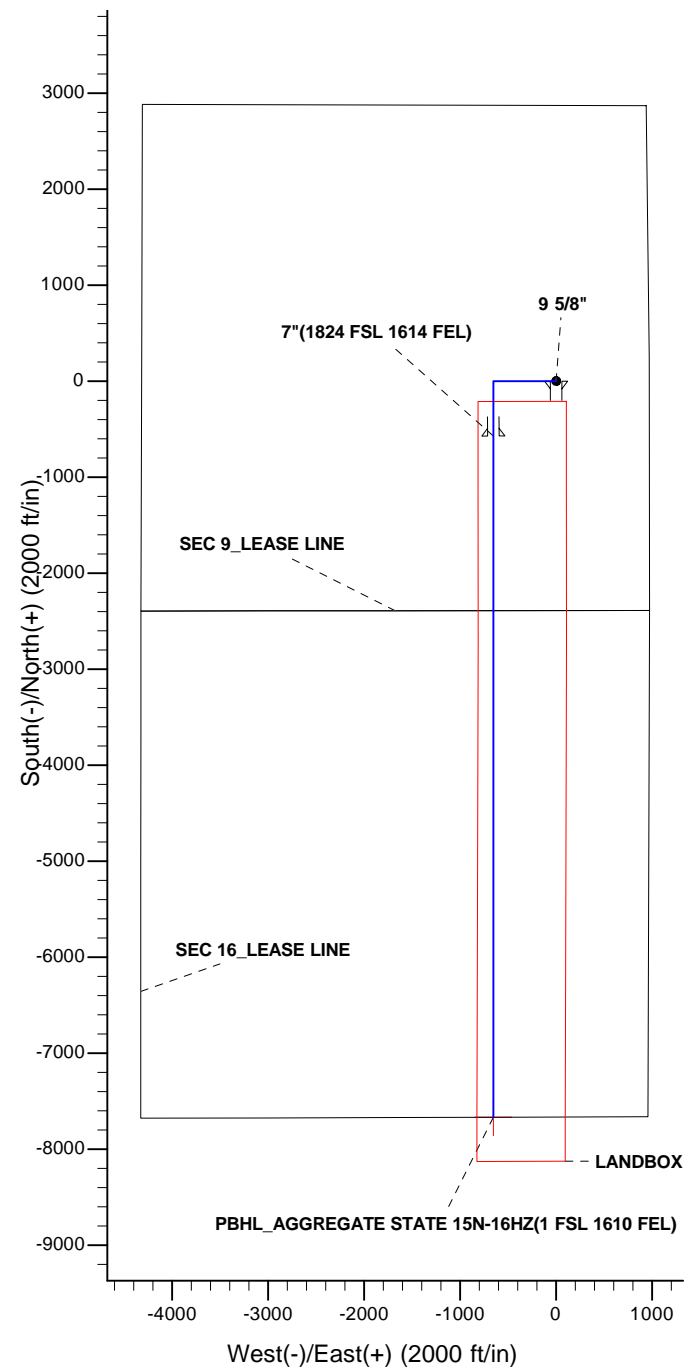
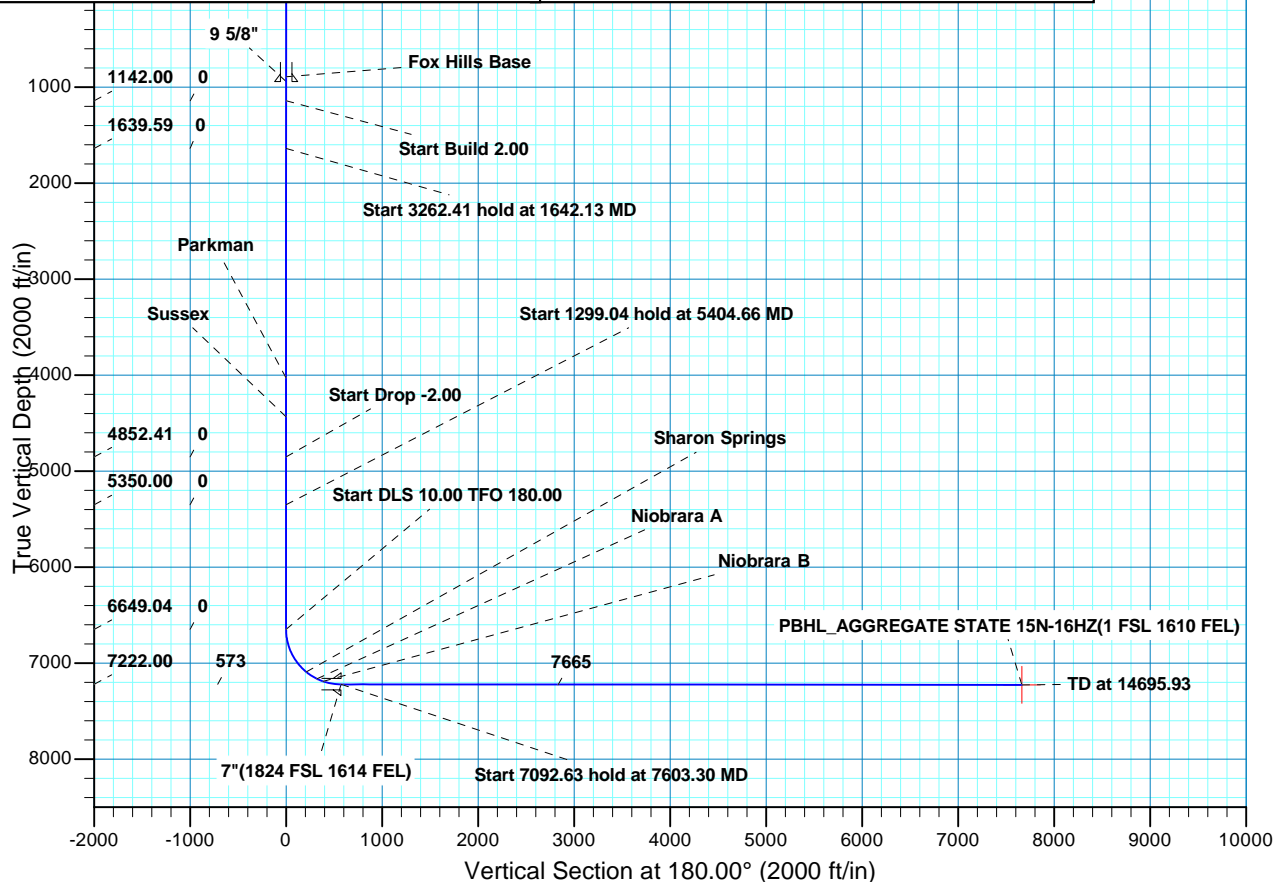




Project: COLORADO NORTHERN ZONE - 83
Site: AGGREGATE STATE 37C-16HZ PAD
Well: AGGREGATE STATE 15N-16HZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY



WELL DETAILS: AGGREGATE STATE 15N-16HZ									
GL 4925' & KB 17' @ 4942.00ft (ASSUMED)									
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
		0.00	0.00	1299017.04	3202309.16	40.1519299	-104.7762430		
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	
1142.00	0.00	0.00	1142.00	0.00	0.00	0.00	0.00	0.00	
1642.13	10.00	270.00	1639.59	0.00	-43.54	2.00	270.00	0.00	
4904.53	10.00	270.00	4852.41	0.02	-610.20	0.00	0.00	-0.02	
5404.66	0.00	0.00	5350.00	0.02	-653.74	2.00	180.00	-0.02	
6703.70	0.00	0.00	6649.04	0.02	-653.74	0.00	0.00	-0.02	
7603.30	89.96	180.00	7222.00	-572.54	-653.74	10.00	180.00	572.54	
14695.93	89.96	180.00	7227.00	-7665.17	-653.74	0.00	0.007665.17	PBHL_AGGREGATE STATE 15N-16HZ(1 FSL 1610 FEL)	
FORMATION TOP DETAILS						CASING DETAILS			
TVDPath	MDPath	Formation			Inc	TVD	MD	Name	Size
892.00	892.00	Fox Hills Base			0.00	942.00	942.00	9 5/8"	9.625
4028.00	4067.40	Parkman			10.00	7222.00	7603.30	7"	7.000
4435.00	4480.68	Sussex			10.00				
7092.00	7210.04	Sharon Springs			50.63				
7164.00	7343.68	Niobrara A			64.00				
7190.00	7411.31	Niobrara B			70.76				





Scientific Drilling

US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
AGGREGATE STATE 37C-16HZ PAD
AGGREGATE STATE 15N-16HZ**

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

24 July, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 15N-16HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Site:	AGGREGATE STATE 37C-16HZ PAD	North Reference:	True
Well:	AGGREGATE STATE 15N-16HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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	AGGREGATE STATE 37C-16HZ PAD, NESE SEC 9 T2N R66W			
Site Position:		Northing:	1,299,017.05 usft	Latitude: 40.1519300
From:	Lat/Long	Easting:	3,202,309.16 usft	Longitude: -104.7762430
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.47 °

Well	AGGREGATE STATE 15N-16HZ, 2389' FSL 970' FEL SEC 9 T2N R66W			
Well Position	+N/-S	0.00 ft	Northing:	1,299,017.05 usft
	+E/-W	0.00 ft	Easting:	3,202,309.16 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:		Ground Level: 4,925.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2013/07/23	8.60	66.77	52,708

Design	PLAN #1 PRELIMINARY			
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	180.00

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	
1,142.00	0.00	0.00	1,142.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,642.13	10.00	270.00	1,639.59	0.00	-43.54	2.00	2.00	0.00	270.00	
4,904.53	10.00	270.00	4,852.41	0.02	-610.20	0.00	0.00	0.00	0.00	
5,404.66	0.00	0.00	5,350.00	0.02	-653.74	2.00	-2.00	0.00	180.00	
6,703.70	0.00	0.00	6,649.04	0.02	-653.74	0.00	0.00	0.00	0.00	
7,603.30	89.96	180.00	7,222.00	-572.54	-653.74	10.00	10.00	-20.01	180.00	
14,695.95	89.96	180.00	7,227.00	-7,665.19	-653.74	0.00	0.00	0.00	0.00	PBHL_AGGREGATE

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 15N-16HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Site:	AGGREGATE STATE 37C-16HZ PAD	North Reference:	True
Well:	AGGREGATE STATE 15N-16HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
892.00	0.00	0.00	892.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
942.00	0.00	0.00	942.00	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
1,142.00	0.00	0.00	1,142.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	1.16	270.00	1,200.00	0.00	-0.59	0.00	2.00	2.00	0.00
1,300.00	3.16	270.00	1,299.92	0.00	-4.36	0.00	2.00	2.00	0.00
1,400.00	5.16	270.00	1,399.65	0.00	-11.61	0.00	2.00	2.00	0.00
1,500.00	7.16	270.00	1,499.07	0.00	-22.34	0.00	2.00	2.00	0.00
1,600.00	9.16	270.00	1,598.05	0.00	-36.53	0.00	2.00	2.00	0.00
1,642.13	10.00	270.00	1,639.59	0.00	-43.54	0.00	2.00	2.00	0.00
1,700.00	10.00	270.00	1,696.58	0.00	-53.60	0.00	0.00	0.00	0.00
1,800.00	10.00	270.00	1,795.06	0.00	-70.97	0.00	0.00	0.00	0.00
1,900.00	10.00	270.00	1,893.54	0.00	-88.34	0.00	0.00	0.00	0.00
2,000.00	10.00	270.00	1,992.02	0.00	-105.70	0.00	0.00	0.00	0.00
2,100.00	10.00	270.00	2,090.50	0.00	-123.07	0.00	0.00	0.00	0.00
2,200.00	10.00	270.00	2,188.98	0.00	-140.44	0.00	0.00	0.00	0.00
2,300.00	10.00	270.00	2,287.46	0.00	-157.81	0.00	0.00	0.00	0.00
2,400.00	10.00	270.00	2,385.94	0.00	-175.18	0.00	0.00	0.00	0.00
2,500.00	10.00	270.00	2,484.42	0.00	-192.55	0.00	0.00	0.00	0.00
2,600.00	10.00	270.00	2,582.90	0.01	-209.92	-0.01	0.00	0.00	0.00
2,700.00	10.00	270.00	2,681.38	0.01	-227.29	-0.01	0.00	0.00	0.00
2,800.00	10.00	270.00	2,779.86	0.01	-244.66	-0.01	0.00	0.00	0.00
2,900.00	10.00	270.00	2,878.34	0.01	-262.03	-0.01	0.00	0.00	0.00
3,000.00	10.00	270.00	2,976.82	0.01	-279.40	-0.01	0.00	0.00	0.00
3,100.00	10.00	270.00	3,075.30	0.01	-296.77	-0.01	0.00	0.00	0.00
3,200.00	10.00	270.00	3,173.78	0.01	-314.13	-0.01	0.00	0.00	0.00
3,300.00	10.00	270.00	3,272.26	0.01	-331.50	-0.01	0.00	0.00	0.00
3,400.00	10.00	270.00	3,370.74	0.01	-348.87	-0.01	0.00	0.00	0.00
3,500.00	10.00	270.00	3,469.22	0.01	-366.24	-0.01	0.00	0.00	0.00
3,600.00	10.00	270.00	3,567.70	0.01	-383.61	-0.01	0.00	0.00	0.00
3,700.00	10.00	270.00	3,666.18	0.01	-400.98	-0.01	0.00	0.00	0.00
3,800.00	10.00	270.00	3,764.66	0.01	-418.35	-0.01	0.00	0.00	0.00
3,900.00	10.00	270.00	3,863.14	0.01	-435.72	-0.01	0.00	0.00	0.00
4,000.00	10.00	270.00	3,961.62	0.01	-453.09	-0.01	0.00	0.00	0.00
4,067.40	10.00	270.00	4,028.00	0.01	-464.80	-0.01	0.00	0.00	0.00
Parkman									
4,100.00	10.00	270.00	4,060.10	0.01	-470.46	-0.01	0.00	0.00	0.00
4,200.00	10.00	270.00	4,158.58	0.01	-487.83	-0.01	0.00	0.00	0.00
4,300.00	10.00	270.00	4,257.06	0.01	-505.20	-0.01	0.00	0.00	0.00
4,400.00	10.00	270.00	4,355.54	0.01	-522.57	-0.01	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 15N-16HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Site:	AGGREGATE STATE 37C-16HZ PAD	North Reference:	True
Well:	AGGREGATE STATE 15N-16HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
4,480.68	10.00	270.00	4,435.00	0.01	-536.58	-0.01	0.00	0.00	0.00
Sussex									
4,500.00	10.00	270.00	4,454.02	0.01	-539.93	-0.01	0.00	0.00	0.00
4,600.00	10.00	270.00	4,552.50	0.01	-557.30	-0.01	0.00	0.00	0.00
4,700.00	10.00	270.00	4,650.98	0.01	-574.67	-0.01	0.00	0.00	0.00
4,800.00	10.00	270.00	4,749.46	0.02	-592.04	-0.02	0.00	0.00	0.00
4,900.00	10.00	270.00	4,847.94	0.02	-609.41	-0.02	0.00	0.00	0.00
4,904.53	10.00	270.00	4,852.41	0.02	-610.20	-0.02	0.00	0.00	0.00
5,000.00	8.09	270.00	4,946.68	0.02	-625.21	-0.02	2.00	-2.00	0.00
5,100.00	6.09	270.00	5,045.91	0.02	-637.56	-0.02	2.00	-2.00	0.00
5,200.00	4.09	270.00	5,145.51	0.02	-646.44	-0.02	2.00	-2.00	0.00
5,300.00	2.09	270.00	5,245.36	0.02	-651.83	-0.02	2.00	-2.00	0.00
5,400.00	0.09	270.00	5,345.34	0.02	-653.74	-0.02	2.00	-2.00	0.00
5,404.66	0.00	0.00	5,350.00	0.02	-653.74	-0.02	2.00	-2.00	0.00
5,500.00	0.00	0.00	5,445.34	0.02	-653.74	-0.02	0.00	0.00	0.00
5,600.00	0.00	0.00	5,545.34	0.02	-653.74	-0.02	0.00	0.00	0.00
5,700.00	0.00	0.00	5,645.34	0.02	-653.74	-0.02	0.00	0.00	0.00
5,800.00	0.00	0.00	5,745.34	0.02	-653.74	-0.02	0.00	0.00	0.00
5,900.00	0.00	0.00	5,845.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,000.00	0.00	0.00	5,945.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,100.00	0.00	0.00	6,045.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,200.00	0.00	0.00	6,145.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,300.00	0.00	0.00	6,245.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,400.00	0.00	0.00	6,345.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,500.00	0.00	0.00	6,445.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,600.00	0.00	0.00	6,545.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,700.00	0.00	0.00	6,645.34	0.02	-653.74	-0.02	0.00	0.00	0.00
6,703.70	0.00	0.00	6,649.04	0.02	-653.74	-0.02	0.00	0.00	0.00
6,800.00	9.63	180.00	6,744.89	-8.06	-653.74	8.06	10.00	10.00	0.00
6,900.00	19.63	180.00	6,841.52	-33.28	-653.74	33.28	10.00	10.00	0.00
7,000.00	29.63	180.00	6,932.31	-74.90	-653.74	74.90	10.00	10.00	0.00
7,100.00	39.63	180.00	7,014.49	-131.66	-653.74	131.66	10.00	10.00	0.00
7,200.00	49.63	180.00	7,085.56	-201.82	-653.74	201.82	10.00	10.00	0.00
7,210.04	50.63	180.00	7,092.00	-209.53	-653.74	209.53	10.00	10.00	0.00
Sharon Springs									
7,300.00	59.63	180.00	7,143.38	-283.26	-653.74	283.26	10.00	10.00	0.00
7,343.68	64.00	180.00	7,164.00	-321.75	-653.74	321.75	10.00	10.00	0.00
Niobrara A									
7,400.00	69.63	180.00	7,186.17	-373.50	-653.74	373.50	10.00	10.00	0.00
7,411.31	70.76	180.00	7,190.00	-384.15	-653.74	384.15	10.00	10.00	0.00
Niobrara B									
7,500.00	79.63	180.00	7,212.64	-469.80	-653.74	469.80	10.00	10.00	0.00
7,600.00	89.63	180.00	7,221.99	-569.24	-653.74	569.24	10.00	10.00	0.00
7,603.30	89.96	180.00	7,222.00	-572.54	-653.74	572.54	9.99	9.99	0.00
7"(1824 FSL 1614 FEL)									
7,700.00	89.96	180.00	7,222.07	-669.24	-653.74	669.24	0.00	0.00	0.00
7,800.00	89.96	180.00	7,222.14	-769.24	-653.74	769.24	0.00	0.00	0.00
7,900.00	89.96	180.00	7,222.21	-869.24	-653.74	869.24	0.00	0.00	0.00
8,000.00	89.96	180.00	7,222.28	-969.24	-653.74	969.24	0.00	0.00	0.00
8,100.00	89.96	180.00	7,222.35	-1,069.24	-653.74	1,069.24	0.00	0.00	0.00
8,200.00	89.96	180.00	7,222.42	-1,169.24	-653.74	1,169.24	0.00	0.00	0.00
8,300.00	89.96	180.00	7,222.49	-1,269.24	-653.74	1,269.24	0.00	0.00	0.00
8,400.00	89.96	180.00	7,222.56	-1,369.24	-653.74	1,369.24	0.00	0.00	0.00
8,500.00	89.96	180.00	7,222.63	-1,469.24	-653.74	1,469.24	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 15N-16HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Site:	AGGREGATE STATE 37C-16HZ PAD	North Reference:	True
Well:	AGGREGATE STATE 15N-16HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
8,600.00	89.96	180.00	7,222.70	-1,569.24	-653.74	1,569.24	0.00	0.00	0.00
8,700.00	89.96	180.00	7,222.77	-1,669.24	-653.74	1,669.24	0.00	0.00	0.00
8,800.00	89.96	180.00	7,222.84	-1,769.24	-653.74	1,769.24	0.00	0.00	0.00
8,900.00	89.96	180.00	7,222.91	-1,869.24	-653.74	1,869.24	0.00	0.00	0.00
9,000.00	89.96	180.00	7,222.98	-1,969.24	-653.74	1,969.24	0.00	0.00	0.00
9,100.00	89.96	180.00	7,223.05	-2,069.24	-653.74	2,069.24	0.00	0.00	0.00
9,200.00	89.96	180.00	7,223.12	-2,169.24	-653.74	2,169.24	0.00	0.00	0.00
9,300.00	89.96	180.00	7,223.19	-2,269.24	-653.74	2,269.24	0.00	0.00	0.00
9,400.00	89.96	180.00	7,223.27	-2,369.24	-653.74	2,369.24	0.00	0.00	0.00
9,500.00	89.96	180.00	7,223.34	-2,469.24	-653.74	2,469.24	0.00	0.00	0.00
9,600.00	89.96	180.00	7,223.41	-2,569.24	-653.74	2,569.24	0.00	0.00	0.00
9,700.00	89.96	180.00	7,223.48	-2,669.24	-653.74	2,669.24	0.00	0.00	0.00
9,800.00	89.96	180.00	7,223.55	-2,769.24	-653.74	2,769.24	0.00	0.00	0.00
9,900.00	89.96	180.00	7,223.62	-2,869.24	-653.74	2,869.24	0.00	0.00	0.00
10,000.00	89.96	180.00	7,223.69	-2,969.24	-653.74	2,969.24	0.00	0.00	0.00
10,100.00	89.96	180.00	7,223.76	-3,069.24	-653.74	3,069.24	0.00	0.00	0.00
10,200.00	89.96	180.00	7,223.83	-3,169.24	-653.74	3,169.24	0.00	0.00	0.00
10,300.00	89.96	180.00	7,223.90	-3,269.24	-653.74	3,269.24	0.00	0.00	0.00
10,400.00	89.96	180.00	7,223.97	-3,369.24	-653.74	3,369.24	0.00	0.00	0.00
10,500.00	89.96	180.00	7,224.04	-3,469.24	-653.74	3,469.24	0.00	0.00	0.00
10,600.00	89.96	180.00	7,224.11	-3,569.24	-653.74	3,569.24	0.00	0.00	0.00
10,700.00	89.96	180.00	7,224.18	-3,669.24	-653.74	3,669.24	0.00	0.00	0.00
10,800.00	89.96	180.00	7,224.25	-3,769.24	-653.74	3,769.24	0.00	0.00	0.00
10,900.00	89.96	180.00	7,224.32	-3,869.24	-653.74	3,869.24	0.00	0.00	0.00
11,000.00	89.96	180.00	7,224.39	-3,969.24	-653.74	3,969.24	0.00	0.00	0.00
11,100.00	89.96	180.00	7,224.46	-4,069.24	-653.74	4,069.24	0.00	0.00	0.00
11,200.00	89.96	180.00	7,224.53	-4,169.24	-653.74	4,169.24	0.00	0.00	0.00
11,300.00	89.96	180.00	7,224.61	-4,269.24	-653.74	4,269.24	0.00	0.00	0.00
11,400.00	89.96	180.00	7,224.68	-4,369.24	-653.74	4,369.24	0.00	0.00	0.00
11,500.00	89.96	180.00	7,224.75	-4,469.24	-653.74	4,469.24	0.00	0.00	0.00
11,600.00	89.96	180.00	7,224.82	-4,569.24	-653.74	4,569.24	0.00	0.00	0.00
11,700.00	89.96	180.00	7,224.89	-4,669.24	-653.74	4,669.24	0.00	0.00	0.00
11,800.00	89.96	180.00	7,224.96	-4,769.24	-653.74	4,769.24	0.00	0.00	0.00
11,900.00	89.96	180.00	7,225.03	-4,869.24	-653.74	4,869.24	0.00	0.00	0.00
12,000.00	89.96	180.00	7,225.10	-4,969.24	-653.74	4,969.24	0.00	0.00	0.00
12,100.00	89.96	180.00	7,225.17	-5,069.24	-653.74	5,069.24	0.00	0.00	0.00
12,200.00	89.96	180.00	7,225.24	-5,169.24	-653.74	5,169.24	0.00	0.00	0.00
12,300.00	89.96	180.00	7,225.31	-5,269.24	-653.74	5,269.24	0.00	0.00	0.00
12,400.00	89.96	180.00	7,225.38	-5,369.24	-653.74	5,369.24	0.00	0.00	0.00
12,500.00	89.96	180.00	7,225.45	-5,469.24	-653.74	5,469.24	0.00	0.00	0.00
12,600.00	89.96	180.00	7,225.52	-5,569.24	-653.74	5,569.24	0.00	0.00	0.00
12,700.00	89.96	180.00	7,225.59	-5,669.24	-653.74	5,669.24	0.00	0.00	0.00
12,800.00	89.96	180.00	7,225.66	-5,769.24	-653.74	5,769.24	0.00	0.00	0.00
12,900.00	89.96	180.00	7,225.73	-5,869.24	-653.74	5,869.24	0.00	0.00	0.00
13,000.00	89.96	180.00	7,225.80	-5,969.24	-653.74	5,969.24	0.00	0.00	0.00
13,100.00	89.96	180.00	7,225.87	-6,069.24	-653.74	6,069.24	0.00	0.00	0.00
13,200.00	89.96	180.00	7,225.95	-6,169.24	-653.74	6,169.24	0.00	0.00	0.00
13,300.00	89.96	180.00	7,226.02	-6,269.24	-653.74	6,269.24	0.00	0.00	0.00
13,400.00	89.96	180.00	7,226.09	-6,369.24	-653.74	6,369.24	0.00	0.00	0.00
13,500.00	89.96	180.00	7,226.16	-6,469.24	-653.74	6,469.24	0.00	0.00	0.00
13,600.00	89.96	180.00	7,226.23	-6,569.24	-653.74	6,569.24	0.00	0.00	0.00
13,700.00	89.96	180.00	7,226.30	-6,669.24	-653.74	6,669.24	0.00	0.00	0.00
13,800.00	89.96	180.00	7,226.37	-6,769.24	-653.74	6,769.24	0.00	0.00	0.00
13,900.00	89.96	180.00	7,226.44	-6,869.24	-653.74	6,869.24	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 15N-16HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4925' & KB 17' @ 4942.00ft (ASSUMED)
Site:	AGGREGATE STATE 37C-16HZ PAD	North Reference:	True
Well:	AGGREGATE STATE 15N-16HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)	
14,000.00	89.96	180.00	7,226.51	-6,969.24	-653.74	6,969.24	0.00	0.00	0.00	
14,100.00	89.96	180.00	7,226.58	-7,069.24	-653.74	7,069.24	0.00	0.00	0.00	
14,200.00	89.96	180.00	7,226.65	-7,169.24	-653.74	7,169.24	0.00	0.00	0.00	
14,300.00	89.96	180.00	7,226.72	-7,269.24	-653.74	7,269.24	0.00	0.00	0.00	
14,400.00	89.96	180.00	7,226.79	-7,369.24	-653.74	7,369.24	0.00	0.00	0.00	
14,500.00	89.96	180.00	7,226.86	-7,469.24	-653.74	7,469.24	0.00	0.00	0.00	
14,600.00	89.96	180.00	7,226.93	-7,569.24	-653.74	7,569.24	0.00	0.00	0.00	
14,695.95	89.96	180.00	7,227.00	-7,665.19	-653.74	7,665.19	0.00	0.00	0.00	
PBHL_AGGREGATE STATE 15N-16HZ(1 FSL 1610 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	7,227.00	-7,665.19	-653.74	1,291,346.80	3,201,718.00	40.1308880	-104.7785810
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
942.00	942.00	9 5/8"	9.625	12.250	
7,603.30	7,222.00	7"(1824 FSL 1614 FEL)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
892.00	892.00	Fox Hills Base				
4,067.40	4,028.00	Parkman				
4,480.68	4,435.00	Sussex				
7,210.04	7,092.00	Sharon Springs				
7,343.68	7,164.00	Niobrara A				
7,411.31	7,190.00	Niobrara B				