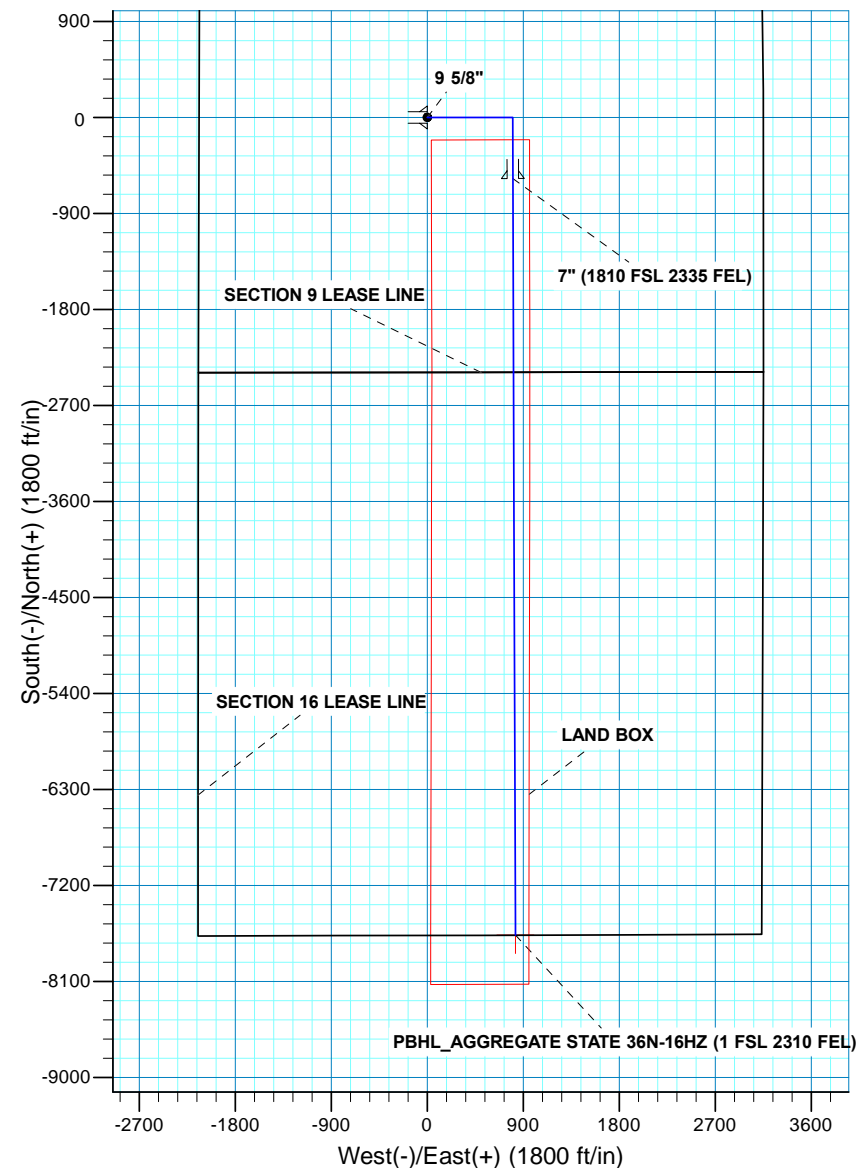
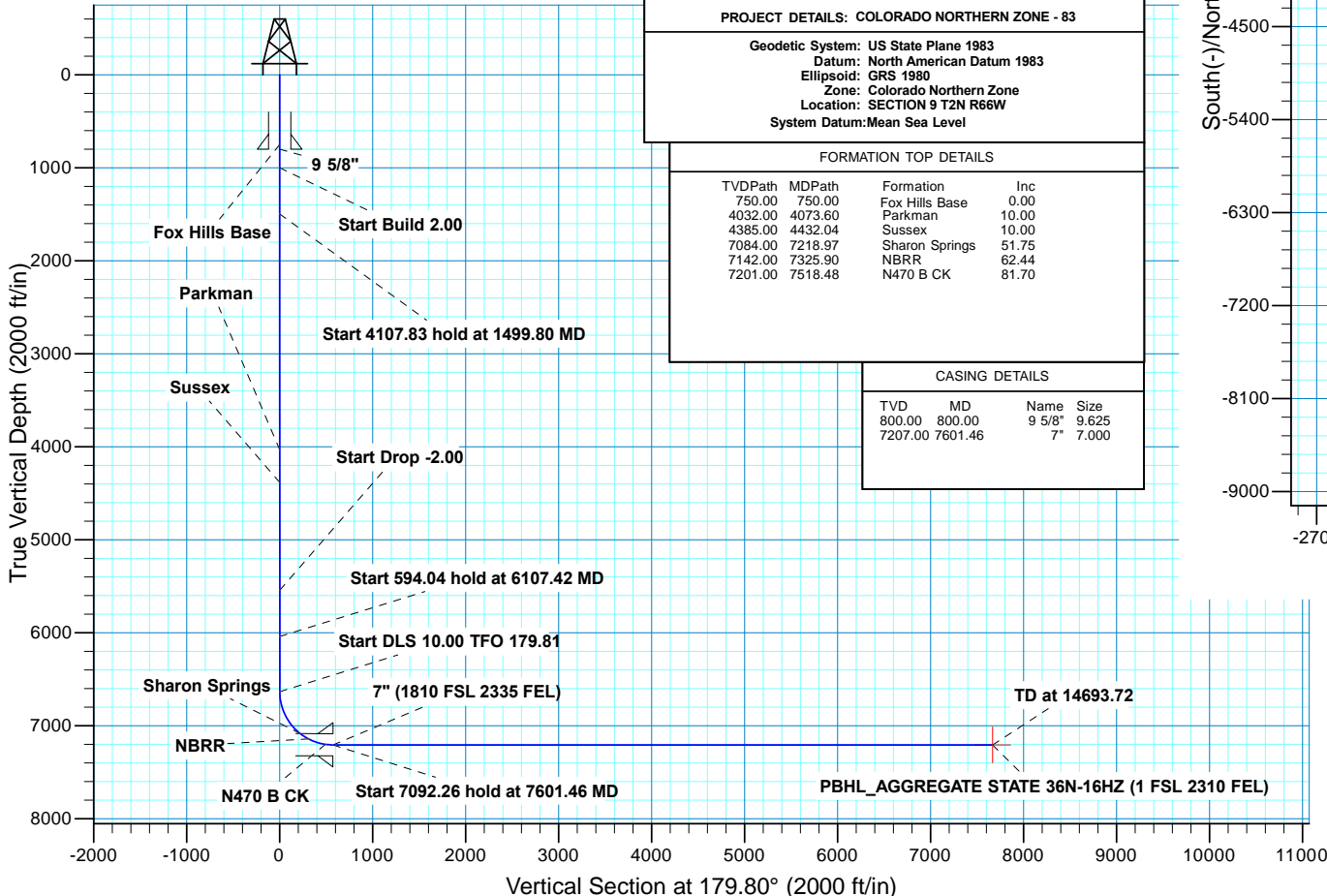


WELL DETAILS: AGGREGATE STATE 36N-16HZ										
GL 4912 & KB 17 @ 4929.00ft (ASSUMED)										
		+N/-S 0.00	+E/-W 0.00	Northing 1298996.81	Easting 3200130.60	Latitude 40.1519230	Longitude -104.7840370			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
1499.80	10.00	90.00	1497.26	0.00	43.49	2.00	90.00	0.15		Start 4107.83 hold at 1499.80 MD
5607.62	10.00	90.00	5542.74	0.00	756.51	0.00	0.00	2.64		Start Drop -2.00
6107.42	0.00	0.00	6040.00	0.00	800.00	2.00	180.00	2.79		Start 594.04 hold at 6107.42 MD
6701.46	0.00	0.00	6634.04	0.00	800.00	0.00	0.00	2.79		Start DLS 10.00 TFO 179.81
7601.46	90.00	179.81	7207.00	-572.96	801.90	10.00	179.81	575.75		Start 7092.26 hold at 7601.46 MD
14693.72	90.00	179.81	7207.00	-7665.17	825.43	0.00	0.00	7668.01	PBHL_AGGREGATE STATE	36N-16HZ
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7207.00	-7665.17	825.43	1291338.57	3201017.89	40.1308810	-104.7810850	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							
4032.00	4073.60	Parkman	10.00							
4385.00	4432.04	Sussex	10.00							
7084.00	7218.97	Sharon Springs	51.75							
7142.00	7325.90	NBRR	62.44							
7201.00	7518.48	N470 B CK	81.70							

CASING DETAILS										
TVD	MD	Name	Size							
800.00	800.00	9 5/8"	9.625							
7207.00	7601.46	7"	7.000							





**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**AGGREGATE STATE 25-9HZ PAD**

**AGGREGATE STATE 36N-16HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**10 September, 2013**

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well AGGREGATE STATE 36N-16HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 36N-16HZ	<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 36N-16HZ, 2389' FSL 2140' FWL			
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,298,996.81 usft
	<b>+E/-W</b>	29.91 ft	<b>Easting:</b>	3,200,130.60 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
			<b>Ground Level:</b>	4,912.00 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	179.80

<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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,499.80	10.00	90.00	1,497.26	0.00	43.49	2.00	2.00	0.00	90.00	
5,607.62	10.00	90.00	5,542.74	0.00	756.51	0.00	0.00	0.00	0.00	
6,107.42	0.00	0.00	6,040.00	0.00	800.00	2.00	-2.00	0.00	180.00	
6,701.46	0.00	0.00	6,634.04	0.00	800.00	0.00	0.00	0.00	0.00	
7,601.46	90.00	179.81	7,207.00	-572.96	801.90	10.00	10.00	19.98	179.81	
14,693.72	90.00	179.81	7,207.00	-7,665.17	825.43	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 36N-16HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 36N-16HZ	<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
<b>Start Build 2.00</b>									
1,100.00	2.00	90.00	1,099.98	0.00	1.75	0.01	2.00	2.00	0.00
1,200.00	4.00	90.00	1,199.84	0.00	6.98	0.02	2.00	2.00	0.00
1,300.00	6.00	90.00	1,299.45	0.00	15.69	0.05	2.00	2.00	0.00
1,400.00	8.00	90.00	1,398.70	0.00	27.88	0.10	2.00	2.00	0.00
1,499.80	10.00	90.00	1,497.26	0.00	43.49	0.15	2.00	2.00	0.00
<b>Start 4107.83 hold at 1499.80 MD</b>									
1,500.00	10.00	90.00	1,497.47	0.00	43.52	0.15	0.00	0.00	0.00
1,600.00	10.00	90.00	1,595.95	0.00	60.88	0.21	0.00	0.00	0.00
1,700.00	10.00	90.00	1,694.43	0.00	78.24	0.27	0.00	0.00	0.00
1,800.00	10.00	90.00	1,792.91	0.00	95.60	0.33	0.00	0.00	0.00
1,900.00	10.00	90.00	1,891.39	0.00	112.95	0.39	0.00	0.00	0.00
2,000.00	10.00	90.00	1,989.88	0.00	130.31	0.45	0.00	0.00	0.00
2,100.00	10.00	90.00	2,088.36	0.00	147.67	0.52	0.00	0.00	0.00
2,200.00	10.00	90.00	2,186.84	0.00	165.03	0.58	0.00	0.00	0.00
2,300.00	10.00	90.00	2,285.32	0.00	182.38	0.64	0.00	0.00	0.00
2,400.00	10.00	90.00	2,383.80	0.00	199.74	0.70	0.00	0.00	0.00
2,500.00	10.00	90.00	2,482.29	0.00	217.10	0.76	0.00	0.00	0.00
2,600.00	10.00	90.00	2,580.77	0.00	234.46	0.82	0.00	0.00	0.00
2,700.00	10.00	90.00	2,679.25	0.00	251.82	0.88	0.00	0.00	0.00
2,800.00	10.00	90.00	2,777.73	0.00	269.17	0.94	0.00	0.00	0.00
2,900.00	10.00	90.00	2,876.21	0.00	286.53	1.00	0.00	0.00	0.00
3,000.00	10.00	90.00	2,974.70	0.00	303.89	1.06	0.00	0.00	0.00
3,100.00	10.00	90.00	3,073.18	0.00	321.25	1.12	0.00	0.00	0.00
3,200.00	10.00	90.00	3,171.66	0.00	338.60	1.18	0.00	0.00	0.00
3,300.00	10.00	90.00	3,270.14	0.00	355.96	1.24	0.00	0.00	0.00
3,400.00	10.00	90.00	3,368.62	0.00	373.32	1.30	0.00	0.00	0.00
3,500.00	10.00	90.00	3,467.11	0.00	390.68	1.36	0.00	0.00	0.00
3,600.00	10.00	90.00	3,565.59	0.00	408.04	1.42	0.00	0.00	0.00
3,700.00	10.00	90.00	3,664.07	0.00	425.39	1.48	0.00	0.00	0.00
3,800.00	10.00	90.00	3,762.55	0.00	442.75	1.55	0.00	0.00	0.00
3,900.00	10.00	90.00	3,861.03	0.00	460.11	1.61	0.00	0.00	0.00
4,000.00	10.00	90.00	3,959.52	0.00	477.47	1.67	0.00	0.00	0.00
4,073.60	10.00	90.00	4,032.00	0.00	490.24	1.71	0.00	0.00	0.00
<b>Parkman</b>									
4,100.00	10.00	90.00	4,058.00	0.00	494.82	1.73	0.00	0.00	0.00
4,200.00	10.00	90.00	4,156.48	0.00	512.18	1.79	0.00	0.00	0.00
4,300.00	10.00	90.00	4,254.96	0.00	529.54	1.85	0.00	0.00	0.00
4,400.00	10.00	90.00	4,353.44	0.00	546.90	1.91	0.00	0.00	0.00
4,432.04	10.00	90.00	4,385.00	0.00	552.46	1.93	0.00	0.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 36N-16HZ	<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)
<b>Sussex</b>									
4,500.00	10.00	90.00	4,451.93	0.00	564.25	1.97	0.00	0.00	0.00
4,600.00	10.00	90.00	4,550.41	0.00	581.61	2.03	0.00	0.00	0.00
4,700.00	10.00	90.00	4,648.89	0.00	598.97	2.09	0.00	0.00	0.00
4,800.00	10.00	90.00	4,747.37	0.00	616.33	2.15	0.00	0.00	0.00
4,900.00	10.00	90.00	4,845.85	0.00	633.69	2.21	0.00	0.00	0.00
5,000.00	10.00	90.00	4,944.34	0.00	651.04	2.27	0.00	0.00	0.00
5,100.00	10.00	90.00	5,042.82	0.00	668.40	2.33	0.00	0.00	0.00
5,200.00	10.00	90.00	5,141.30	0.00	685.76	2.39	0.00	0.00	0.00
5,300.00	10.00	90.00	5,239.78	0.00	703.12	2.45	0.00	0.00	0.00
5,400.00	10.00	90.00	5,338.26	0.00	720.47	2.51	0.00	0.00	0.00
5,500.00	10.00	90.00	5,436.75	0.00	737.83	2.58	0.00	0.00	0.00
5,600.00	10.00	90.00	5,535.23	0.00	755.19	2.64	0.00	0.00	0.00
5,607.62	10.00	90.00	5,542.74	0.00	756.51	2.64	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,700.00	8.15	90.00	5,633.95	0.00	771.08	2.69	2.00	-2.00	0.00
5,800.00	6.15	90.00	5,733.17	0.00	783.52	2.74	2.00	-2.00	0.00
5,900.00	4.15	90.00	5,832.76	0.00	792.49	2.77	2.00	-2.00	0.00
6,000.00	2.15	90.00	5,932.61	0.00	797.99	2.79	2.00	-2.00	0.00
6,100.00	0.15	90.00	6,032.58	0.00	799.99	2.79	2.00	-2.00	0.00
6,107.42	0.00	0.00	6,040.00	0.00	800.00	2.79	2.00	-2.00	0.00
<b>Start 594.04 hold at 6107.42 MD</b>									
6,200.00	0.00	0.00	6,132.58	0.00	800.00	2.79	0.00	0.00	0.00
6,300.00	0.00	0.00	6,232.58	0.00	800.00	2.79	0.00	0.00	0.00
6,400.00	0.00	0.00	6,332.58	0.00	800.00	2.79	0.00	0.00	0.00
6,500.00	0.00	0.00	6,432.58	0.00	800.00	2.79	0.00	0.00	0.00
6,600.00	0.00	0.00	6,532.58	0.00	800.00	2.79	0.00	0.00	0.00
6,700.00	0.00	0.00	6,632.58	0.00	800.00	2.79	0.00	0.00	0.00
6,701.46	0.00	0.00	6,634.04	0.00	800.00	2.79	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 179.81</b>									
6,800.00	9.85	179.81	6,732.10	-8.45	800.03	11.25	10.00	10.00	0.00
6,900.00	19.85	179.81	6,828.63	-34.06	800.11	36.85	10.00	10.00	0.00
7,000.00	29.85	179.81	6,919.25	-76.03	800.25	78.83	10.00	10.00	0.00
7,100.00	39.85	179.81	7,001.21	-133.11	800.44	135.90	10.00	10.00	0.00
7,200.00	49.85	179.81	7,072.02	-203.55	800.68	206.34	10.00	10.00	0.00
7,218.97	51.75	179.81	7,084.00	-218.25	800.72	221.04	10.00	10.00	0.00
<b>Sharon Springs</b>									
7,300.00	59.85	179.81	7,129.51	-285.21	800.95	288.01	10.00	10.00	0.00
7,325.90	62.44	179.81	7,142.00	-307.89	801.02	310.69	10.00	10.00	0.00
<b>NBRR</b>									
7,400.00	69.85	179.81	7,171.94	-375.62	801.25	378.42	10.00	10.00	0.00
7,500.00	79.85	179.81	7,198.04	-472.03	801.57	474.82	10.00	10.00	0.00
7,518.48	81.70	179.81	7,201.00	-490.26	801.63	493.06	10.00	10.00	0.00
<b>N470 B CK</b>									
7,600.00	89.85	179.81	7,207.00	-571.50	801.90	574.29	10.00	10.00	0.00
7,601.46	90.00	179.81	7,207.00	-572.96	801.90	575.75	10.00	10.00	0.00
<b>Start 7092.26 hold at 7601.46 MD - 7" (1810 FSL 2335 FEL)</b>									
7,700.00	90.00	179.81	7,207.00	-671.49	802.23	674.29	0.00	0.00	0.00
7,800.00	90.00	179.81	7,207.00	-771.49	802.56	774.29	0.00	0.00	0.00
7,900.00	90.00	179.81	7,207.00	-871.49	802.89	874.29	0.00	0.00	0.00
8,000.00	90.00	179.81	7,207.00	-971.49	803.22	974.29	0.00	0.00	0.00
8,100.00	90.00	179.81	7,207.00	-1,071.49	803.55	1,074.29	0.00	0.00	0.00
8,200.00	90.00	179.81	7,207.00	-1,171.49	803.89	1,174.29	0.00	0.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 36N-16HZ	<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)
8,300.00	90.00	179.81	7,207.00	-1,271.49	804.22	1,274.29	0.00	0.00	0.00
8,400.00	90.00	179.81	7,207.00	-1,371.49	804.55	1,374.29	0.00	0.00	0.00
8,500.00	90.00	179.81	7,207.00	-1,471.49	804.88	1,474.29	0.00	0.00	0.00
8,600.00	90.00	179.81	7,207.00	-1,571.49	805.21	1,574.29	0.00	0.00	0.00
8,700.00	90.00	179.81	7,207.00	-1,671.49	805.54	1,674.29	0.00	0.00	0.00
8,800.00	90.00	179.81	7,207.00	-1,771.49	805.88	1,774.29	0.00	0.00	0.00
8,900.00	90.00	179.81	7,207.00	-1,871.49	806.21	1,874.29	0.00	0.00	0.00
9,000.00	90.00	179.81	7,207.00	-1,971.49	806.54	1,974.29	0.00	0.00	0.00
9,100.00	90.00	179.81	7,207.00	-2,071.49	806.87	2,074.29	0.00	0.00	0.00
9,200.00	90.00	179.81	7,207.00	-2,171.49	807.20	2,174.29	0.00	0.00	0.00
9,300.00	90.00	179.81	7,207.00	-2,271.49	807.54	2,274.29	0.00	0.00	0.00
9,400.00	90.00	179.81	7,207.00	-2,371.49	807.87	2,374.29	0.00	0.00	0.00
9,500.00	90.00	179.81	7,207.00	-2,471.48	808.20	2,474.29	0.00	0.00	0.00
9,600.00	90.00	179.81	7,207.00	-2,571.48	808.53	2,574.29	0.00	0.00	0.00
9,700.00	90.00	179.81	7,207.00	-2,671.48	808.86	2,674.29	0.00	0.00	0.00
9,800.00	90.00	179.81	7,207.00	-2,771.48	809.19	2,774.29	0.00	0.00	0.00
9,900.00	90.00	179.81	7,207.00	-2,871.48	809.53	2,874.29	0.00	0.00	0.00
10,000.00	90.00	179.81	7,207.00	-2,971.48	809.86	2,974.29	0.00	0.00	0.00
10,100.00	90.00	179.81	7,207.00	-3,071.48	810.19	3,074.29	0.00	0.00	0.00
10,200.00	90.00	179.81	7,207.00	-3,171.48	810.52	3,174.29	0.00	0.00	0.00
10,300.00	90.00	179.81	7,207.00	-3,271.48	810.85	3,274.29	0.00	0.00	0.00
10,400.00	90.00	179.81	7,207.00	-3,371.48	811.18	3,374.29	0.00	0.00	0.00
10,500.00	90.00	179.81	7,207.00	-3,471.48	811.52	3,474.29	0.00	0.00	0.00
10,600.00	90.00	179.81	7,207.00	-3,571.48	811.85	3,574.29	0.00	0.00	0.00
10,700.00	90.00	179.81	7,207.00	-3,671.48	812.18	3,674.29	0.00	0.00	0.00
10,800.00	90.00	179.81	7,207.00	-3,771.48	812.51	3,774.29	0.00	0.00	0.00
10,900.00	90.00	179.81	7,207.00	-3,871.48	812.84	3,874.29	0.00	0.00	0.00
11,000.00	90.00	179.81	7,207.00	-3,971.48	813.17	3,974.29	0.00	0.00	0.00
11,100.00	90.00	179.81	7,207.00	-4,071.48	813.51	4,074.29	0.00	0.00	0.00
11,200.00	90.00	179.81	7,207.00	-4,171.48	813.84	4,174.29	0.00	0.00	0.00
11,300.00	90.00	179.81	7,207.00	-4,271.47	814.17	4,274.29	0.00	0.00	0.00
11,400.00	90.00	179.81	7,207.00	-4,371.47	814.50	4,374.29	0.00	0.00	0.00
11,500.00	90.00	179.81	7,207.00	-4,471.47	814.83	4,474.29	0.00	0.00	0.00
11,600.00	90.00	179.81	7,207.00	-4,571.47	815.17	4,574.29	0.00	0.00	0.00
11,700.00	90.00	179.81	7,207.00	-4,671.47	815.50	4,674.29	0.00	0.00	0.00
11,800.00	90.00	179.81	7,207.00	-4,771.47	815.83	4,774.29	0.00	0.00	0.00
11,900.00	90.00	179.81	7,207.00	-4,871.47	816.16	4,874.29	0.00	0.00	0.00
12,000.00	90.00	179.81	7,207.00	-4,971.47	816.49	4,974.29	0.00	0.00	0.00
12,100.00	90.00	179.81	7,207.00	-5,071.47	816.82	5,074.29	0.00	0.00	0.00
12,200.00	90.00	179.81	7,207.00	-5,171.47	817.16	5,174.29	0.00	0.00	0.00
12,300.00	90.00	179.81	7,207.00	-5,271.47	817.49	5,274.29	0.00	0.00	0.00
12,400.00	90.00	179.81	7,207.00	-5,371.47	817.82	5,374.29	0.00	0.00	0.00
12,500.00	90.00	179.81	7,207.00	-5,471.47	818.15	5,474.29	0.00	0.00	0.00
12,600.00	90.00	179.81	7,207.00	-5,571.47	818.48	5,574.29	0.00	0.00	0.00
12,700.00	90.00	179.81	7,207.00	-5,671.47	818.81	5,674.29	0.00	0.00	0.00
12,800.00	90.00	179.81	7,207.00	-5,771.47	819.15	5,774.29	0.00	0.00	0.00
12,900.00	90.00	179.81	7,207.00	-5,871.47	819.48	5,874.29	0.00	0.00	0.00
13,000.00	90.00	179.81	7,207.00	-5,971.47	819.81	5,974.29	0.00	0.00	0.00
13,100.00	90.00	179.81	7,207.00	-6,071.46	820.14	6,074.29	0.00	0.00	0.00
13,200.00	90.00	179.81	7,207.00	-6,171.46	820.47	6,174.29	0.00	0.00	0.00
13,300.00	90.00	179.81	7,207.00	-6,271.46	820.80	6,274.29	0.00	0.00	0.00
13,400.00	90.00	179.81	7,207.00	-6,371.46	821.14	6,374.29	0.00	0.00	0.00
13,500.00	90.00	179.81	7,207.00	-6,471.46	821.47	6,474.29	0.00	0.00	0.00
13,600.00	90.00	179.81	7,207.00	-6,571.46	821.80	6,574.29	0.00	0.00	0.00

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well AGGREGATE STATE 36N-16HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 36N-16HZ	<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)
13,700.00	90.00	179.81	7,207.00	-6,671.46	822.13	6,674.29	0.00	0.00	0.00
13,800.00	90.00	179.81	7,207.00	-6,771.46	822.46	6,774.29	0.00	0.00	0.00
13,900.00	90.00	179.81	7,207.00	-6,871.46	822.79	6,874.29	0.00	0.00	0.00
14,000.00	90.00	179.81	7,207.00	-6,971.46	823.13	6,974.29	0.00	0.00	0.00
14,100.00	90.00	179.81	7,207.00	-7,071.46	823.46	7,074.29	0.00	0.00	0.00
14,200.00	90.00	179.81	7,207.00	-7,171.46	823.79	7,174.29	0.00	0.00	0.00
14,300.00	90.00	179.81	7,207.00	-7,271.46	824.12	7,274.29	0.00	0.00	0.00
14,400.00	90.00	179.81	7,207.00	-7,371.46	824.45	7,374.29	0.00	0.00	0.00
14,500.00	90.00	179.81	7,207.00	-7,471.46	824.79	7,474.29	0.00	0.00	0.00
14,600.00	90.00	179.81	7,207.00	-7,571.46	825.12	7,574.29	0.00	0.00	0.00
14,693.72	90.00	179.81	7,207.00	-7,665.17	825.43	7,668.01	0.00	0.00	0.00
TD at 14693.72 - PBHL_AGGREGATE STATE 36N-16HZ (1 FSL 2310 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_AGGREGATE S1	0.00	0.00	7,207.00	-7,665.17	825.43	1,291,338.57	3,201,017.89	40.1308810	-104.7810850
- 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	
7,601.46	7,207.00	7" (1810 FSL 2335 FEL)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
750.00	750.00	Fox Hills Base				
4,073.60	4,032.00	Parkman				
4,432.04	4,385.00	Sussex				
7,218.97	7,084.00	Sharon Springs				
7,325.90	7,142.00	NBRR				
7,518.48	7,201.00	N470 B CK				

<b>Database:</b>	Denver Sales Office	<b>Local Co-ordinate Reference:</b>	Well AGGREGATE STATE 36N-16HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4912 & KB 17 @ 4929.00ft (ASSUMED)
<b>Site:</b>	AGGREGATE STATE 25-9HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	AGGREGATE STATE 36N-16HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
1,499.80	1,497.26	0.00	43.49	Start 4107.83 hold at 1499.80 MD
5,607.62	5,542.74	0.00	756.51	Start Drop -2.00
6,107.42	6,040.00	0.00	800.00	Start 594.04 hold at 6107.42 MD
6,701.46	6,634.04	0.00	800.00	Start DLS 10.00 TFO 179.81
7,601.46	7,207.00	-572.96	801.90	Start 7092.26 hold at 7601.46 MD
14,693.72	7,207.00	-7,665.17	825.43	TD at 14693.72