221.68	1,221.68	0.00	0.00	0.00
8,600.00	90.13	270.00	6,925.11	-257.13	-1,321.68	1,321.68	0.00	0.00	0.00
8,700.00	90.13	270.00	6,924.89	-257.13	-1,421.67	1,421.67	0.00	0.00	0.00
8,800.00	90.13	270.00	6,924.67	-257.13	-1,521.67	1,521.67	0.00	0.00	0.00
8,900.00	90.13	270.00	6,924.45	-257.13	-1,621.67	1,621.67	0.00	0.00	0.00
9,000.00	90.13	270.00	6,924.22	-257.13	-1,721.67	1,721.67	0.00	0.00	0.00
9,100.00	90.13	270.00	6,924.00	-257.13	-1,821.67	1,821.67	0.00	0.00	0.00
9,200.00	90.13	270.00	6,923.78	-257.13	-1,921.67	1,921.67	0.00	0.00	0.00
9,300.00	90.13	270.00	6,923.56	-257.13	-2,021.67	2,021.67	0.00	0.00	0.00
9,400.00	90.13	270.00	6,923.33	-257.13	-2,121.67	2,121.67	0.00	0.00	0.00
9,500.00	90.13	270.00	6,923.11	-257.13	-2,221.67	2,221.67	0.00	0.00	0.00
9,600.00	90.13	270.00	6,922.89	-257.13	-2,321.67	2,321.67	0.00	0.00	0.00
9,700.00	90.13	270.00	6,922.66	-257.13	-2,421.67	2,421.67	0.00	0.00	0.00
9,800.00	90.13	270.00	6,922.44	-257.13	-2,521.67	2,521.67	0.00	0.00	0.00
9,900.00	90.13	270.00	6,922.22	-257.13	-2,621.67	2,621.67	0.00	0.00	0.00
10,000.00	90.13	270.00	6,922.00	-257.13	-2,721.67	2,721.67	0.00	0.00	0.00
10,100.00	90.13	270.00	6,921.77	-257.13	-2,821.67	2,821.67	0.00	0.00	0.00
10,200.00	90.13	270.00	6,921.55	-257.13	-2,921.67	2,921.67	0.00	0.00	0.00
10,300.00	90.13	270.00	6,921.33	-257.13	-3,021.67	3,021.67	0.00	0.00	0.00
10,400.00	90.13	270.00	6,921.10	-257.13	-3,121.67	3,121.67	0.00	0.00	0.00
10,500.00	90.13	270.00	6,920.88	-257.13	-3,221.67	3,221.67	0.00	0.00	0.00
10,600.00	90.13	270.00	6,920.66	-257.13	-3,321.67	3,321.67	0.00	0.00	0.00
10,700.00	90.13	270.00	6,920.44	-257.13	-3,421.67	3,421.67	0.00	0.00	0.00
10,800.00	90.13	270.00	6,920.21	-257.13	-3,521.67	3,521.67	0.00	0.00	0.00
10,900.00	90.13	270.00	6,919.99	-257.13	-3,621.67	3,621.67	0.00	0.00	0.00
11,000.00	90.13	270.00	6,919.77	-257.13	-3,721.67	3,721.67	0.00	0.00	0.00
11,100.00	90.13	270.00	6,919.54	-257.13	-3,821.67	3,821.67	0.00	0.00	0.00
11,200.00	90.13	270.00	6,919.32	-257.13	-3,921.67	3,921.67	0.00	0.00	0.00
11,300.00	90.13	270.00	6,919.10	-257.13	-4,021.67	4,021.67	0.00	0.00	0.00
11,400.00	90.13	270.00	6,918.88	-257.13	-4,121.67	4,121.67	0.00	0.00	0.00
11,500.00	90.13	270.00	6,918.65	-257.13	-4,221.67	4,221.67	0.00	0.00	0.00
11,600.00	90.13	270.00	6,918.43	-257.13	-4,321.67	4,321.67	0.00	0.00	0.00
11,700.00	90.13	270.00	6,918.21	-257.13	-4,421.67	4,421.67	0.00	0.00	0.00
11,793.23	90.13	270.00	6,918.00	-257.13	-4,514.90	4,514.90	0.00	0.00	0.00
TD at 11793.23 - PBHL_HOUSTON 33N-8HZ(1460 FSL 50 FWL)									

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_HOUSTON 33N-8HZ	0.00	0.00	6,918.00	-257.13	-4,514.90	1,329,769.77	3,161,064.36	40.2371780	-104.9230750
- plan hits target center									
- Point									

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well HOUSTON 33N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4824 & KB 17 @ 4824.00ft (ASSUMED)
<b>Site:</b>	HOUSTON 9-8HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	HOUSTON 33N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
758.00	758.00	9 5/8"	9.625	12.250	
7,306.56	6,928.00	7"(1492 FSL 627 FEL)	7.000	7.500	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
708.00	708.00	Fox Hills Base			
4,157.03	4,112.00	Sussex			
4,564.85	4,515.00	Shannon			
6,952.88	6,823.00	Sharon Springs			
7,019.10	6,858.00	Niobrara			
7,146.00	6,906.00	Niobrara B			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
858.00	858.00	0.00	0.00	Start Build 2.00	
1,357.83	1,355.30	-18.53	39.35	Start 2975.58 hold at 1357.83 MD	
4,333.41	4,285.70	-238.60	506.65	Start Drop -2.00	
4,833.24	4,783.00	-257.13	546.00	Start 1572.04 hold at 4833.24 MD	
6,405.28	6,355.04	-257.13	546.00	Start DLS 10.00 TFO 270.00	
7,306.56	6,928.00	-257.13	-28.23	Start 4486.67 hold at 7306.56 MD	
11,793.23	6,918.00	-257.13	-4,514.90	TD at 11793.23	