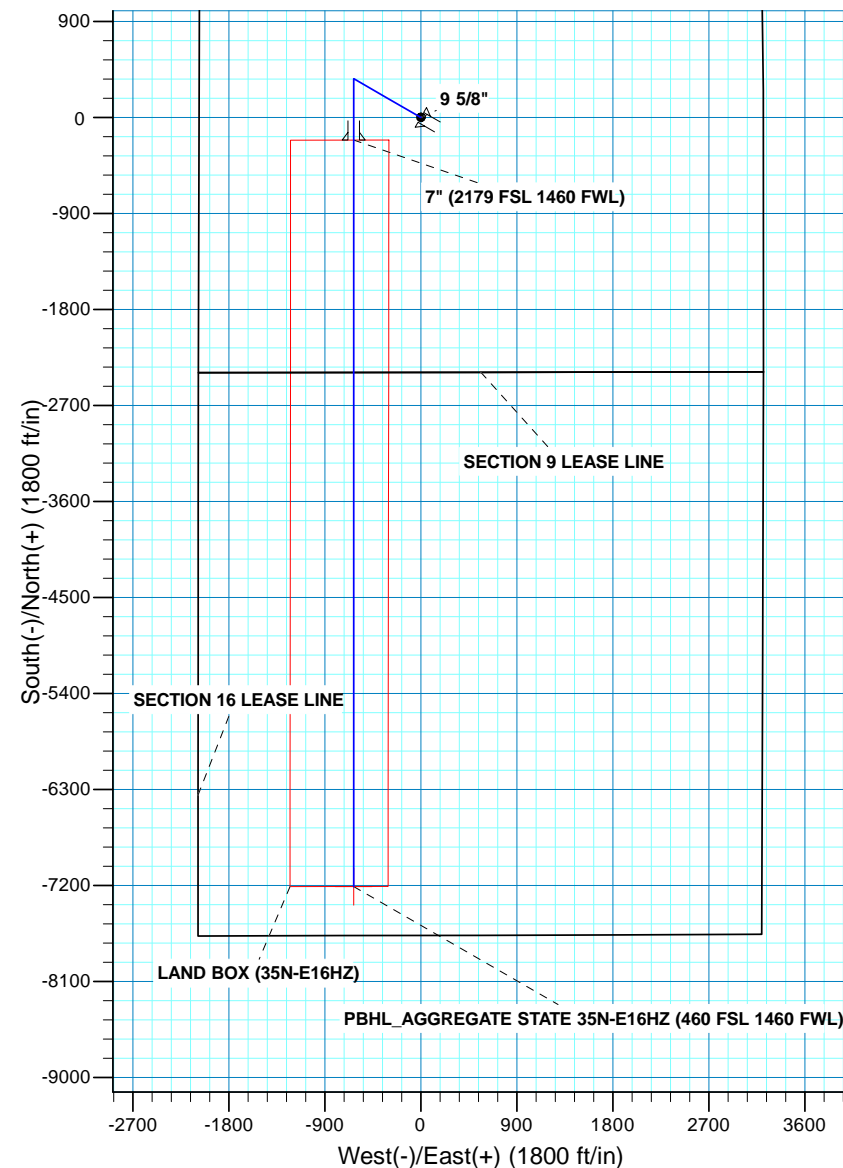
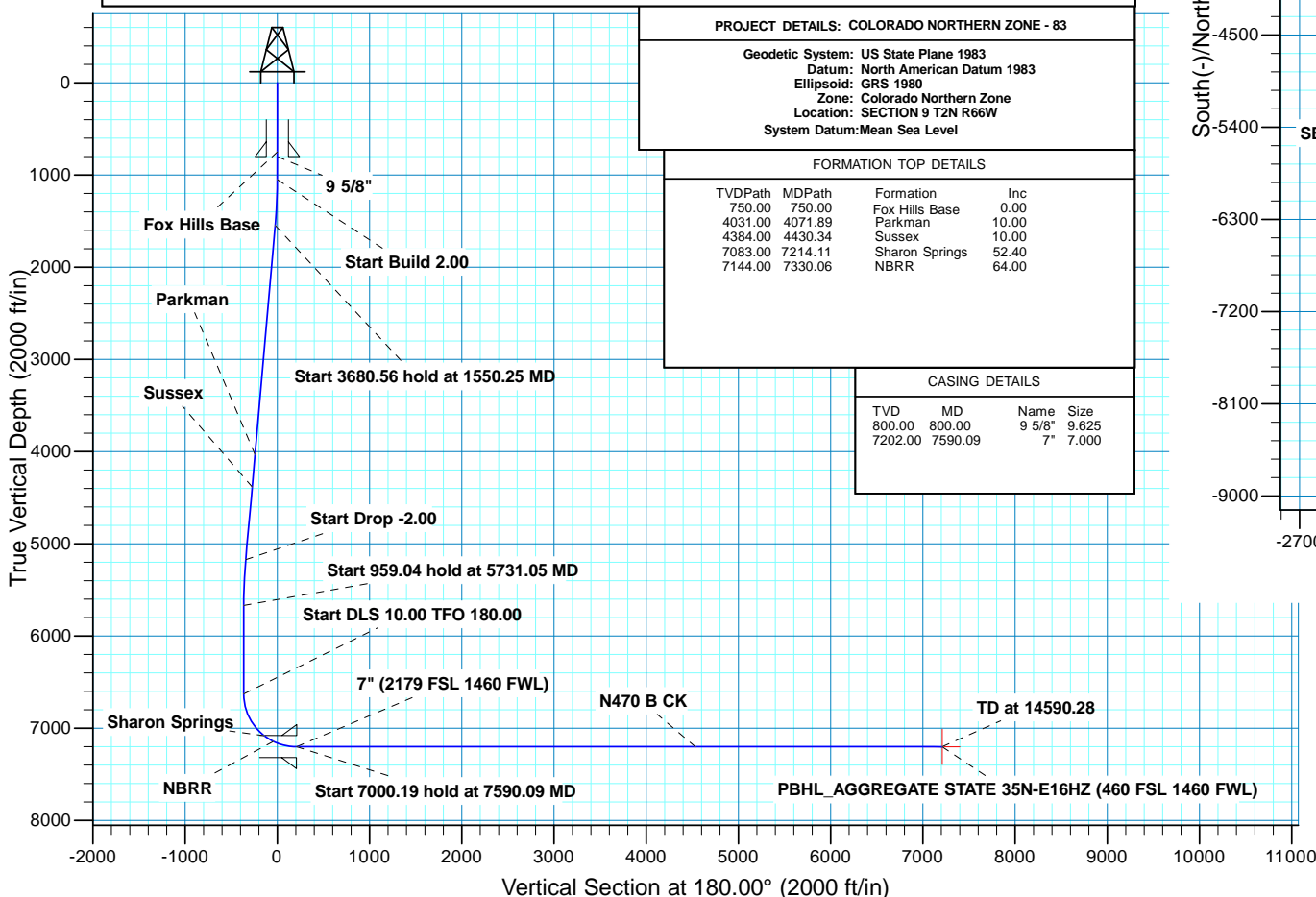


WELL DETAILS: AGGREGATE STATE 35N-E16HZ										
GL 4911 & KB 17 @ 4928.00ft (ASSUMED)										
		+N/-S 0.00	+E/-W 0.00	Northing 1298996.32	Easting 3200070.50	Latitude 40.1519230	Longitude -104.7842520			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
1550.25	10.00	299.97	1547.71	21.76	-37.74	2.00	299.97	-21.76		Start 3680.56 hold at 1550.25 MD
5230.80	10.00	299.97	5172.29	341.20	-591.67	0.00	0.00	-341.20		Start Drop -2.00
5731.05	0.00	0.00	5670.00	362.96	-629.41	2.00	180.00	-362.96		Start 959.04 hold at 5731.05 MD
6690.09	0.00	0.00	6629.04	362.96	-629.41	0.00	0.00	-362.96		Start DLS 10.00 TFO 180.00
7590.09	90.00	180.00	7202.00	-210.00	-629.41	10.00	180.00	210.00		Start 7000.19 hold at 7590.09 MD
14590.28	90.00	180.00	7202.00	-7210.19	-629.41	0.00	0.00	7210.19	PBHL_AGGREGATE STATE	35N-E16HZ
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7202.00	-7210.19	-629.41	1291781.30	3199499.31	40.1321300	-104.7865030	Point		

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83			
Geodetic System: US State Plane 1983			
Datum: North American Datum 1983			
Ellipsoid: GRS 1980			
Zone: Colorado Northern Zone			
Location: SECTION 9 T2N R66W			
System Datum: Mean Sea Level			
FORMATION TOP DETAILS			
TVDPATH	MDPATH	FORMATION	INC
750.00	750.00	Fox Hills Base	0.00
4031.00	4071.89	Parkman	10.00
4384.00	4430.34	Sussex	10.00
7083.00	7214.11	Sharon Springs	52.40
7144.00	7330.06	NBRR	64.00
CASING DETAILS			
TVD	MD	Name	Size
800.00	800.00	9 5/8"	9.625
7202.00	7590.09	7"	7.000





**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**AGGREGATE STATE 25-9HZ PAD**

**AGGREGATE STATE 35N-E16HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**09 September, 2013**

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well AGGREGATE STATE 35N-E16HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 35N-E16HZ	<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>	AGGREGATE STATE 25-9HZ PAD, SECTION 9 T2N R66W			
<b>Site Position:</b>		<b>Northing:</b>	1,298,996.58 usft	<b>Latitude:</b> 40.1519230
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,200,100.69 usft	<b>Longitude:</b> -104.7841440
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.46 °

<b>Well</b>	AGGREGATE STATE 35N-E16HZ, 2389' FSL 2080' FWL			
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,298,996.32 usft
	<b>+E/-W</b>	-30.19 ft	<b>Easting:</b>	3,200,070.50 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
			<b>Ground Level:</b>	4,911.00 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	9/6/2013	8.59	66.76	52,692

<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	180.00

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,550.25	10.00	299.97	1,547.71	21.76	-37.74	2.00	2.00	0.00	299.97	
5,230.80	10.00	299.97	5,172.29	341.20	-591.67	0.00	0.00	0.00	0.00	
5,731.05	0.00	0.00	5,670.00	362.96	-629.41	2.00	-2.00	0.00	180.00	
6,690.09	0.00	0.00	6,629.04	362.96	-629.41	0.00	0.00	0.00	0.00	
7,590.09	90.00	180.00	7,202.00	-210.00	-629.41	10.00	10.00	20.00	180.00	
14,590.28	90.00	180.00	7,202.00	-7,210.19	-629.41	0.00	0.00	0.00	0.00	PBHL_AGGREGATE

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well AGGREGATE STATE 35N-E16HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 35N-E16HZ	<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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fox Hills Base</b>									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
1,100.00	1.00	299.97	1,100.00	0.22	-0.38	-0.22	2.00	2.00	0.00
1,200.00	3.00	299.97	1,199.93	1.96	-3.40	-1.96	2.00	2.00	0.00
1,300.00	5.00	299.97	1,299.68	5.45	-9.44	-5.45	2.00	2.00	0.00
1,400.00	7.00	299.97	1,399.13	10.67	-18.50	-10.67	2.00	2.00	0.00
1,500.00	9.00	299.97	1,498.15	17.62	-30.55	-17.62	2.00	2.00	0.00
1,550.25	10.00	299.97	1,547.71	21.76	-37.74	-21.76	2.00	2.00	0.00
<b>Start 3680.56 hold at 1550.25 MD</b>									
1,600.00	10.00	299.97	1,596.71	26.08	-45.23	-26.08	0.00	0.00	0.00
1,700.00	10.00	299.97	1,695.18	34.76	-60.28	-34.76	0.00	0.00	0.00
1,800.00	10.00	299.97	1,793.66	43.44	-75.33	-43.44	0.00	0.00	0.00
1,900.00	10.00	299.97	1,892.14	52.12	-90.38	-52.12	0.00	0.00	0.00
2,000.00	10.00	299.97	1,990.62	60.80	-105.43	-60.80	0.00	0.00	0.00
2,100.00	10.00	299.97	2,089.10	69.48	-120.48	-69.48	0.00	0.00	0.00
2,200.00	10.00	299.97	2,187.58	78.16	-135.53	-78.16	0.00	0.00	0.00
2,300.00	10.00	299.97	2,286.06	86.83	-150.58	-86.83	0.00	0.00	0.00
2,400.00	10.00	299.97	2,384.54	95.51	-165.63	-95.51	0.00	0.00	0.00
2,500.00	10.00	299.97	2,483.02	104.19	-180.68	-104.19	0.00	0.00	0.00
2,600.00	10.00	299.97	2,581.50	112.87	-195.73	-112.87	0.00	0.00	0.00
2,700.00	10.00	299.97	2,679.98	121.55	-210.78	-121.55	0.00	0.00	0.00
2,800.00	10.00	299.97	2,778.46	130.23	-225.83	-130.23	0.00	0.00	0.00
2,900.00	10.00	299.97	2,876.94	138.91	-240.88	-138.91	0.00	0.00	0.00
3,000.00	10.00	299.97	2,975.42	147.59	-255.93	-147.59	0.00	0.00	0.00
3,100.00	10.00	299.97	3,073.89	156.27	-270.98	-156.27	0.00	0.00	0.00
3,200.00	10.00	299.97	3,172.37	164.94	-286.03	-164.94	0.00	0.00	0.00
3,300.00	10.00	299.97	3,270.85	173.62	-301.08	-173.62	0.00	0.00	0.00
3,400.00	10.00	299.97	3,369.33	182.30	-316.13	-182.30	0.00	0.00	0.00
3,500.00	10.00	299.97	3,467.81	190.98	-331.18	-190.98	0.00	0.00	0.00
3,600.00	10.00	299.97	3,566.29	199.66	-346.23	-199.66	0.00	0.00	0.00
3,700.00	10.00	299.97	3,664.77	208.34	-361.28	-208.34	0.00	0.00	0.00
3,800.00	10.00	299.97	3,763.25	217.02	-376.33	-217.02	0.00	0.00	0.00
3,900.00	10.00	299.97	3,861.73	225.70	-391.38	-225.70	0.00	0.00	0.00
4,000.00	10.00	299.97	3,960.21	234.38	-406.43	-234.38	0.00	0.00	0.00
4,071.89	10.00	299.97	4,031.00	240.61	-417.25	-240.61	0.00	0.00	0.00
<b>Parkman</b>									
4,100.00	10.00	299.97	4,058.69	243.06	-421.48	-243.06	0.00	0.00	0.00
4,200.00	10.00	299.97	4,157.17	251.73	-436.53	-251.73	0.00	0.00	0.00
4,300.00	10.00	299.97	4,255.65	260.41	-451.58	-260.41	0.00	0.00	0.00
4,400.00	10.00	299.97	4,354.13	269.09	-466.63	-269.09	0.00	0.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 35N-E16HZ	<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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,430.34	10.00	299.97	4,384.00	271.72	-471.20	-271.72	0.00	0.00	0.00
<b>Sussex</b>									
4,500.00	10.00	299.97	4,452.60	277.77	-481.68	-277.77	0.00	0.00	0.00
4,600.00	10.00	299.97	4,551.08	286.45	-496.73	-286.45	0.00	0.00	0.00
4,700.00	10.00	299.97	4,649.56	295.13	-511.78	-295.13	0.00	0.00	0.00
4,800.00	10.00	299.97	4,748.04	303.81	-526.83	-303.81	0.00	0.00	0.00
4,900.00	10.00	299.97	4,846.52	312.49	-541.88	-312.49	0.00	0.00	0.00
5,000.00	10.00	299.97	4,945.00	321.17	-556.93	-321.17	0.00	0.00	0.00
5,100.00	10.00	299.97	5,043.48	329.84	-571.98	-329.84	0.00	0.00	0.00
5,200.00	10.00	299.97	5,141.96	338.52	-587.03	-338.52	0.00	0.00	0.00
5,230.80	10.00	299.97	5,172.29	341.20	-591.67	-341.20	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,300.00	8.62	299.97	5,240.58	346.79	-601.37	-346.79	2.00	-2.00	0.00
5,400.00	6.62	299.97	5,339.69	353.42	-612.85	-353.42	2.00	-2.00	0.00
5,500.00	4.62	299.97	5,439.20	358.31	-621.34	-358.31	2.00	-2.00	0.00
5,600.00	2.62	299.97	5,539.00	361.46	-626.81	-361.46	2.00	-2.00	0.00
5,700.00	0.62	299.97	5,638.95	362.88	-629.26	-362.88	2.00	-2.00	0.00
5,731.05	0.00	0.00	5,670.00	362.96	-629.41	-362.96	2.00	-2.00	193.35
<b>Start 959.04 hold at 5731.05 MD</b>									
5,800.00	0.00	0.00	5,738.95	362.96	-629.41	-362.96	0.00	0.00	0.00
5,900.00	0.00	0.00	5,838.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,000.00	0.00	0.00	5,938.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,100.00	0.00	0.00	6,038.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,200.00	0.00	0.00	6,138.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,300.00	0.00	0.00	6,238.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,400.00	0.00	0.00	6,338.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,500.00	0.00	0.00	6,438.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,600.00	0.00	0.00	6,538.95	362.96	-629.41	-362.96	0.00	0.00	0.00
6,690.09	0.00	0.00	6,629.04	362.96	-629.41	-362.96	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 180.00</b>									
6,700.00	0.99	180.00	6,638.95	362.87	-629.41	-362.87	10.00	10.00	0.00
6,800.00	10.99	180.00	6,738.28	352.45	-629.41	-352.45	10.00	10.00	0.00
6,900.00	20.99	180.00	6,834.29	324.94	-629.41	-324.94	10.00	10.00	0.00
7,000.00	30.99	180.00	6,924.06	281.17	-629.41	-281.17	10.00	10.00	0.00
7,100.00	40.99	180.00	7,004.87	222.48	-629.41	-222.48	10.00	10.00	0.00
7,200.00	50.99	180.00	7,074.26	150.64	-629.41	-150.64	10.00	10.00	0.00
7,214.11	52.40	180.00	7,083.00	139.58	-629.41	-139.58	10.00	10.00	0.00
<b>Sharon Springs</b>									
7,300.00	60.99	180.00	7,130.12	67.85	-629.41	-67.85	10.00	10.00	0.00
7,330.06	64.00	180.00	7,144.00	41.19	-629.41	-41.19	10.00	10.00	0.00
<b>NBRR</b>									
7,400.00	70.99	180.00	7,170.75	-23.38	-629.41	23.38	10.00	10.00	0.00
7,500.00	80.99	180.00	7,194.93	-120.28	-629.41	120.28	10.00	10.00	0.00
7,590.09	90.00	180.00	7,202.00	-210.00	-629.41	210.00	10.00	10.00	0.00
<b>Start 7000.19 hold at 7590.09 MD - 7" (2179 FSL 1460 FWL)</b>									
7,600.00	90.00	180.00	7,202.00	-219.91	-629.41	219.91	0.00	0.00	0.00
7,700.00	90.00	180.00	7,202.00	-319.91	-629.41	319.91	0.00	0.00	0.00
7,800.00	90.00	180.00	7,202.00	-419.91	-629.41	419.91	0.00	0.00	0.00
7,900.00	90.00	180.00	7,202.00	-519.91	-629.41	519.91	0.00	0.00	0.00
8,000.00	90.00	180.00	7,202.00	-619.91	-629.41	619.91	0.00	0.00	0.00
8,100.00	90.00	180.00	7,202.00	-719.91	-629.41	719.91	0.00	0.00	0.00
8,200.00	90.00	180.00	7,202.00	-819.91	-629.41	819.91	0.00	0.00	0.00
8,300.00	90.00	180.00	7,202.00	-919.91	-629.41	919.91	0.00	0.00	0.00

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well AGGREGATE STATE 35N-E16HZ
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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 35N-E16HZ	<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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,400.00	90.00	180.00	7,202.00	-1,019.91	-629.41	1,019.91	0.00	0.00	0.00	
8,500.00	90.00	180.00	7,202.00	-1,119.91	-629.41	1,119.91	0.00	0.00	0.00	
8,600.00	90.00	180.00	7,202.00	-1,219.91	-629.41	1,219.91	0.00	0.00	0.00	
8,700.00	90.00	180.00	7,202.00	-1,319.91	-629.41	1,319.91	0.00	0.00	0.00	
8,800.00	90.00	180.00	7,202.00	-1,419.91	-629.41	1,419.91	0.00	0.00	0.00	
8,900.00	90.00	180.00	7,202.00	-1,519.91	-629.41	1,519.91	0.00	0.00	0.00	
9,000.00	90.00	180.00	7,202.00	-1,619.91	-629.41	1,619.91	0.00	0.00	0.00	
9,100.00	90.00	180.00	7,202.00	-1,719.91	-629.41	1,719.91	0.00	0.00	0.00	
9,200.00	90.00	180.00	7,202.00	-1,819.91	-629.41	1,819.91	0.00	0.00	0.00	
9,300.00	90.00	180.00	7,202.00	-1,919.91	-629.41	1,919.91	0.00	0.00	0.00	
9,400.00	90.00	180.00	7,202.00	-2,019.91	-629.41	2,019.91	0.00	0.00	0.00	
9,500.00	90.00	180.00	7,202.00	-2,119.91	-629.41	2,119.91	0.00	0.00	0.00	
9,600.00	90.00	180.00	7,202.00	-2,219.91	-629.41	2,219.91	0.00	0.00	0.00	
9,700.00	90.00	180.00	7,202.00	-2,319.91	-629.41	2,319.91	0.00	0.00	0.00	
9,800.00	90.00	180.00	7,202.00	-2,419.91	-629.41	2,419.91	0.00	0.00	0.00	
9,900.00	90.00	180.00	7,202.00	-2,519.91	-629.41	2,519.91	0.00	0.00	0.00	
10,000.00	90.00	180.00	7,202.00	-2,619.91	-629.41	2,619.91	0.00	0.00	0.00	
10,100.00	90.00	180.00	7,202.00	-2,719.91	-629.41	2,719.91	0.00	0.00	0.00	
10,200.00	90.00	180.00	7,202.00	-2,819.91	-629.41	2,819.91	0.00	0.00	0.00	
10,300.00	90.00	180.00	7,202.00	-2,919.91	-629.41	2,919.91	0.00	0.00	0.00	
10,400.00	90.00	180.00	7,202.00	-3,019.91	-629.41	3,019.91	0.00	0.00	0.00	
10,500.00	90.00	180.00	7,202.00	-3,119.91	-629.41	3,119.91	0.00	0.00	0.00	
10,600.00	90.00	180.00	7,202.00	-3,219.91	-629.41	3,219.91	0.00	0.00	0.00	
10,700.00	90.00	180.00	7,202.00	-3,319.91	-629.41	3,319.91	0.00	0.00	0.00	
10,800.00	90.00	180.00	7,202.00	-3,419.91	-629.41	3,419.91	0.00	0.00	0.00	
10,900.00	90.00	180.00	7,202.00	-3,519.91	-629.41	3,519.91	0.00	0.00	0.00	
11,000.00	90.00	180.00	7,202.00	-3,619.91	-629.41	3,619.91	0.00	0.00	0.00	
11,100.00	90.00	180.00	7,202.00	-3,719.91	-629.41	3,719.91	0.00	0.00	0.00	
11,200.00	90.00	180.00	7,202.00	-3,819.91	-629.41	3,819.91	0.00	0.00	0.00	
11,300.00	90.00	180.00	7,202.00	-3,919.91	-629.41	3,919.91	0.00	0.00	0.00	
11,400.00	90.00	180.00	7,202.00	-4,019.91	-629.41	4,019.91	0.00	0.00	0.00	
11,500.00	90.00	180.00	7,202.00	-4,119.91	-629.41	4,119.91	0.00	0.00	0.00	
11,600.00	90.00	180.00	7,202.00	-4,219.91	-629.41	4,219.91	0.00	0.00	0.00	
11,700.00	90.00	180.00	7,202.00	-4,319.91	-629.41	4,319.91	0.00	0.00	0.00	
11,800.00	90.00	180.00	7,202.00	-4,419.91	-629.41	4,419.91	0.00	0.00	0.00	
11,900.00	90.00	180.00	7,202.00	-4,519.91	-629.41	4,519.91	0.00	0.00	0.00	
12,000.00	90.00	180.00	7,202.00	-4,619.91	-629.41	4,619.91	0.00	0.00	0.00	
12,100.00	90.00	180.00	7,202.00	-4,719.91	-629.41	4,719.91	0.00	0.00	0.00	
12,200.00	90.00	180.00	7,202.00	-4,819.91	-629.41	4,819.91	0.00	0.00	0.00	
12,300.00	90.00	180.00	7,202.00	-4,919.91	-629.41	4,919.91	0.00	0.00	0.00	
12,400.00	90.00	180.00	7,202.00	-5,019.91	-629.41	5,019.91	0.00	0.00	0.00	
12,500.00	90.00	180.00	7,202.00	-5,119.91	-629.41	5,119.91	0.00	0.00	0.00	
12,600.00	90.00	180.00	7,202.00	-5,219.91	-629.41	5,219.91	0.00	0.00	0.00	
12,700.00	90.00	180.00	7,202.00	-5,319.91	-629.41	5,319.91	0.00	0.00	0.00	
12,800.00	90.00	180.00	7,202.00	-5,419.91	-629.41	5,419.91	0.00	0.00	0.00	
12,900.00	90.00	180.00	7,202.00	-5,519.91	-629.41	5,519.91	0.00	0.00	0.00	
13,000.00	90.00	180.00	7,202.00	-5,619.91	-629.41	5,619.91	0.00	0.00	0.00	
13,100.00	90.00	180.00	7,202.00	-5,719.91	-629.41	5,719.91	0.00	0.00	0.00	
13,200.00	90.00	180.00	7,202.00	-5,819.91	-629.41	5,819.91	0.00	0.00	0.00	
13,300.00	90.00	180.00	7,202.00	-5,919.91	-629.41	5,919.91	0.00	0.00	0.00	
13,400.00	90.00	180.00	7,202.00	-6,019.91	-629.41	6,019.91	0.00	0.00	0.00	
13,500.00	90.00	180.00	7,202.00	-6,119.91	-629.41	6,119.91	0.00	0.00	0.00	
13,600.00	90.00	180.00	7,202.00	-6,219.91	-629.41	6,219.91	0.00	0.00	0.00	
13,700.00	90.00	180.00	7,202.00	-6,319.91	-629.41	6,319.91	0.00	0.00	0.00	

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well AGGREGATE STATE 35N-E16HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4911 & KB 17 @ 4928.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 35N-E16HZ	<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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,800.00	90.00	180.00	7,202.00	-6,419.91	-629.41	6,419.91	0.00	0.00	0.00	
13,900.00	90.00	180.00	7,202.00	-6,519.91	-629.41	6,519.91	0.00	0.00	0.00	
14,000.00	90.00	180.00	7,202.00	-6,619.91	-629.41	6,619.91	0.00	0.00	0.00	
14,100.00	90.00	180.00	7,202.00	-6,719.91	-629.41	6,719.91	0.00	0.00	0.00	
14,200.00	90.00	180.00	7,202.00	-6,819.91	-629.41	6,819.91	0.00	0.00	0.00	
14,300.00	90.00	180.00	7,202.00	-6,919.91	-629.41	6,919.91	0.00	0.00	0.00	
14,400.00	90.00	180.00	7,202.00	-7,019.91	-629.41	7,019.91	0.00	0.00	0.00	
14,500.00	90.00	180.00	7,202.00	-7,119.91	-629.41	7,119.91	0.00	0.00	0.00	
14,590.28	90.00	180.00	7,202.00	-7,210.19	-629.41	7,210.19	0.00	0.00	0.00	
TD at 14590.28 - PBHL_AGGREGATE STATE 35N-E16HZ (460 FSL 1460 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_AGGREGATE S1	0.00	0.00	7,202.00	-7,210.19	-629.41	1,291,781.30	3,199,499.32	40.1321300	-104.7865030
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
800.00	800.00	9 5/8"	9.625	12.250	
7,590.09	7,202.00	7" (2179 FSL 1460 FWL)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
750.00	750.00	Fox Hills Base				
4,071.89	4,031.00	Parkman				
4,430.34	4,384.00	Sussex				
7,214.11	7,083.00	Sharon Springs				
7,330.06	7,144.00	NBRR				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
1,050.00	1,050.00	0.00	0.00	Start Build 2.00	
1,550.25	1,547.71	21.76	-37.74	Start 3680.56 hold at 1550.25 MD	
5,230.80	5,172.29	341.20	-591.67	Start Drop -2.00	
5,731.05	5,670.00	362.96	-629.41	Start 959.04 hold at 5731.05 MD	
6,690.09	6,629.04	362.96	-629.41	Start DLS 10.00 TFO 180.00	
7,590.09	7,202.00	-210.00	-629.41	Start 7000.19 hold at 7590.09 MD	
14,590.28	7,202.00	-7,210.19	-629.41	TD at 14590.28	