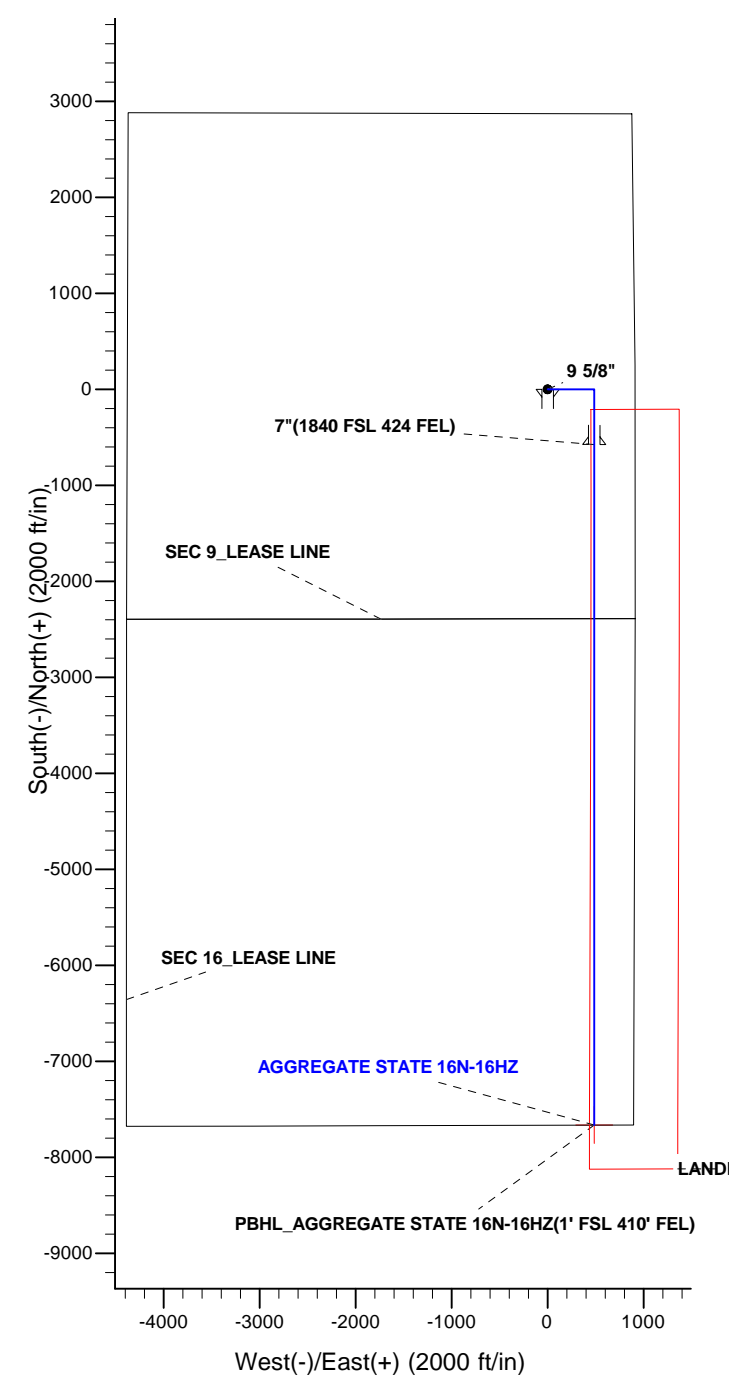
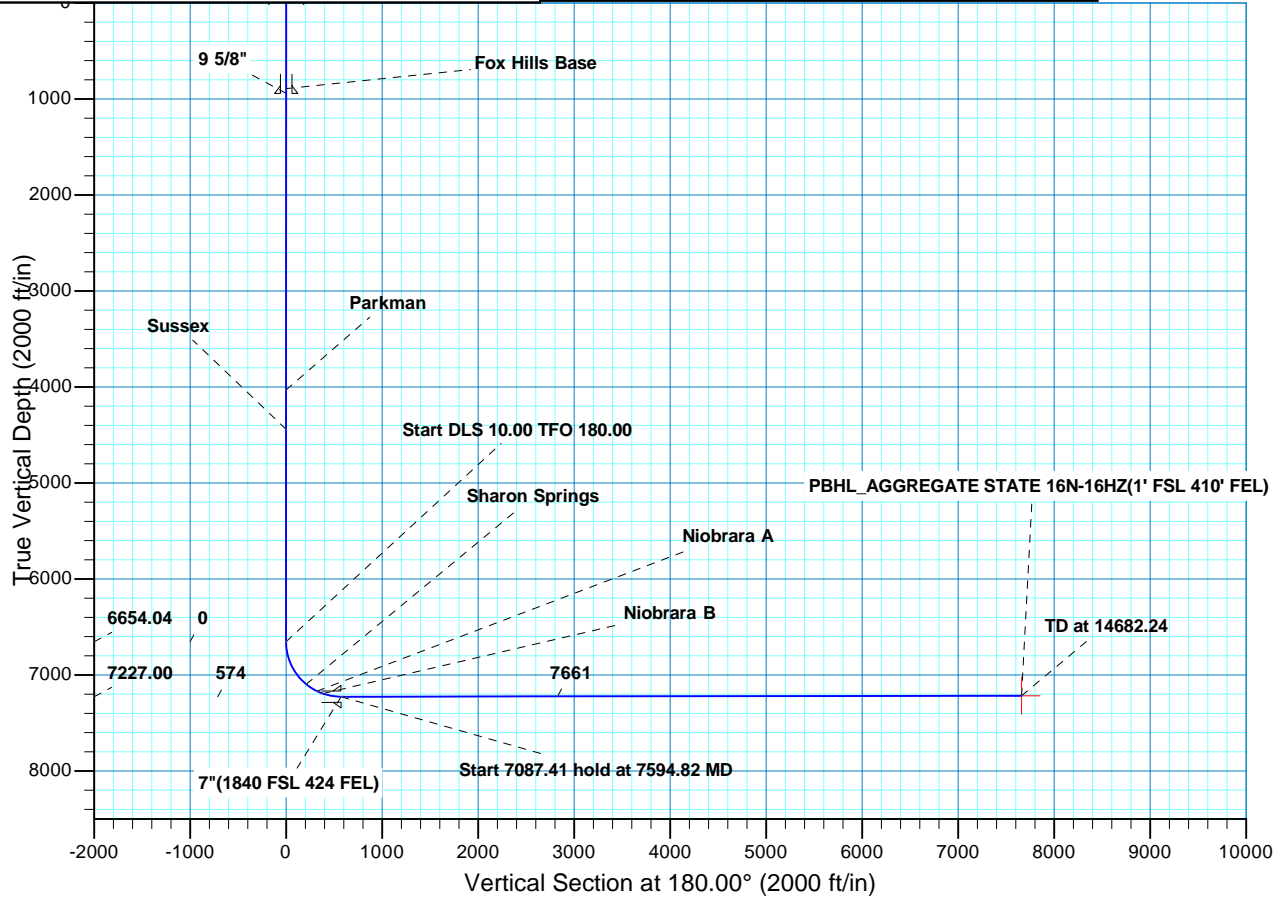


WELL DETAILS: AGGREGATE STATE 16N-16HZ											
GL 4925' & KB 17' @ 4942.00ft (ASSUMED)											
+N/-S		+E/-W		Northing		Easting		Latitude		Longitude	
0.00		0.00		1299017.53		3202369.26		40.1519299		-104.7760280	
SECTION DETAILS											
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target		
0.00	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			
1642.08	10.00	90.00	1639.54	0.00	43.54	2.00	90.00	0.00			
3938.90	10.00	90.00	3901.46	0.00	442.44	0.00	0.00	0.00			
4438.98	0.00	0.00	4399.00	0.00	485.97	2.00	180.00	0.00			
6694.02	0.00	0.00	6654.04	0.00	485.97	0.00	0.00	0.00			
7594.82	90.08	180.00	7227.00	-573.77	485.97	10.00	180.00	573.77			
14682.23	90.08	180.00	7217.00	-7661.17	485.97	0.00	0.00766117		PBHL_AGGREGATE STATE 16N-16HZ(1' FSL 410' 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		
4033.00	4071.97	Parkman		7.34		7227.00	7594.82	7"	7.000		
4440.00	4479.98	Sussex		0.00							
7097.00	7200.36	Sharon Springs		50.63							
7169.00	7333.99	Niobrara A		64.00							
7195.00	7401.63	Niobrara B		70.76							





Scientific Drilling

US ROCKIES REGION PLANNING

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

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

24 July, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 16N-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 16N-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 16N-16HZ, 2389' FSL 910' FEL			
Well Position	+N/-S	-0.02 ft	Northing:	1,299,017.53 usft
	+E/-W	60.10 ft	Easting:	3,202,369.26 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Latitude: 40.1519300
				Longitude: -104.7760280
				Ground Level: 4,925.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2013/07/24	8.59	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	
1,642.08	10.00	90.00	1,639.54	0.00	43.54	2.00	2.00	0.00	90.00	
3,938.90	10.00	90.00	3,901.46	0.00	442.44	0.00	0.00	0.00	0.00	
4,438.98	0.00	0.00	4,399.00	0.00	485.97	2.00	-2.00	0.00	180.00	
6,694.02	0.00	0.00	6,654.04	0.00	485.97	0.00	0.00	0.00	0.00	
7,594.82	90.08	180.00	7,227.00	-573.77	485.97	10.00	10.00	-19.98	180.00	
14,682.23	90.08	180.00	7,217.00	-7,661.17	485.97	0.00	0.00	0.00	0.00	PBHL_AGGREGATE

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 16N-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 16N-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
Start Build 2.00									
1,200.00	1.16	90.00	1,200.00	0.00	0.59	0.00	2.00	2.00	0.00
1,300.00	3.16	90.00	1,299.92	0.00	4.36	0.00	2.00	2.00	0.00
1,400.00	5.16	90.00	1,399.65	0.00	11.61	0.00	2.00	2.00	0.00
1,500.00	7.16	90.00	1,499.07	0.00	22.34	0.00	2.00	2.00	0.00
1,600.00	9.16	90.00	1,598.05	0.00	36.53	0.00	2.00	2.00	0.00
1,642.08	10.00	90.00	1,639.54	0.00	43.54	0.00	2.00	2.00	0.00
Start 2296.82 hold at 1642.08 MD									
1,700.00	10.00	90.00	1,696.58	0.00	53.60	0.00	0.00	0.00	0.00
1,800.00	10.00	90.00	1,795.06	0.00	70.96	0.00	0.00	0.00	0.00
1,900.00	10.00	90.00	1,893.54	0.00	88.33	0.00	0.00	0.00	0.00
2,000.00	10.00	90.00	1,992.02	0.00	105.70	0.00	0.00	0.00	0.00
2,100.00	10.00	90.00	2,090.51	0.00	123.07	0.00	0.00	0.00	0.00
2,200.00	10.00	90.00	2,188.99	0.00	140.43	0.00	0.00	0.00	0.00
2,300.00	10.00	90.00	2,287.47	0.00	157.80	0.00	0.00	0.00	0.00
2,400.00	10.00	90.00	2,385.95	0.00	175.17	0.00	0.00	0.00	0.00
2,500.00	10.00	90.00	2,484.43	0.00	192.54	0.00	0.00	0.00	0.00
2,600.00	10.00	90.00	2,582.91	0.00	209.90	0.00	0.00	0.00	0.00
2,700.00	10.00	90.00	2,681.39	0.00	227.27	0.00	0.00	0.00	0.00
2,800.00	10.00	90.00	2,779.87	0.00	244.64	0.00	0.00	0.00	0.00
2,900.00	10.00	90.00	2,878.35	0.00	262.01	0.00	0.00	0.00	0.00
3,000.00	10.00	90.00	2,976.83	0.00	279.37	0.00	0.00	0.00	0.00
3,100.00	10.00	90.00	3,075.31	0.00	296.74	0.00	0.00	0.00	0.00
3,200.00	10.00	90.00	3,173.79	0.00	314.11	0.00	0.00	0.00	0.00
3,300.00	10.00	90.00	3,272.27	0.00	331.48	0.00	0.00	0.00	0.00
3,400.00	10.00	90.00	3,370.75	0.00	348.84	0.00	0.00	0.00	0.00
3,500.00	10.00	90.00	3,469.23	0.00	366.21	0.00	0.00	0.00	0.00
3,600.00	10.00	90.00	3,567.71	0.00	383.58	0.00	0.00	0.00	0.00
3,700.00	10.00	90.00	3,666.19	0.00	400.95	0.00	0.00	0.00	0.00
3,800.00	10.00	90.00	3,764.67	0.00	418.31	0.00	0.00	0.00	0.00
3,900.00	10.00	90.00	3,863.15	0.00	435.68	0.00	0.00	0.00	0.00
3,938.90	10.00	90.00	3,901.46	0.00	442.44	0.00	0.00	0.00	0.00
Start Drop -2.00									
4,000.00	8.78	90.00	3,961.74	0.00	452.41	0.00	2.00	-2.00	0.00
4,071.97	7.34	90.00	4,033.00	0.00	462.50	0.00	2.00	-2.00	0.00
Parkman									

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 16N-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 16N-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)
4,100.00	6.78	90.00	4,060.81	0.00	465.94	0.00	2.00	-2.00	0.00
4,200.00	4.78	90.00	4,160.30	0.00	476.01	0.00	2.00	-2.00	0.00
4,300.00	2.78	90.00	4,260.08	0.00	482.60	0.00	2.00	-2.00	0.00
4,400.00	0.78	90.00	4,360.02	0.00	485.71	0.00	2.00	-2.00	0.00
4,438.98	0.00	0.00	4,399.00	0.00	485.97	0.00	2.00	-2.00	0.00
Start 2255.04 hold at 4438.98 MD									
4,479.98	0.00	0.00	4,440.00	0.00	485.97	0.00	0.00	0.00	0.00
Sussex									
4,500.00	0.00	0.00	4,460.02	0.00	485.97	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,560.02	0.00	485.97	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,660.02	0.00	485.97	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,760.02	0.00	485.97	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,860.02	0.00	485.97	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,960.02	0.00	485.97	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,060.02	0.00	485.97	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,160.02	0.00	485.97	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,260.02	0.00	485.97	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,360.02	0.00	485.97	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,460.02	0.00	485.97	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,560.02	0.00	485.97	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,660.02	0.00	485.97	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,760.02	0.00	485.97	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,860.02	0.00	485.97	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,960.02	0.00	485.97	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,060.02	0.00	485.97	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,160.02	0.00	485.97	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,260.02	0.00	485.97	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,360.02	0.00	485.97	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,460.02	0.00	485.97	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,560.02	0.00	485.97	0.00	0.00	0.00	0.00
6,694.02	0.00	0.00	6,654.04	0.00	485.97	0.00	0.00	0.00	0.00
Start DLS 10.00 TFO 180.00									
6,700.00	0.60	180.00	6,660.02	-0.03	485.97	0.03	10.00	10.00	0.00
6,800.00	10.60	180.00	6,759.42	-9.77	485.97	9.77	10.00	10.00	0.00
6,900.00	20.60	180.00	6,855.62	-36.63	485.97	36.63	10.00	10.00	0.00
7,000.00	30.60	180.00	6,945.69	-79.78	485.97	79.78	10.00	10.00	0.00
7,100.00	40.60	180.00	7,026.89	-137.92	485.97	137.92	10.00	10.00	0.00
7,200.00	50.60	180.00	7,096.77	-209.27	485.97	209.27	10.00	10.00	0.00
7,200.36	50.63	180.00	7,097.00	-209.55	485.97	209.55	10.00	10.00	0.00
Sharon Springs									
7,300.00	60.60	180.00	7,153.20	-291.68	485.97	291.68	10.00	10.00	0.00
7,333.99	64.00	180.00	7,169.00	-321.77	485.97	321.77	10.00	10.00	0.00
Niobrara A									
7,400.00	70.60	180.00	7,194.46	-382.63	485.97	382.63	10.00	10.00	0.00
7,401.63	70.76	180.00	7,195.00	-384.16	485.97	384.16	10.00	10.00	0.00
Niobrara B									
7,500.00	80.60	180.00	7,219.30	-479.36	485.97	479.36	10.00	10.00	0.00
7,594.82	90.08	180.00	7,227.00	-573.76	485.97	573.76	10.00	10.00	0.00
Start 7087.41 hold at 7594.82 MD - 7"(1840 FSL 424 FEL)									
7,600.00	90.08	180.00	7,226.99	-578.94	485.97	578.94	0.01	0.01	0.00
7,700.00	90.08	180.00	7,226.85	-678.94	485.97	678.94	0.00	0.00	0.00
7,800.00	90.08	180.00	7,226.71	-778.94	485.97	778.94	0.00	0.00	0.00
7,900.00	90.08	180.00	7,226.57	-878.94	485.97	878.94	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 16N-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 16N-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)
8,000.00	90.08	180.00	7,226.43	-978.94	485.97	978.94	0.00	0.00	0.00
8,100.00	90.08	180.00	7,226.28	-1,078.94	485.97	1,078.94	0.00	0.00	0.00
8,200.00	90.08	180.00	7,226.14	-1,178.94	485.97	1,178.94	0.00	0.00	0.00
8,300.00	90.08	180.00	7,226.00	-1,278.94	485.97	1,278.94	0.00	0.00	0.00
8,400.00	90.08	180.00	7,225.86	-1,378.94	485.97	1,378.94	0.00	0.00	0.00
8,500.00	90.08	180.00	7,225.72	-1,478.94	485.97	1,478.94	0.00	0.00	0.00
8,600.00	90.08	180.00	7,225.58	-1,578.94	485.97	1,578.94	0.00	0.00	0.00
8,700.00	90.08	180.00	7,225.44	-1,678.94	485.97	1,678.94	0.00	0.00	0.00
8,800.00	90.08	180.00	7,225.30	-1,778.94	485.97	1,778.94	0.00	0.00	0.00
8,900.00	90.08	180.00	7,225.16	-1,878.94	485.97	1,878.94	0.00	0.00	0.00
9,000.00	90.08	180.00	7,225.02	-1,978.94	485.97	1,978.94	0.00	0.00	0.00
9,100.00	90.08	180.00	7,224.87	-2,078.94	485.97	2,078.94	0.00	0.00	0.00
9,200.00	90.08	180.00	7,224.73	-2,178.94	485.97	2,178.94	0.00	0.00	0.00
9,300.00	90.08	180.00	7,224.59	-2,278.94	485.97	2,278.94	0.00	0.00	0.00
9,400.00	90.08	180.00	7,224.45	-2,378.94	485.97	2,378.94	0.00	0.00	0.00
9,500.00	90.08	180.00	7,224.31	-2,478.94	485.97	2,478.94	0.00	0.00	0.00
9,600.00	90.08	180.00	7,224.17	-2,578.94	485.97	2,578.94	0.00	0.00	0.00
9,700.00	90.08	180.00	7,224.03	-2,678.94	485.97	2,678.94	0.00	0.00	0.00
9,800.00	90.08	180.00	7,223.89	-2,778.94	485.97	2,778.94	0.00	0.00	0.00
9,900.00	90.08	180.00	7,223.75	-2,878.94	485.97	2,878.94	0.00	0.00	0.00
10,000.00	90.08	180.00	7,223.60	-2,978.94	485.97	2,978.94	0.00	0.00	0.00
10,100.00	90.08	180.00	7,223.46	-3,078.94	485.97	3,078.94	0.00	0.00	0.00
10,200.00	90.08	180.00	7,223.32	-3,178.94	485.97	3,178.94	0.00	0.00	0.00
10,300.00	90.08	180.00	7,223.18	-3,278.94	485.97	3,278.94	0.00	0.00	0.00
10,400.00	90.08	180.00	7,223.04	-3,378.94	485.97	3,378.94	0.00	0.00	0.00
10,500.00	90.08	180.00	7,222.90	-3,478.94	485.97	3,478.94	0.00	0.00	0.00
10,600.00	90.08	180.00	7,222.76	-3,578.94	485.97	3,578.94	0.00	0.00	0.00
10,700.00	90.08	180.00	7,222.62	-3,678.94	485.97	3,678.94	0.00	0.00	0.00
10,800.00	90.08	180.00	7,222.48	-3,778.94	485.97	3,778.94	0.00	0.00	0.00
10,900.00	90.08	180.00	7,222.34	-3,878.94	485.97	3,878.94	0.00	0.00	0.00
11,000.00	90.08	180.00	7,222.19	-3,978.94	485.97	3,978.94	0.00	0.00	0.00
11,100.00	90.08	180.00	7,222.05	-4,078.94	485.97	4,078.94	0.00	0.00	0.00
11,200.00	90.08	180.00	7,221.91	-4,178.94	485.97	4,178.94	0.00	0.00	0.00
11,300.00	90.08	180.00	7,221.77	-4,278.94	485.97	4,278.94	0.00	0.00	0.00
11,400.00	90.08	180.00	7,221.63	-4,378.94	485.97	4,378.94	0.00	0.00	0.00
11,500.00	90.08	180.00	7,221.49	-4,478.94	485.97	4,478.94	0.00	0.00	0.00
11,600.00	90.08	180.00	7,221.35	-4,578.94	485.97	4,578.94	0.00	0.00	0.00
11,700.00	90.08	180.00	7,221.21	-4,678.94	485.97	4,678.94	0.00	0.00	0.00
11,800.00	90.08	180.00	7,221.07	-4,778.94	485.97	4,778.94	0.00	0.00	0.00
11,900.00	90.08	180.00	7,220.92	-4,878.94	485.97	4,878.94	0.00	0.00	0.00
12,000.00	90.08	180.00	7,220.78	-4,978.94	485.97	4,978.94	0.00	0.00	0.00
12,100.00	90.08	180.00	7,220.64	-5,078.94	485.97	5,078.94	0.00	0.00	0.00
12,200.00	90.08	180.00	7,220.50	-5,178.94	485.97	5,178.94	0.00	0.00	0.00
12,300.00	90.08	180.00	7,220.36	-5,278.94	485.97	5,278.94	0.00	0.00	0.00
12,400.00	90.08	180.00	7,220.22	-5,378.94	485.97	5,378.94	0.00	0.00	0.00
12,500.00	90.08	180.00	7,220.08	-5,478.94	485.97	5,478.94	0.00	0.00	0.00
12,600.00	90.08	180.00	7,219.94	-5,578.94	485.97	5,578.94	0.00	0.00	0.00
12,700.00	90.08	180.00	7,219.80	-5,678.94	485.97	5,678.94	0.00	0.00	0.00
12,800.00	90.08	180.00	7,219.66	-5,778.94	485.97	5,778.94	0.00	0.00	0.00
12,900.00	90.08	180.00	7,219.51	-5,878.94	485.97	5,878.94	0.00	0.00	0.00
13,000.00	90.08	180.00	7,219.37	-5,978.94	485.97	5,978.94	0.00	0.00	0.00
13,100.00	90.08	180.00	7,219.23	-6,078.94	485.97	6,078.94	0.00	0.00	0.00
13,200.00	90.08	180.00	7,219.09	-6,178.94	485.97	6,178.94	0.00	0.00	0.00
13,300.00	90.08	180.00	7,218.95	-6,278.94	485.97	6,278.94	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 16N-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 16N-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)
13,400.00	90.08	180.00	7,218.81	-6,378.94	485.97	6,378.94	0.00	0.00	0.00
13,500.00	90.08	180.00	7,218.67	-6,478.94	485.97	6,478.94	0.00	0.00	0.00
13,600.00	90.08	180.00	7,218.53	-6,578.94	485.97	6,578.94	0.00	0.00	0.00
13,700.00	90.08	180.00	7,218.39	-6,678.94	485.97	6,678.94	0.00	0.00	0.00
13,800.00	90.08	180.00	7,218.24	-6,778.94	485.97	6,778.94	0.00	0.00	0.00
13,900.00	90.08	180.00	7,218.10	-6,878.94	485.97	6,878.94	0.00	0.00	0.00
14,000.00	90.08	180.00	7,217.96	-6,978.94	485.97	6,978.94	0.00	0.00	0.00
14,100.00	90.08	180.00	7,217.82	-7,078.93	485.97	7,078.93	0.00	0.00	0.00
14,200.00	90.08	180.00	7,217.68	-7,178.93	485.97	7,178.93	0.00	0.00	0.00
14,300.00	90.08	180.00	7,217.54	-7,278.93	485.97	7,278.93	0.00	0.00	0.00
14,400.00	90.08	180.00	7,217.40	-7,378.93	485.97	7,378.93	0.00	0.00	0.00
14,500.00	90.08	180.00	7,217.26	-7,478.93	485.97	7,478.93	0.00	0.00	0.00
14,600.00	90.08	180.00	7,217.12	-7,578.93	485.97	7,578.93	0.00	0.00	0.00
14,682.23	90.08	180.00	7,217.00	-7,661.17	485.97	7,661.17	0.00	0.00	0.00
PBHL_AGGREGATE STATE 16N-16HZ(1' FSL 410' 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	7,217.00	-7,661.17	485.97	1,291,360.60	3,202,917.76	40.1308990	-104.7742900
- 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	
7,594.82	7,227.00	7"(1840 FSL 424 FEL)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
892.00	892.00	Fox Hills Base				
4,071.97	4,033.00	Parkman				
4,479.98	4,440.00	Sussex				
7,200.36	7,097.00	Sharon Springs				
7,333.99	7,169.00	Niobrara A				
7,401.63	7,195.00	Niobrara B				

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well AGGREGATE STATE 16N-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 16N-16HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,142.00	1,142.00	0.00	0.00	Start Build 2.00
1,642.08	1,639.54	0.00	43.54	Start 2296.82 hold at 1642.08 MD
3,938.90	3,901.46	0.00	442.44	Start Drop -2.00
4,438.98	4,399.00	0.00	485.97	Start 2255.04 hold at 4438.98 MD
6,694.02	6,654.04	0.00	485.97	Start DLS 10.00 TFO 180.00
7,594.82	7,227.00	-573.77	485.97	Start 7087.41 hold at 7594.82 MD
14,682.24	7,217.00	-7,661.17	485.97	TD at 14682.24