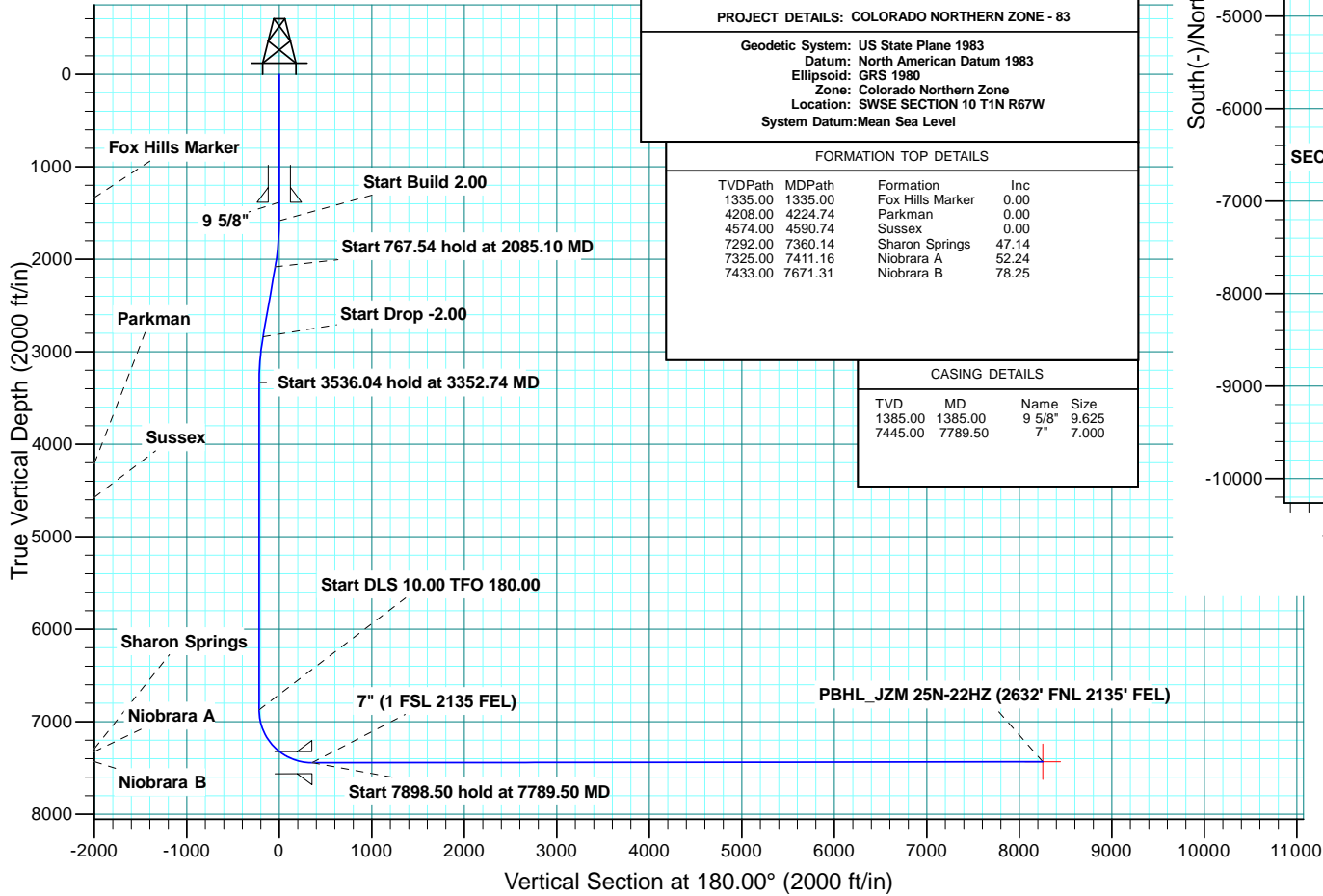
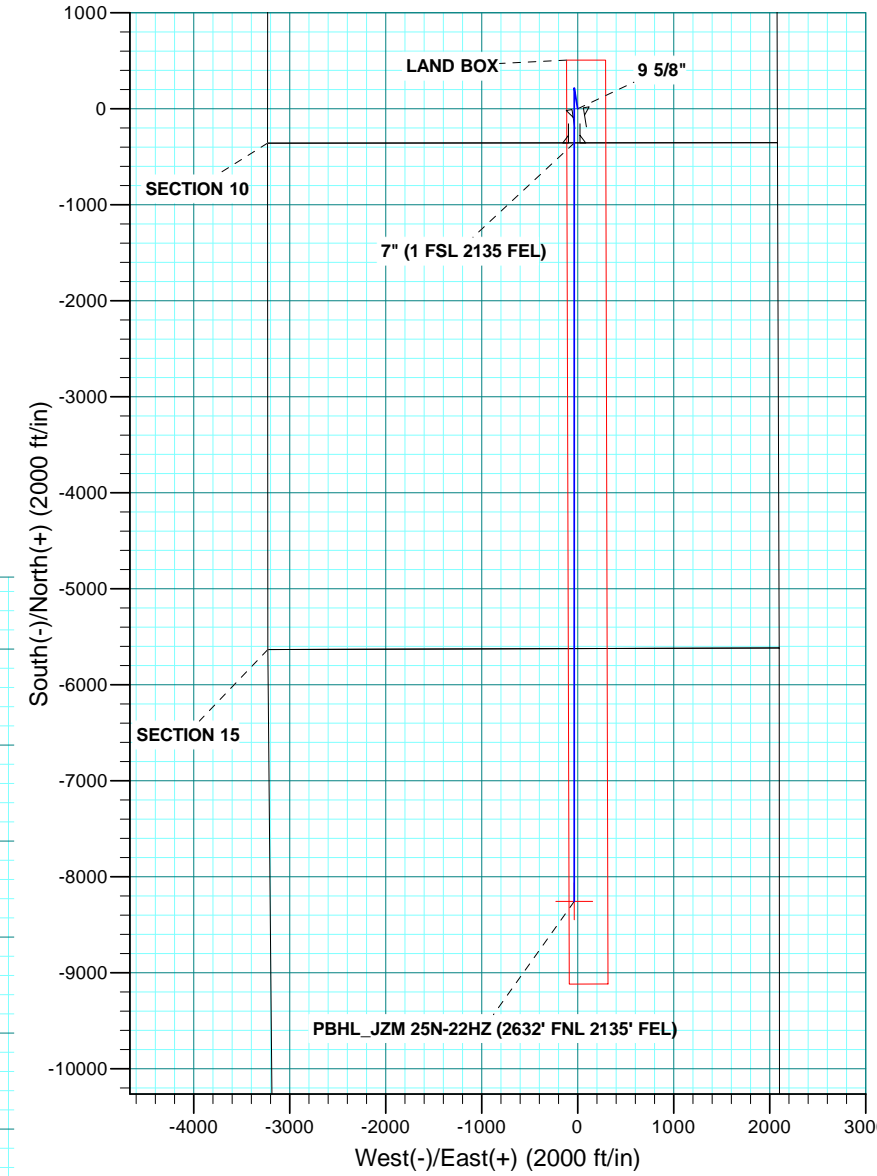


WELL DETAILS: JZM 25N-22HZ										
GL 5058 & KB 17 @ 5075.00r (ASSUME)										
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
		0.00	0.00	1265047.44	3175004.84	40.0592510	-104.8747770			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1585.00	0.00	0.00	1585.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
2085.10	10.00	351.01	2082.57	43.01	-6.80	2.00	351.01	-43.01		Start 767.54 hold at 2085.10 MD
2852.64	10.00	351.01	2838.43	174.67	-27.64	0.00	0.00	-174.67		Start Drop -2.00
3352.74	0.00	0.00	3336.00	217.68	-34.44	2.00	180.00	-217.68		Start 3536.04 hold at 3352.74 MD
6888.78	0.00	0.00	6872.04	217.68	-34.44	0.00	0.00	-217.68		Start DLS 10.00 TFO 180.00
7789.50	90.07	180.00	7445.00	-356.00	-34.44	10.00	180.00	356.00		Start 7898.50 hold at 7789.50 MD
15688.00	90.07	180.00	7435.00	-8254.50	-34.44	0.00	0.00	8254.50	PBHL_JZM 25N-22HZ	
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7435.00	-8254.50	-34.44	1256792.92	3175028.60	40.0365910	-104.8749000	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: SWSE SECTION 10 T1N R67W										
System Datum: Mean Sea Level										
FORMATION TOP DETAILS										
TVDPth	MDPath	Formation	Inc							
1335.00	1335.00	Fox Hills Marker	0.00							
4208.00	4224.74	Parkman	0.00							
4574.00	4590.74	Sussex	0.00							
7292.00	7360.14	Sharon Springs	47.14							
7325.00	7411.16	Niobrara A	52.24							
7433.00	7671.31	Niobrara B	78.25							
CASING DETAILS										
TVD	MD	Name	Size							
1385.00	1385.00	9 5/8"	9.625							
7445.00	7789.50	7"	7.000							





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

JZM 15-10HZ PAD

JZM 25N-22HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

06 January, 2014

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JZM 25N-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Site:	JZM 15-10HZ PAD	North Reference:	True
Well:	JZM 25N-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	JZM 15-10HZ PAD, SWSE SECTION 10 T1N R67W				
Site Position:	Northing:	1,265,047.23 usft	Latitude:	40.0592510	
From:	Lat/Long	Easting:	3,174,974.89 usft	Longitude:	-104.8748840
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.40 °

Well	JZM 25N-22HZ, 355' FSL 2079' FEL					
Well Position	+N/-S	-0.01 ft	Northing:	1,265,047.44 usft	Latitude:	40.0592510
	+E/-W	29.95 ft	Easting:	3,175,004.84 usft	Longitude:	-104.8747770
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,058.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	1/6/2014	8.59	66.66	52,591

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 (°/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	
1,585.00	0.00	0.00	1,585.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,085.10	10.00	351.01	2,082.57	43.01	-6.80	2.00	2.00	0.00	351.01	
2,852.64	10.00	351.01	2,838.43	174.67	-27.64	0.00	0.00	0.00	0.00	
3,352.74	0.00	0.00	3,336.00	217.68	-34.44	2.00	-2.00	0.00	180.00	
6,888.78	0.00	0.00	6,872.04	217.68	-34.44	0.00	0.00	0.00	0.00	
7,789.50	90.07	180.00	7,445.00	-356.00	-34.44	10.00	10.00	19.98	180.00	
15,688.00	90.07	180.00	7,435.00	-8,254.50	-34.44	0.00	0.00	0.00	0.00	PBHL_JZM 25N-22HZ

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JZM 25N-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Site:	JZM 15-10HZ PAD	North Reference:	True
Well:	JZM 25N-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 (°/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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
700.00	0.00	0.00	700.00	0.00	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	0.00
900.00	0.00	0.00	900.00	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	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,335.00	0.00	0.00	1,335.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Marker										
1,385.00	0.00	0.00	1,385.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,585.00	0.00	0.00	1,585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00										
1,600.00	0.30	351.01	1,600.00	0.04	-0.01	-0.04	2.00	2.00	0.00	0.00
1,700.00	2.30	351.01	1,699.97	2.28	-0.36	-2.28	2.00	2.00	0.00	0.00
1,800.00	4.30	351.01	1,799.80	7.96	-1.26	-7.96	2.00	2.00	0.00	0.00
1,900.00	6.30	351.01	1,899.37	17.09	-2.70	-17.09	2.00	2.00	0.00	0.00
2,000.00	8.30	351.01	1,998.55	29.64	-4.69	-29.64	2.00	2.00	0.00	0.00
2,085.10	10.00	351.01	2,082.57	43.01	-6.80	-43.01	2.00	2.00	0.00	0.00
Start 767.54 hold at 2085.10 MD										
2,100.00	10.00	351.01	2,097.24	45.56	-7.21	-45.56	0.00	0.00	0.00	0.00
2,200.00	10.00	351.01	2,195.72	62.72	-9.92	-62.72	0.00	0.00	0.00	0.00
2,300.00	10.00	351.01	2,294.20	79.87	-12.64	-79.87	0.00	0.00	0.00	0.00
2,400.00	10.00	351.01	2,392.68	97.03	-15.35	-97.03	0.00	0.00	0.00	0.00
2,500.00	10.00	351.01	2,491.16	114.18	-18.07	-114.18	0.00	0.00	0.00	0.00
2,600.00	10.00	351.01	2,589.64	131.34	-20.78	-131.34	0.00	0.00	0.00	0.00
2,700.00	10.00	351.01	2,688.12	148.49	-23.49	-148.49	0.00	0.00	0.00	0.00
2,800.00	10.00	351.01	2,786.60	165.65	-26.21	-165.65	0.00	0.00	0.00	0.00
2,852.64	10.00	351.01	2,838.43	174.67	-27.64	-174.67	0.00	0.00	0.00	0.00
Start Drop -2.00										
2,900.00	9.05	351.01	2,885.14	182.42	-28.86	-182.42	2.00	-2.00	0.00	0.00
3,000.00	7.05	351.01	2,984.15	196.26	-31.05	-196.26	2.00	-2.00	0.00	0.00
3,100.00	5.05	351.01	3,083.59	206.68	-32.70	-206.68	2.00	-2.00	0.00	0.00
3,200.00	3.05	351.01	3,183.33	213.66	-33.80	-213.66	2.00	-2.00	0.00	0.00
3,300.00	1.05	351.01	3,283.27	217.20	-34.36	-217.20	2.00	-2.00	0.00	0.00
3,352.74	0.00	0.00	3,336.00	217.68	-34.44	-217.68	2.00	-2.00	0.00	0.00
Start 3536.04 hold at 3352.74 MD										
3,400.00	0.00	0.00	3,383.26	217.68	-34.44	-217.68	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,483.26	217.68	-34.44	-217.68	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,583.26	217.68	-34.44	-217.68	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,683.26	217.68	-34.44	-217.68	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,783.26	217.68	-34.44	-217.68	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,883.26	217.68	-34.44	-217.68	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	3,983.26	217.68	-34.44	-217.68	0.00	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JZM 25N-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Site:	JZM 15-10HZ PAD	North Reference:	True
Well:	JZM 25N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,100.00	0.00	0.00	4,083.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,183.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,224.74	0.00	0.00	4,208.00	217.68	-34.44	-217.68	0.00	0.00	0.00	
Parkman										
4,300.00	0.00	0.00	4,283.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,383.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,483.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,590.74	0.00	0.00	4,574.00	217.68	-34.44	-217.68	0.00	0.00	0.00	
Sussex										
4,600.00	0.00	0.00	4,583.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,683.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,783.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,883.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,983.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,083.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,183.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,283.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,383.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,483.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,583.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,683.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,783.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,883.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,983.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,083.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,183.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,283.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,383.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,483.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,583.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,683.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,783.26	217.68	-34.44	-217.68	0.00	0.00	0.00	
6,888.78	0.00	0.00	6,872.04	217.68	-34.44	-217.68	0.00	0.00	0.00	
Start DLS 10.00 TFO 180.00										
6,900.00	1.12	180.00	6,883.26	217.57	-34.44	-217.57	10.00	10.00	0.00	
7,000.00	11.12	180.00	6,982.57	206.92	-34.44	-206.92	10.00	10.00	0.00	
7,100.00	21.12	180.00	7,078.51	179.19	-34.44	-179.19	10.00	10.00	0.00	
7,200.00	31.12	180.00	7,168.18	135.21	-34.44	-135.21	10.00	10.00	0.00	
7,300.00	41.12	180.00	7,248.86	76.34	-34.44	-76.34	10.00	10.00	0.00	
7,360.14	47.14	180.00	7,292.00	34.48	-34.44	-34.48	10.00	10.00	0.00	
Sharon Springs										
7,400.00	51.12	180.00	7,318.08	4.35	-34.44	-4.35	10.00	10.00	0.00	
7,411.16	52.24	180.00	7,325.00	-4.41	-34.44	4.41	10.00	10.00	0.00	
Niobrara A										
7,500.00	61.12	180.00	7,373.75	-78.57	-34.44	78.57	10.00	10.00	0.00	
7,600.00	71.12	180.00	7,414.18	-169.90	-34.44	169.90	10.00	10.00	0.00	
7,671.31	78.25	180.00	7,433.00	-238.63	-34.44	238.63	10.00	10.00	0.00	
Niobrara B										
7,700.00	81.12	180.00	7,438.13	-266.85	-34.44	266.85	10.00	10.00	0.00	
7,789.50	90.07	180.00	7,445.00	-356.00	-34.44	356.00	10.00	10.00	0.00	
Start 7898.50 hold at 7789.50 MD - 7" (1 FSL 2135 FEL)										
7,800.00	90.07	180.00	7,444.99	-366.50	-34.44	366.50	0.00	0.00	0.00	
7,900.00	90.07	180.00	7,444.86	-466.50	-34.44	466.50	0.00	0.00	0.00	

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JZM 25N-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Site:	JZM 15-10HZ PAD	North Reference:	True
Well:	JZM 25N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,000.00	90.07	180.00	7,444.73	-566.50	-34.44	566.50	0.00	0.00	0.00
8,100.00	90.07	180.00	7,444.61	-666.50	-34.44	666.50	0.00	0.00	0.00
8,200.00	90.07	180.00	7,444.48	-766.50	-34.44	766.50	0.00	0.00	0.00
8,300.00	90.07	180.00	7,444.35	-866.50	-34.44	866.50	0.00	0.00	0.00
8,400.00	90.07	180.00	7,444.23	-966.50	-34.44	966.50	0.00	0.00	0.00
8,500.00	90.07	180.00	7,444.10	-1,066.50	-34.44	1,066.50	0.00	0.00	0.00
8,600.00	90.07	180.00	7,443.97	-1,166.50	-34.44	1,166.50	0.00	0.00	0.00
8,700.00	90.07	180.00	7,443.85	-1,266.50	-34.44	1,266.50	0.00	0.00	0.00
8,800.00	90.07	180.00	7,443.72	-1,366.50	-34.44	1,366.50	0.00	0.00	0.00
8,900.00	90.07	180.00	7,443.59	-1,466.50	-34.44	1,466.50	0.00	0.00	0.00
9,000.00	90.07	180.00	7,443.47	-1,566.50	-34.44	1,566.50	0.00	0.00	0.00
9,100.00	90.07	180.00	7,443.34	-1,666.50	-34.44	1,666.50	0.00	0.00	0.00
9,200.00	90.07	180.00	7,443.21	-1,766.50	-34.44	1,766.50	0.00	0.00	0.00
9,300.00	90.07	180.00	7,443.09	-1,866.50	-34.44	1,866.50	0.00	0.00	0.00
9,400.00	90.07	180.00	7,442.96	-1,966.50	-34.44	1,966.50	0.00	0.00	0.00
9,500.00	90.07	180.00	7,442.83	-2,066.50	-34.44	2,066.50	0.00	0.00	0.00
9,600.00	90.07	180.00	7,442.71	-2,166.50	-34.44	2,166.50	0.00	0.00	0.00
9,700.00	90.07	180.00	7,442.58	-2,266.50	-34.44	2,266.50	0.00	0.00	0.00
9,800.00	90.07	180.00	7,442.45	-2,366.50	-34.44	2,366.50	0.00	0.00	0.00
9,900.00	90.07	180.00	7,442.33	-2,466.50	-34.44	2,466.50	0.00	0.00	0.00
10,000.00	90.07	180.00	7,442.20	-2,566.50	-34.44	2,566.50	0.00	0.00	0.00
10,100.00	90.07	180.00	7,442.07	-2,666.50	-34.44	2,666.50	0.00	0.00	0.00
10,200.00	90.07	180.00	7,441.95	-2,766.50	-34.44	2,766.50	0.00	0.00	0.00
10,300.00	90.07	180.00	7,441.82	-2,866.50	-34.44	2,866.50	0.00	0.00	0.00
10,400.00	90.07	180.00	7,441.69	-2,966.50	-34.44	2,966.50	0.00	0.00	0.00
10,500.00	90.07	180.00	7,441.57	-3,066.50	-34.44	3,066.50	0.00	0.00	0.00
10,600.00	90.07	180.00	7,441.44	-3,166.50	-34.44	3,166.50	0.00	0.00	0.00
10,700.00	90.07	180.00	7,441.31	-3,266.50	-34.44	3,266.50	0.00	0.00	0.00
10,800.00	90.07	180.00	7,441.19	-3,366.50	-34.44	3,366.50	0.00	0.00	0.00
10,900.00	90.07	180.00	7,441.06	-3,466.50	-34.44	3,466.50	0.00	0.00	0.00
11,000.00	90.07	180.00	7,440.93	-3,566.50	-34.44	3,566.50	0.00	0.00	0.00
11,100.00	90.07	180.00	7,440.81	-3,666.50	-34.44	3,666.50	0.00	0.00	0.00
11,200.00	90.07	180.00	7,440.68	-3,766.50	-34.44	3,766.50	0.00	0.00	0.00
11,300.00	90.07	180.00	7,440.55	-3,866.50	-34.44	3,866.50	0.00	0.00	0.00
11,400.00	90.07	180.00	7,440.43	-3,966.50	-34.44	3,966.50	0.00	0.00	0.00
11,500.00	90.07	180.00	7,440.30	-4,066.50	-34.44	4,066.50	0.00	0.00	0.00
11,600.00	90.07	180.00	7,440.18	-4,166.50	-34.44	4,166.50	0.00	0.00	0.00
11,700.00	90.07	180.00	7,440.05	-4,266.50	-34.44	4,266.50	0.00	0.00	0.00
11,800.00	90.07	180.00	7,439.92	-4,366.50	-34.44	4,366.50	0.00	0.00	0.00
11,900.00	90.07	180.00	7,439.80	-4,466.50	-34.44	4,466.50	0.00	0.00	0.00
12,000.00	90.07	180.00	7,439.67	-4,566.50	-34.44	4,566.50	0.00	0.00	0.00
12,100.00	90.07	180.00	7,439.54	-4,666.50	-34.44	4,666.50	0.00	0.00	0.00
12,200.00	90.07	180.00	7,439.42	-4,766.50	-34.44	4,766.50	0.00	0.00	0.00
12,300.00	90.07	180.00	7,439.29	-4,866.50	-34.44	4,866.50	0.00	0.00	0.00
12,400.00	90.07	180.00	7,439.16	-4,966.50	-34.44	4,966.50	0.00	0.00	0.00
12,500.00	90.07	180.00	7,439.04	-5,066.50	-34.44	5,066.50	0.00	0.00	0.00
12,600.00	90.07	180.00	7,438.91	-5,166.50	-34.44	5,166.50	0.00	0.00	0.00
12,700.00	90.07	180.00	7,438.78	-5,266.50	-34.44	5,266.50	0.00	0.00	0.00
12,800.00	90.07	180.00	7,438.66	-5,366.50	-34.44	5,366.50	0.00	0.00	0.00
12,900.00	90.07	180.00	7,438.53	-5,466.50	-34.44	5,466.50	0.00	0.00	0.00
13,000.00	90.07	180.00	7,438.40	-5,566.50	-34.44	5,566.50	0.00	0.00	0.00
13,100.00	90.07	180.00	7,438.28	-5,666.50	-34.44	5,666.50	0.00	0.00	0.00
13,200.00	90.07	180.00	7,438.15	-5,766.50	-34.44	5,766.50	0.00	0.00	0.00
13,300.00	90.07	180.00	7,438.02	-5,866.50	-34.44	5,866.50	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JZM 25N-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Site:	JZM 15-10HZ PAD	North Reference:	True
Well:	JZM 25N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,400.00	90.07	180.00	7,437.90	-5,966.50	-34.44	5,966.50	0.00	0.00	0.00	
13,500.00	90.07	180.00	7,437.77	-6,066.50	-34.44	6,066.50	0.00	0.00	0.00	
13,600.00	90.07	180.00	7,437.64	-6,166.50	-34.44	6,166.50	0.00	0.00	0.00	
13,700.00	90.07	180.00	7,437.52	-6,266.49	-34.44	6,266.49	0.00	0.00	0.00	
13,800.00	90.07	180.00	7,437.39	-6,366.49	-34.44	6,366.49	0.00	0.00	0.00	
13,900.00	90.07	180.00	7,437.26	-6,466.49	-34.44	6,466.49	0.00	0.00	0.00	
14,000.00	90.07	180.00	7,437.14	-6,566.49	-34.44	6,566.49	0.00	0.00	0.00	
14,100.00	90.07	180.00	7,437.01	-6,666.49	-34.44	6,666.49	0.00	0.00	0.00	
14,200.00	90.07	180.00	7,436.88	-6,766.49	-34.44	6,766.49	0.00	0.00	0.00	
14,300.00	90.07	180.00	7,436.76	-6,866.49	-34.44	6,866.49	0.00	0.00	0.00	
14,400.00	90.07	180.00	7,436.63	-6,966.49	-34.44	6,966.49	0.00	0.00	0.00	
14,500.00	90.07	180.00	7,436.50	-7,066.49	-34.44	7,066.49	0.00	0.00	0.00	
14,600.00	90.07	180.00	7,436.38	-7,166.49	-34.44	7,166.49	0.00	0.00	0.00	
14,700.00	90.07	180.00	7,436.25	-7,266.49	-34.44	7,266.49	0.00	0.00	0.00	
14,800.00	90.07	180.00	7,436.12	-7,366.49	-34.44	7,366.49	0.00	0.00	0.00	
14,900.00	90.07	180.00	7,436.00	-7,466.49	-34.44	7,466.49	0.00	0.00	0.00	
15,000.00	90.07	180.00	7,435.87	-7,566.49	-34.44	7,566.49	0.00	0.00	0.00	
15,100.00	90.07	180.00	7,435.74	-7,666.49	-34.44	7,666.49	0.00	0.00	0.00	
15,200.00	90.07	180.00	7,435.62	-7,766.49	-34.44	7,766.49	0.00	0.00	0.00	
15,300.00	90.07	180.00	7,435.49	-7,866.49	-34.44	7,866.49	0.00	0.00	0.00	
15,400.00	90.07	180.00	7,435.36	-7,966.49	-34.44	7,966.49	0.00	0.00	0.00	
15,500.00	90.07	180.00	7,435.24	-8,066.49	-34.44	8,066.49	0.00	0.00	0.00	
15,600.00	90.07	180.00	7,435.11	-8,166.49	-34.44	8,166.49	0.00	0.00	0.00	
15,688.00	90.07	180.00	7,435.00	-8,254.50	-34.44	8,254.50	0.00	0.00	0.00	
TD at 15688.00 - PBHL_JZM 25N-22HZ (2632' FNL 2135' FEL)										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_JZM 25N-22HZ (; - hit/miss target - Shape - Point	0.00	0.00	7,435.00	-8,254.50	-34.44	1,256,792.92	3,175,028.60	40.0365910	-104.8749000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,385.00	1,385.00	9 5/8"	9.625	12.250	
7,789.50	7,445.00	7" (1 FSL 2135 FEL)	7.000	7.500	

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well JZM 25N-22HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5058 & KB 17 @ 5075.00ft (ASSUME)
Site:	JZM 15-10HZ PAD	North Reference:	True
Well:	JZM 25N-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,335.00	1,335.00	Fox Hills Marker			
4,224.74	4,208.00	Parkman			
4,590.74	4,574.00	Sussex			
7,360.14	7,292.00	Sharon Springs			
7,411.16	7,325.00	Niobrara A			
7,671.31	7,433.00	Niobrara B			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,585.00	1,585.00	0.00	0.00	Start Build 2.00	
2,085.10	2,082.57	43.01	-6.80	Start 767.54 hold at 2085.10 MD	
2,852.64	2,838.43	174.67	-27.64	Start Drop -2.00	
3,352.74	3,336.00	217.68	-34.44	Start 3536.04 hold at 3352.74 MD	
6,888.78	6,872.04	217.68	-34.44	Start DLS 10.00 TFO 180.00	
7,789.50	7,445.00	-356.00	-34.44	Start 7898.50 hold at 7789.50 MD	
15,688.00	7,435.00	-8,254.50	-34.44	TD at 15688.00	