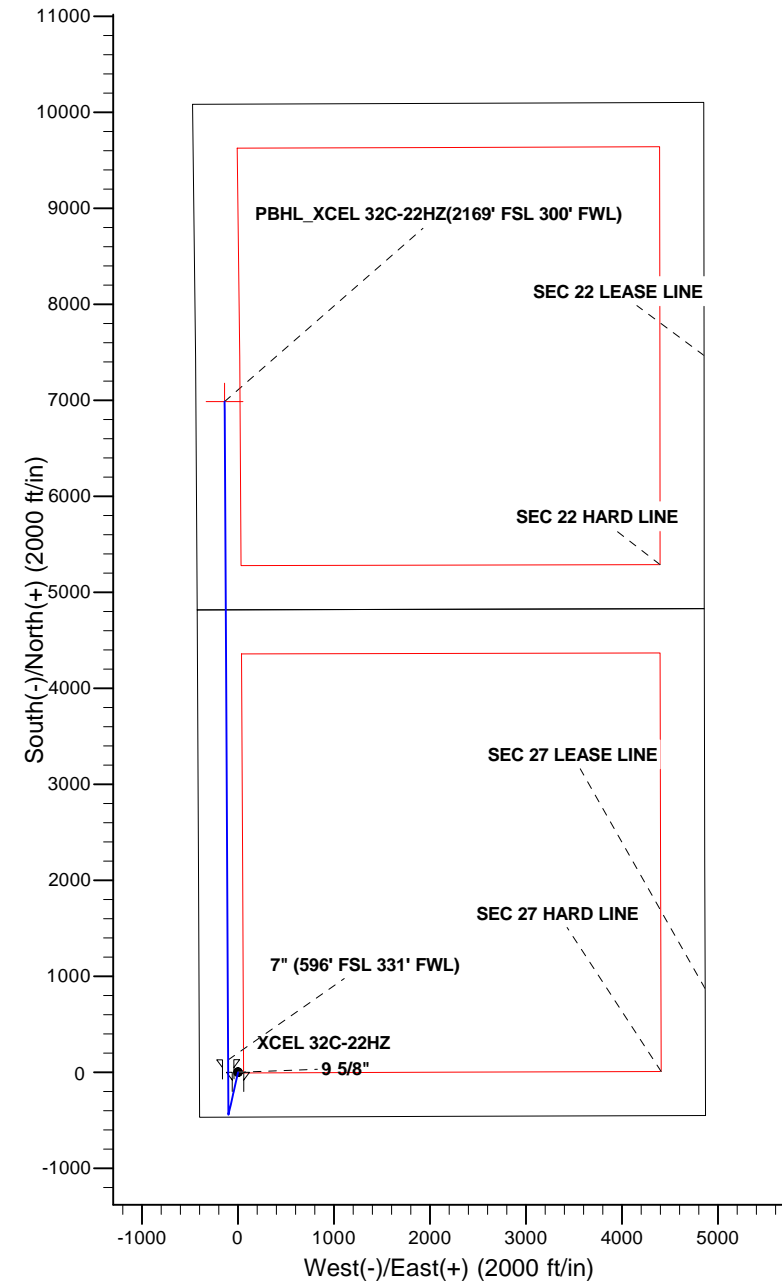
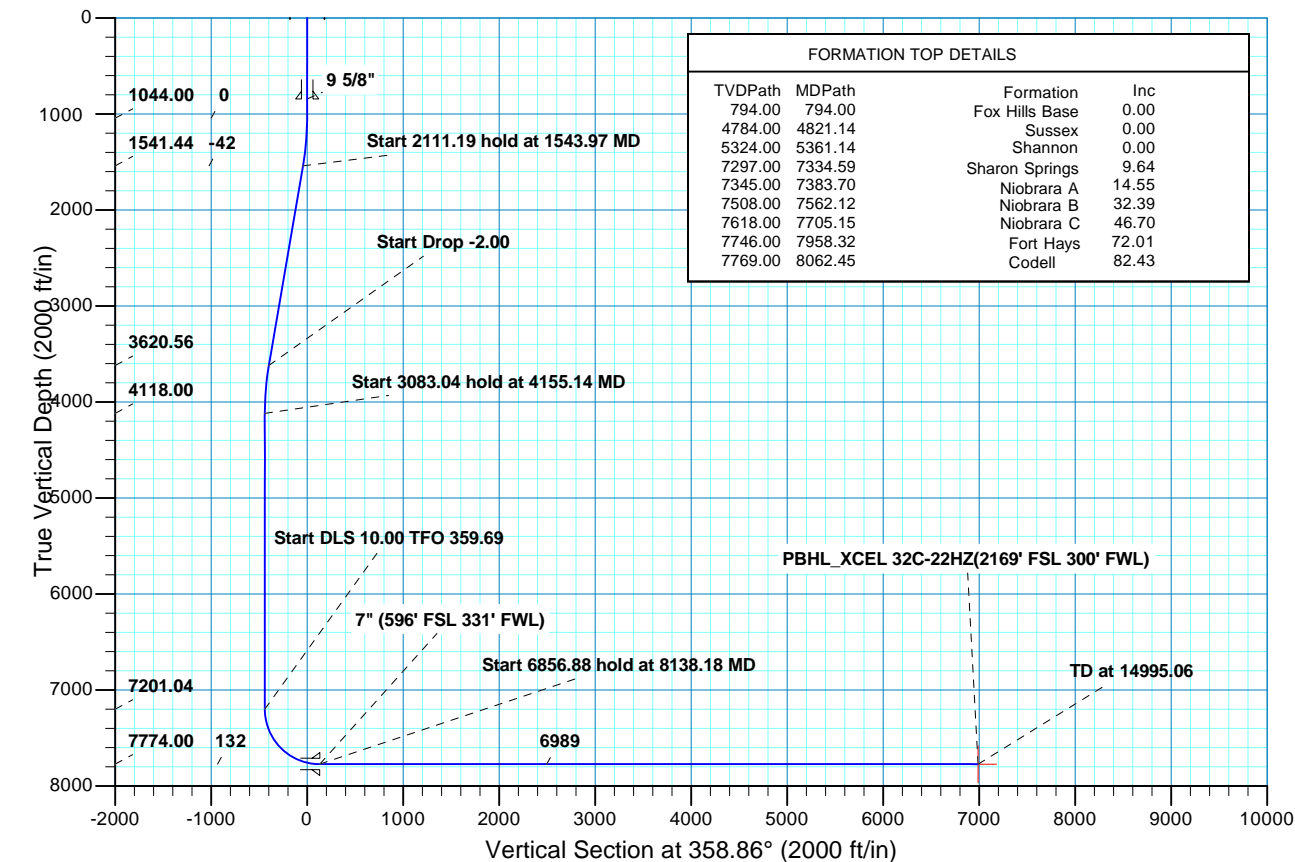


WELL DETAILS: XCEL 32C-22HZ											
GL 5027' & KB 17' @ 5043.00ft (ASSUMED)											
+N/-S		+E/-W		Northing		Easting		Latitude		Longitude	
0.00		0.00		1249310.81		3172361.91		40.0161030		-104.8846090	
SECTION DETAILS											
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1044.00	0.00	0.00	1044.00	0.00	0.00	0.00	0.00	0.00	0.00		
1543.97	10.00	192.68	1541.44	-42.46	-9.56	2.00	192.68	-42.26			
3655.16	10.00	192.68	3620.56	-400.09	-90.05	0.00	0.00	-398.22			
4155.14	0.00	0.00	4118.00	-442.55	-99.61	2.00	180.00	-440.48			
7238.18	0.00	0.00	7201.04	-442.55	-99.61	0.00	0.00	-440.48			
8138.18	90.00	359.69	7774.00	130.40	-102.66	10.00	359.69	132.42			
14995.06	90.00	359.69	7774.00	6987.18	-139.16	0.00	0.00	6988.57	PBHL_XCEL 32C-22HZ(2169' FSL 300' FWL)		
							CASING DETAILS				
							TVD	MD	Name	Size	
							844.00	844.00	9 5/8"	9.625	
							7774.00	8138.18	7"	4.500	





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

XCEL 12N-22HZ 1N67W27 Pad

XCEL 32C-22HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

30 May, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well XCEL 32C-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Site:	XCEL 12N-22HZ 1N67W27 Pad	North Reference:	True
Well:	XCEL 32C-22HZ	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	XCEL 12N-22HZ 1N67W27 Pad, SECTION 27 T1N R67W			
Site Position:		Northing:	1,249,341.05 usft	Latitude: 40.0161860
From:	Lat/Long	Easting:	3,172,361.42 usft	Longitude: -104.8846100
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.40 °

Well	XCEL 32C-22HZ, 465' FSL 403' FWL			
Well Position	+N/-S	-30.25 ft	Northing:	1,249,310.81 usft
	+E/-W	0.28 ft	Easting:	3,172,361.91 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 5,026.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2013/05/29	8.69	66.63	52,609

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	358.86

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	
1,044.00	0.00	0.00	1,044.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,543.97	10.00	192.68	1,541.44	-42.46	-9.56	2.00	2.00	0.00	192.68	
3,655.16	10.00	192.68	3,620.56	-400.09	-90.05	0.00	0.00	0.00	0.00	
4,155.14	0.00	0.00	4,118.00	-442.55	-99.61	2.00	-2.00	0.00	180.00	
7,238.18	0.00	0.00	7,201.04	-442.55	-99.61	0.00	0.00	0.00	0.00	
8,138.18	90.00	359.69	7,774.00	130.40	-102.66	10.00	10.00	-0.03	359.69	
14,995.06	90.00	359.69	7,774.00	6,987.18	-139.16	0.00	0.00	0.00	0.00	PBHL_XCEL 32C-22H

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well XCEL 32C-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Site:	XCEL 12N-22HZ 1N67W27 Pad	North Reference:	True
Well:	XCEL 32C-22HZ	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
794.00	0.00	0.00	794.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
844.00	0.00	0.00	844.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
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
1,044.00	0.00	0.00	1,044.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	1.12	192.68	1,100.00	-0.53	-0.12	-0.53	2.00	2.00	0.00
1,200.00	3.12	192.68	1,199.92	-4.14	-0.93	-4.12	2.00	2.00	0.00
1,300.00	5.12	192.68	1,299.66	-11.15	-2.51	-11.10	2.00	2.00	0.00
1,400.00	7.12	192.68	1,399.08	-21.55	-4.85	-21.45	2.00	2.00	0.00
1,500.00	9.12	192.68	1,498.08	-35.33	-7.95	-35.17	2.00	2.00	0.00
1,543.97	10.00	192.68	1,541.44	-42.46	-9.56	-42.26	2.00	2.00	0.00
Start 2111.19 hold at 1543.97 MD									
1,600.00	10.00	192.68	1,596.61	-51.95	-11.69	-51.70	0.00	0.00	0.00
1,700.00	10.00	192.68	1,695.10	-68.89	-15.51	-68.56	0.00	0.00	0.00
1,800.00	10.00	192.68	1,793.58	-85.83	-19.32	-85.43	0.00	0.00	0.00
1,900.00	10.00	192.68	1,892.06	-102.77	-23.13	-102.29	0.00	0.00	0.00
2,000.00	10.00	192.68	1,990.54	-119.71	-26.94	-119.15	0.00	0.00	0.00
2,100.00	10.00	192.68	2,089.02	-136.65	-30.76	-136.01	0.00	0.00	0.00
2,200.00	10.00	192.68	2,187.50	-153.59	-34.57	-152.87	0.00	0.00	0.00
2,300.00	10.00	192.68	2,285.98	-170.53	-38.38	-169.73	0.00	0.00	0.00
2,400.00	10.00	192.68	2,384.46	-187.47	-42.20	-186.59	0.00	0.00	0.00
2,500.00	10.00	192.68	2,482.94	-204.41	-46.01	-203.45	0.00	0.00	0.00
2,600.00	10.00	192.68	2,581.42	-221.35	-49.82	-220.31	0.00	0.00	0.00
2,700.00	10.00	192.68	2,679.91	-238.29	-53.63	-237.17	0.00	0.00	0.00
2,800.00	10.00	192.68	2,778.39	-255.23	-57.45	-254.03	0.00	0.00	0.00
2,900.00	10.00	192.68	2,876.87	-272.17	-61.26	-270.89	0.00	0.00	0.00
3,000.00	10.00	192.68	2,975.35	-289.11	-65.07	-287.76	0.00	0.00	0.00
3,100.00	10.00	192.68	3,073.83	-306.05	-68.89	-304.62	0.00	0.00	0.00
3,200.00	10.00	192.68	3,172.31	-322.99	-72.70	-321.48	0.00	0.00	0.00
3,300.00	10.00	192.68	3,270.79	-339.93	-76.51	-338.34	0.00	0.00	0.00
3,400.00	10.00	192.68	3,369.27	-356.87	-80.32	-355.20	0.00	0.00	0.00
3,500.00	10.00	192.68	3,467.75	-373.81	-84.14	-372.06	0.00	0.00	0.00
3,600.00	10.00	192.68	3,566.23	-390.75	-87.95	-388.92	0.00	0.00	0.00
3,655.16	10.00	192.68	3,620.56	-400.09	-90.05	-398.22	0.00	0.00	0.00
Start Drop -2.00									
3,700.00	9.10	192.68	3,664.77	-407.35	-91.69	-405.45	2.00	-2.00	0.00
3,800.00	7.10	192.68	3,763.77	-421.10	-94.78	-419.13	2.00	-2.00	0.00
3,900.00	5.10	192.68	3,863.20	-431.47	-97.12	-429.45	2.00	-2.00	0.00
4,000.00	3.10	192.68	3,962.94	-438.45	-98.69	-436.40	2.00	-2.00	0.00
4,100.00	1.10	192.68	4,062.86	-442.03	-99.49	-439.96	2.00	-2.00	0.00
4,155.14	0.00	0.00	4,118.00	-442.55	-99.61	-440.48	2.00	-2.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well XCEL 32C-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Site:	XCEL 12N-22HZ 1N67W27 Pad	North Reference:	True
Well:	XCEL 32C-22HZ	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)
Start 3083.04 hold at 4155.14 MD									
4,200.00	0.00	0.00	4,162.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
4,300.00	0.00	0.00	4,262.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
4,400.00	0.00	0.00	4,362.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
4,500.00	0.00	0.00	4,462.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
4,600.00	0.00	0.00	4,562.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
4,700.00	0.00	0.00	4,662.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
4,800.00	0.00	0.00	4,762.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
4,821.14	0.00	0.00	4,784.00	-442.55	-99.61	-440.48	0.00	0.00	0.00
Sussex									
4,900.00	0.00	0.00	4,862.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,000.00	0.00	0.00	4,962.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,100.00	0.00	0.00	5,062.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,200.00	0.00	0.00	5,162.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,300.00	0.00	0.00	5,262.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,361.14	0.00	0.00	5,324.00	-442.55	-99.61	-440.48	0.00	0.00	0.00
Shannon									
5,400.00	0.00	0.00	5,362.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,500.00	0.00	0.00	5,462.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,600.00	0.00	0.00	5,562.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,700.00	0.00	0.00	5,662.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,800.00	0.00	0.00	5,762.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
5,900.00	0.00	0.00	5,862.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,000.00	0.00	0.00	5,962.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,100.00	0.00	0.00	6,062.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,200.00	0.00	0.00	6,162.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,300.00	0.00	0.00	6,262.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,400.00	0.00	0.00	6,362.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,500.00	0.00	0.00	6,462.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,600.00	0.00	0.00	6,562.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,700.00	0.00	0.00	6,662.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,800.00	0.00	0.00	6,762.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
6,900.00	0.00	0.00	6,862.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
7,000.00	0.00	0.00	6,962.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
7,100.00	0.00	0.00	7,062.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
7,200.00	0.00	0.00	7,162.86	-442.55	-99.61	-440.48	0.00	0.00	0.00
7,238.18	0.00	0.00	7,201.04	-442.55	-99.61	-440.48	0.00	0.00	0.00
Start DLS 10.00 TFO 359.69									
7,300.00	6.18	359.69	7,262.74	-439.22	-99.63	-437.15	10.00	10.00	0.00
7,334.59	9.64	359.69	7,297.00	-434.46	-99.65	-432.39	10.00	10.00	0.00
Sharon Springs									
7,383.70	14.55	359.69	7,345.00	-424.17	-99.71	-422.10	10.00	10.00	0.00
Niobrara A									
7,400.00	16.18	359.69	7,360.72	-419.85	-99.73	-417.78	10.00	10.00	0.00
7,500.00	26.18	359.69	7,453.84	-383.76	-99.92	-381.70	10.00	10.00	0.00
7,562.12	32.39	359.69	7,508.00	-353.39	-100.08	-351.32	10.00	10.00	0.00
Niobrara B									
7,600.00	36.18	359.69	7,539.29	-332.05	-100.20	-329.99	10.00	10.00	0.00
7,700.00	46.18	359.69	7,614.45	-266.29	-100.55	-264.24	10.00	10.00	0.00
7,705.15	46.70	359.69	7,618.00	-262.56	-100.57	-260.51	10.00	10.00	0.00
Niobrara C									
7,800.00	56.18	359.69	7,677.06	-188.48	-100.96	-186.43	10.00	10.00	0.00
7,900.00	66.18	359.69	7,725.20	-100.98	-101.43	-98.94	10.00	10.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well XCEL 32C-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Site:	XCEL 12N-22HZ 1N67W27 Pad	North Reference:	True
Well:	XCEL 32C-22HZ	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)
7,958.32	72.01	359.69	7,746.00	-46.51	-101.72	-44.48	10.00	10.00	0.00
Fort Hays									
8,000.00	76.18	359.69	7,757.42	-6.44	-101.93	-4.41	10.00	10.00	0.00
8,062.45	82.43	359.69	7,769.00	54.89	-102.26	56.91	10.00	10.00	0.00
Codell									
8,100.00	86.18	359.69	7,772.73	92.25	-102.46	94.27	10.00	10.00	0.00
8,138.18	90.00	359.69	7,774.00	130.40	-102.66	132.42	10.00	10.00	0.00
Start 6856.88 hold at 8138.18 MD - 7" (596' FSL 331' FWL)									
8,200.00	90.00	359.69	7,774.00	192.22	-102.99	194.23	0.00	0.00	0.00
8,300.00	90.00	359.69	7,774.00	292.22	-103.52	294.22	0.00	0.00	0.00
8,400.00	90.00	359.69	7,774.00	392.22	-104.05	394.21	0.00	0.00	0.00
8,500.00	90.00	359.69	7,774.00	492.22	-104.59	494.20	0.00	0.00	0.00
8,600.00	90.00	359.69	7,774.00	592.21	-105.12	594.19	0.00	0.00	0.00
8,700.00	90.00	359.69	7,774.00	692.21	-105.65	694.18	0.00	0.00	0.00
8,800.00	90.00	359.69	7,774.00	792.21	-106.18	794.17	0.00	0.00	0.00
8,900.00	90.00	359.69	7,774.00	892.21	-106.72	894.16	0.00	0.00	0.00
9,000.00	90.00	359.69	7,774.00	992.21	-107.25	994.15	0.00	0.00	0.00
9,100.00	90.00	359.69	7,774.00	1,092.21	-107.78	1,094.14	0.00	0.00	0.00
9,200.00	90.00	359.69	7,774.00	1,192.21	-108.31	1,194.13	0.00	0.00	0.00
9,300.00	90.00	359.69	7,774.00	1,292.20	-108.85	1,294.12	0.00	0.00	0.00
9,400.00	90.00	359.69	7,774.00	1,392.20	-109.38	1,394.10	0.00	0.00	0.00
9,500.00	90.00	359.69	7,774.00	1,492.20	-109.91	1,494.09	0.00	0.00	0.00
9,600.00	90.00	359.69	7,774.00	1,592.20	-110.44	1,594.08	0.00	0.00	0.00
9,700.00	90.00	359.69	7,774.00	1,692.20	-110.98	1,694.07	0.00	0.00	0.00
9,800.00	90.00	359.69	7,774.00	1,792.20	-111.51	1,794.06	0.00	0.00	0.00
9,900.00	90.00	359.69	7,774.00	1,892.20	-112.04	1,894.05	0.00	0.00	0.00
10,000.00	90.00	359.69	7,774.00	1,992.19	-112.57	1,994.04	0.00	0.00	0.00
10,100.00	90.00	359.69	7,774.00	2,092.19	-113.10	2,094.03	0.00	0.00	0.00
10,200.00	90.00	359.69	7,774.00	2,192.19	-113.64	2,194.02	0.00	0.00	0.00
10,300.00	90.00	359.69	7,774.00	2,292.19	-114.17	2,294.01	0.00	0.00	0.00
10,400.00	90.00	359.69	7,774.00	2,392.19	-114.70	2,394.00	0.00	0.00	0.00
10,500.00	90.00	359.69	7,774.00	2,492.19	-115.23	2,493.99	0.00	0.00	0.00
10,600.00	90.00	359.69	7,774.00	2,592.19	-115.77	2,593.98	0.00	0.00	0.00
10,700.00	90.00	359.69	7,774.00	2,692.18	-116.30	2,693.97	0.00	0.00	0.00
10,800.00	90.00	359.69	7,774.00	2,792.18	-116.83	2,793.96	0.00	0.00	0.00
10,900.00	90.00	359.69	7,774.00	2,892.18	-117.36	2,893.95	0.00	0.00	0.00
11,000.00	90.00	359.69	7,774.00	2,992.18	-117.90	2,993.93	0.00	0.00	0.00
11,100.00	90.00	359.69	7,774.00	3,092.18	-118.43	3,093.92	0.00	0.00	0.00
11,200.00	90.00	359.69	7,774.00	3,192.18	-118.96	3,193.91	0.00	0.00	0.00
11,300.00	90.00	359.69	7,774.00	3,292.18	-119.49	3,293.90	0.00	0.00	0.00
11,400.00	90.00	359.69	7,774.00	3,392.17	-120.03	3,393.89	0.00	0.00	0.00
11,500.00	90.00	359.69	7,774.00	3,492.17	-120.56	3,493.88	0.00	0.00	0.00
11,600.00	90.00	359.69	7,774.00	3,592.17	-121.09	3,593.87	0.00	0.00	0.00
11,700.00	90.00	359.69	7,774.00	3,692.17	-121.62	3,693.86	0.00	0.00	0.00
11,800.00	90.00	359.69	7,774.00	3,792.17	-122.15	3,793.85	0.00	0.00	0.00
11,900.00	90.00	359.69	7,774.00	3,892.17	-122.69	3,893.84	0.00	0.00	0.00
12,000.00	90.00	359.69	7,774.00	3,992.17	-123.22	3,993.83	0.00	0.00	0.00
12,100.00	90.00	359.69	7,774.00	4,092.16	-123.75	4,093.82	0.00	0.00	0.00
12,200.00	90.00	359.69	7,774.00	4,192.16	-124.28	4,193.81	0.00	0.00	0.00
12,300.00	90.00	359.69	7,774.00	4,292.16	-124.82	4,293.80	0.00	0.00	0.00
12,400.00	90.00	359.69	7,774.00	4,392.16	-125.35	4,393.79	0.00	0.00	0.00
12,500.00	90.00	359.69	7,774.00	4,492.16	-125.88	4,493.78	0.00	0.00	0.00
12,600.00	90.00	359.69	7,774.00	4,592.16	-126.41	4,593.76	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well XCEL 32C-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Site:	XCEL 12N-22HZ 1N67W27 Pad	North Reference:	True
Well:	XCEL 32C-22HZ	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)
12,700.00	90.00	359.69	7,774.00	4,692.16	-126.95	4,693.75	0.00	0.00	0.00
12,800.00	90.00	359.69	7,774.00	4,792.15	-127.48	4,793.74	0.00	0.00	0.00
12,900.00	90.00	359.69	7,774.00	4,892.15	-128.01	4,893.73	0.00	0.00	0.00
13,000.00	90.00	359.69	7,774.00	4,992.15	-128.54	4,993.72	0.00	0.00	0.00
13,100.00	90.00	359.69	7,774.00	5,092.15	-129.08	5,093.71	0.00	0.00	0.00
13,200.00	90.00	359.69	7,774.00	5,192.15	-129.61	5,193.70	0.00	0.00	0.00
13,300.00	90.00	359.69	7,774.00	5,292.15	-130.14	5,293.69	0.00	0.00	0.00
13,400.00	90.00	359.69	7,774.00	5,392.15	-130.67	5,393.68	0.00	0.00	0.00
13,500.00	90.00	359.69	7,774.00	5,492.14	-131.21	5,493.67	0.00	0.00	0.00
13,600.00	90.00	359.69	7,774.00	5,592.14	-131.74	5,593.66	0.00	0.00	0.00
13,700.00	90.00	359.69	7,774.00	5,692.14	-132.27	5,693.65	0.00	0.00	0.00
13,800.00	90.00	359.69	7,774.00	5,792.14	-132.80	5,793.64	0.00	0.00	0.00
13,900.00	90.00	359.69	7,774.00	5,892.14	-133.33	5,893.63	0.00	0.00	0.00
14,000.00	90.00	359.69	7,774.00	5,992.14	-133.87	5,993.62	0.00	0.00	0.00
14,100.00	90.00	359.69	7,774.00	6,092.14	-134.40	6,093.60	0.00	0.00	0.00
14,200.00	90.00	359.69	7,774.00	6,192.14	-134.93	6,193.59	0.00	0.00	0.00
14,300.00	90.00	359.69	7,774.00	6,292.13	-135.46	6,293.58	0.00	0.00	0.00
14,400.00	90.00	359.69	7,774.00	6,392.13	-136.00	6,393.57	0.00	0.00	0.00
14,500.00	90.00	359.69	7,774.00	6,492.13	-136.53	6,493.56	0.00	0.00	0.00
14,600.00	90.00	359.69	7,774.00	6,592.13	-137.06	6,593.55	0.00	0.00	0.00
14,700.00	90.00	359.69	7,774.00	6,692.13	-137.59	6,693.54	0.00	0.00	0.00
14,800.00	90.00	359.69	7,774.00	6,792.13	-138.13	6,793.53	0.00	0.00	0.00
14,900.00	90.00	359.69	7,774.00	6,892.13	-138.66	6,893.52	0.00	0.00	0.00
14,995.06	90.00	359.69	7,774.00	6,987.18	-139.16	6,988.57	0.00	0.00	0.00
PBHL_XCEL 32C-22HZ(2169' FSL 300' FWL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_XCEL 32C-22HZ - hit/miss target - Shape - Point	0.00	0.00	7,774.00	6,987.18	-139.16	1,256,296.84	3,172,174.26	40.0352840	-104.8851060

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
844.00	844.00	9 5/8"	9.625	12.250	
8,138.18	7,774.00	7" (596' FSL 331' FWL)	4.500	6.125	

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well XCEL 32C-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5027' & KB 17' @ 5043.00ft (ASSUMED)
Site:	XCEL 12N-22HZ 1N67W27 Pad	North Reference:	True
Well:	XCEL 32C-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
794.00	794.00	Fox Hills Base			
4,821.14	4,784.00	Sussex			
5,361.14	5,324.00	Shannon			
7,334.59	7,297.00	Sharon Springs			
7,383.70	7,345.00	Niobrara A			
7,562.12	7,508.00	Niobrara B			
7,705.15	7,618.00	Niobrara C			
7,958.32	7,746.00	Fort Hays			
8,062.45	7,769.00	Codell			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,044.00	1,044.00	0.00	0.00	Start Build 2.00
1,543.97	1,541.44	-42.46	-9.56	Start 2111.19 hold at 1543.97 MD
3,655.16	3,620.56	-400.09	-90.05	Start Drop -2.00
4,155.14	4,118.00	-442.55	-99.61	Start 3083.04 hold at 4155.14 MD
7,238.18	7,201.04	-442.55	-99.61	Start DLS 10.00 TFO 359.69
8,138.18	7,774.00	130.40	-102.66	Start 6856.88 hold at 8138.18 MD
14,995.06	7,774.00	6,987.18	-139.16	TD at 14995.06