



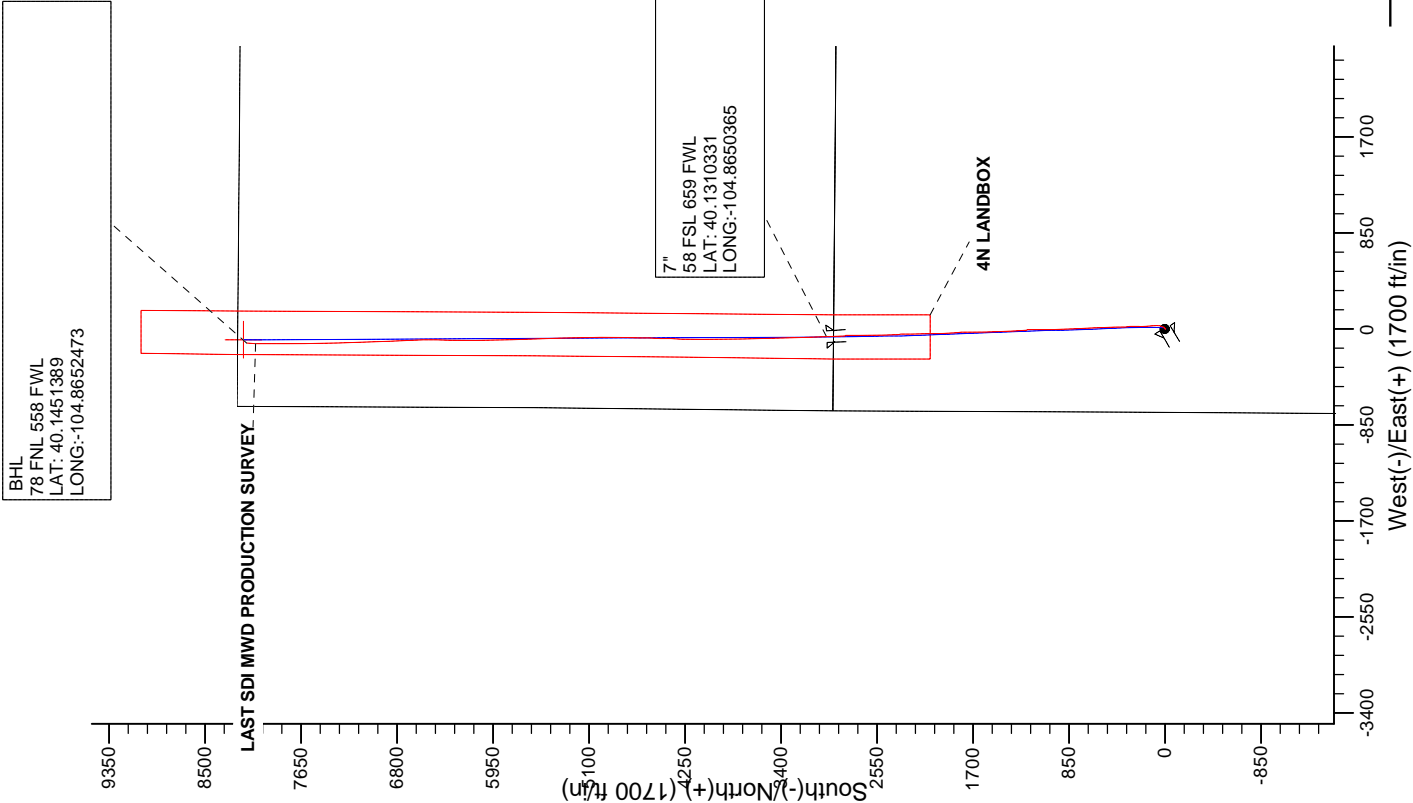
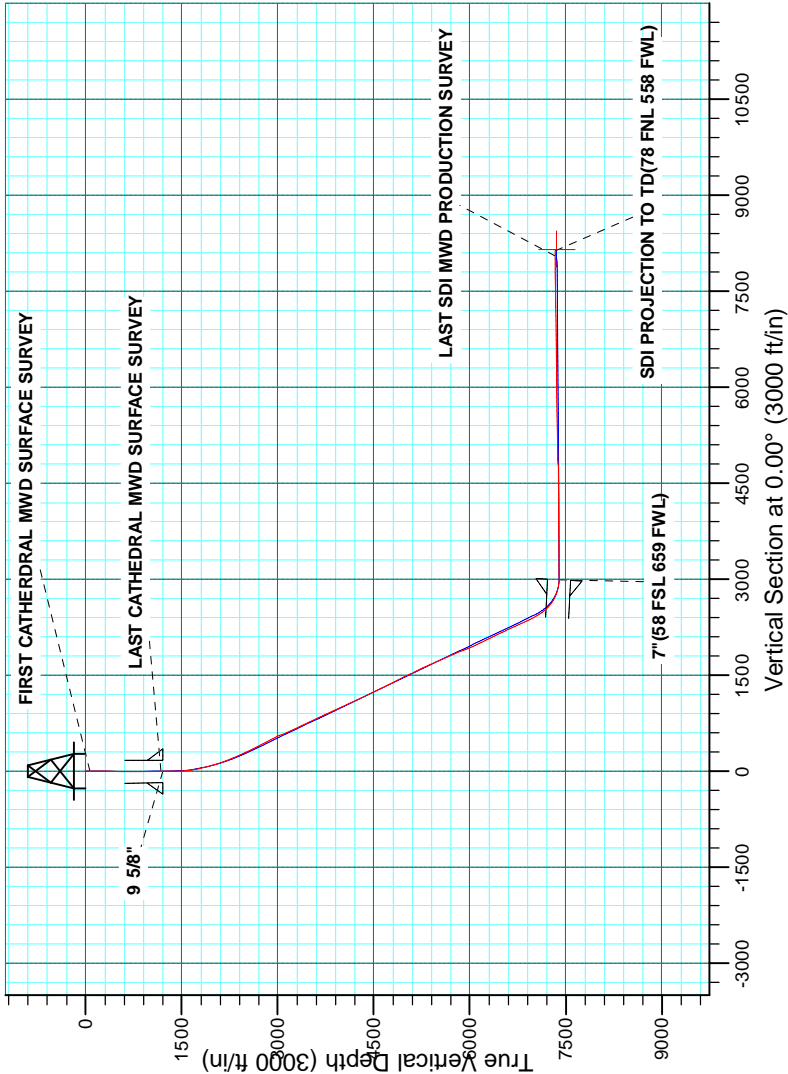
Project: COLORADO NORTHERN ZONE - 83  
Site: COBRA 12-23HZ PAD  
Well: COBRA 4N-14HZ  
Wellbore: OH  
Design: OH



WELL DETAILS: COBRA 4N-14HZ					
GL 4977 & KB 25 @ 5002.00R (HP 311)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1288221.64	3177634.36	40.1228149	-104.8647900

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 23 12N R67W	
System Datum: Mean Sea Level	

CASING DETAILS		
TVD	MD	Name
1212.87	1213.00	9 5/8"
7399.93	8270.00	7"
		7.000



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well COBRA 4N-14HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 4977 & KB 25 @ 5002.00ft (HP 311)
<b>Site:</b>	COBRA 12-23HZ PAD	<b>MD Reference:</b>	GL 4977 & KB 25 @ 5002.00ft (HP 311)
<b>Well:</b>	COBRA 4N-14HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

<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		

Site		COBRA 12-23HZ PAD, SECTION 23 T2N R67W			
Site Position:		Northing:	1,288,221.81 usft	Latitude:	40.1228160
From:	Lat/Long	Easting:	3,177,604.44 usft	Longitude:	-104.8648970
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.41 °

Well	COBRA 4N-14HZ, 2337 FSL 740 FWL					
Well Position	+N/-S	0.00 ft	Northing:	1,288,221.64 usft	Latitude:	40.1228150
	+E/-W	0.00 ft	Easting:	3,177,634.37 usft	Longitude:	-104.8647900
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,977.00 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	8/18/2014	8.52	66.69	52,550

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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	0.00	

<b>Survey Program</b>	<b>Date</b>	3/13/2015			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
19.00	1,178.00	Survey #1 CATHERDRAL MWD SURFAC	MWD	MWD - Standard	
1,261.00	13,411.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD+IFR	MWD + IFR correction	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19.00	0.00	0.00	19.00	0.00	0.00	0.00	0.00	0.00	0.00	
71.00	0.10	202.10	71.00	-0.04	-0.02	-0.04	0.19	0.19	0.00	
<b>FIRST CATHERDRAL MWD SURFACE SURVEY</b>										
181.00	1.00	244.30	180.99	-0.55	-0.92	-0.55	0.84	0.82	38.36	
259.00	0.80	267.20	258.98	-0.87	-2.08	-0.87	0.52	-0.26	29.36	
340.00	0.10	355.00	339.98	-0.83	-2.65	-0.83	0.99	-0.86	108.40	
419.00	0.90	164.80	418.98	-1.36	-2.49	-1.36	1.26	1.01	214.94	
499.00	0.20	236.40	498.98	-2.04	-2.44	-2.04	1.07	-0.88	89.50	
579.00	0.40	128.60	578.97	-2.29	-2.34	-2.29	0.62	0.25	-134.75	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well COBRA 4N-14HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 4977 & KB 25 @ 5002.00ft (HP 311)
<b>Site:</b>	COBRA 12-23HZ PAD	<b>MD Reference:</b>	GL 4977 & KB 25 @ 5002.00ft (HP 311)
<b>Well:</b>	COBRA 4N-14HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

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)
659.00	0.60	123.10	658.97	-2.69	-1.77	-2.69	0.26	0.25	-6.88
739.00	1.00	193.30	738.97	-3.60	-1.58	-3.60	1.22	0.50	87.75
819.00	0.20	279.50	818.96	-4.26	-1.88	-4.26	1.26	-1.00	107.75
899.00	1.20	53.00	898.96	-3.73	-1.35	-3.73	1.68	1.25	166.88
979.00	0.90	35.80	978.94	-2.72	-0.31	-2.72	0.54	-0.38	-21.50
1,059.00	1.60	65.80	1,058.92	-1.75	1.08	-1.75	1.17	0.88	37.50
1,139.00	1.80	60.40	1,138.89	-0.67	3.19	-0.67	0.32	0.25	-6.75
1,178.00	1.40	62.60	1,177.87	-0.15	4.14	-0.15	1.04	-1.03	5.64
LAST CATHEDRAL MWD SURFACE SURVEY									
1,213.00	0.75	60.23	1,212.87	0.16	4.72	0.16	1.87	-1.87	-6.78
9 5/8"									
1,261.00	0.17	268.09	1,260.87	0.31	4.92	0.31	1.87	-1.20	-316.96
FIRST SDI MWD PRODUCTION SURVEY									
1,353.00	1.57	72.08	1,352.85	0.70	5.98	0.70	1.88	1.52	178.25
1,444.00	3.34	42.18	1,443.77	3.04	8.95	3.04	2.34	1.95	-32.86
1,538.00	5.66	26.80	1,537.48	9.21	12.88	9.21	2.76	2.47	-16.36
1,632.00	8.08	20.08	1,630.80	19.56	17.24	19.56	2.71	2.57	-7.15
1,726.00	10.10	15.67	1,723.61	33.70	21.73	33.70	2.27	2.15	-4.69
1,821.00	12.20	5.94	1,816.82	51.71	25.02	51.71	2.96	2.21	-10.24
1,915.00	14.51	359.38	1,908.28	73.36	25.92	73.36	2.94	2.46	-6.98
2,009.00	16.44	358.52	1,998.87	98.44	25.45	98.44	2.07	2.05	-0.91
2,103.00	18.64	357.05	2,088.49	126.74	24.33	126.74	2.39	2.34	-1.56
2,198.00	20.50	359.09	2,178.00	158.54	23.29	158.54	2.09	1.96	2.15
2,292.00	22.10	356.65	2,265.58	192.65	21.99	192.65	1.95	1.70	-2.60
2,386.00	24.59	359.08	2,351.88	229.87	20.65	229.87	2.84	2.65	2.59
2,480.00	25.78	358.56	2,436.94	269.86	19.82	269.86	1.29	1.27	-0.55
2,575.00	24.30	357.74	2,523.01	310.04	18.53	310.04	1.60	-1.56	-0.86
2,669.00	26.21	358.56	2,608.02	350.13	17.24	350.13	2.07	2.03	0.87
2,763.00	24.84	358.26	2,692.85	390.61	16.12	390.61	1.46	-1.46	-0.32
2,857.00	26.63	359.88	2,777.52	431.42	15.48	431.42	2.05	1.90	1.72
2,951.00	26.39	359.43	2,861.64	473.38	15.23	473.38	0.33	-0.26	-0.48
3,045.00	26.12	358.74	2,945.94	514.95	14.56	514.95	0.43	-0.29	-0.73
3,139.00	25.71	357.93	3,030.49	556.01	13.37	556.01	0.58	-0.44	-0.86
3,233.00	24.39	356.32	3,115.65	595.76	11.39	595.76	1.58	-1.40	-1.71
3,328.00	25.02	355.72	3,201.95	635.37	8.63	635.37	0.71	0.66	-0.63
3,421.00	26.36	357.14	3,285.76	675.60	6.13	675.60	1.59	1.44	1.53
3,515.00	24.61	355.55	3,370.61	715.96	3.57	715.96	2.00	-1.86	-1.69
3,609.00	24.26	357.36	3,456.19	754.77	1.17	754.77	0.88	-0.37	1.93
3,703.00	24.90	359.71	3,541.67	793.85	0.18	793.85	1.24	0.68	2.50
3,798.00	25.61	0.57	3,627.59	834.38	0.28	834.38	0.84	0.75	0.91
3,892.00	23.11	358.65	3,713.22	873.14	0.05	873.14	2.79	-2.66	-2.04
3,986.00	23.16	356.42	3,799.66	910.04	-1.54	910.04	0.93	0.05	-2.37
4,175.00	24.63	359.11	3,972.46	986.52	-4.47	986.52	0.97	0.78	1.42
4,269.00	25.15	1.03	4,057.73	1,026.07	-4.42	1,026.07	1.02	0.55	2.04

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well COBRA 4N-14HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 4977 & KB 25 @ 5002.00ft (HP 311)
<b>Site:</b>	COBRA 12-23HZ PAD	<b>MD Reference:</b>	GL 4977 & KB 25 @ 5002.00ft (HP 311)
<b>Well:</b>	COBRA 4N-14HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

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)
4,364.00	25.91	359.31	4,143.46	1,067.01	-4.31	1,067.01	1.12	0.80	-1.81
4,552.00	25.58	357.79	4,312.80	1,148.64	-6.37	1,148.64	0.39	-0.18	-0.81
4,646.00	26.09	356.91	4,397.40	1,189.56	-8.26	1,189.56	0.68	0.54	-0.94
4,741.00	24.99	355.06	4,483.12	1,230.41	-11.12	1,230.41	1.43	-1.16	-1.95
4,835.00	24.44	357.16	4,568.51	1,269.62	-13.79	1,269.62	1.10	-0.59	2.23
4,929.00	25.79	356.65	4,653.62	1,309.45	-15.95	1,309.45	1.45	1.44	-0.54
5,024.00	28.33	356.93	4,738.21	1,352.60	-18.36	1,352.60	2.68	2.67	0.29
5,118.00	27.62	354.57	4,821.23	1,396.57	-21.62	1,396.57	1.40	-0.76	-2.51
5,212.00	26.21	356.22	4,905.05	1,438.97	-25.05	1,438.97	1.70	-1.50	1.76
5,306.00	25.74	0.19	4,989.56	1,480.10	-26.35	1,480.10	1.92	-0.50	4.22
5,400.00	24.98	359.02	5,074.50	1,520.36	-26.62	1,520.36	0.97	-0.81	-1.24
5,495.00	27.40	359.57	5,159.74	1,562.28	-27.13	1,562.28	2.56	2.55	0.58
5,589.00	26.10	357.44	5,243.68	1,604.57	-28.22	1,604.57	1.72	-1.38	-2.27
5,683.00	24.95	358.34	5,328.51	1,645.04	-29.72	1,645.04	1.29	-1.22	0.96
5,777.00	23.69	359.02	5,414.16	1,683.74	-30.61	1,683.74	1.37	-1.34	0.72
5,871.00	24.10	358.16	5,500.11	1,721.81	-31.55	1,721.81	0.57	0.44	-0.91
5,965.00	24.32	358.94	5,585.84	1,760.34	-32.53	1,760.34	0.41	0.23	0.83
6,060.00	23.00	358.21	5,672.85	1,798.45	-33.47	1,798.45	1.42	-1.39	-0.77
6,154.00	22.11	355.32	5,759.66	1,834.44	-35.49	1,834.44	1.51	-0.95	-3.07
6,248.00	21.24	355.66	5,847.02	1,869.05	-38.22	1,869.05	0.94	-0.93	0.36
6,342.00	20.75	359.35	5,934.78	1,902.68	-39.69	1,902.68	1.50	-0.52	3.93
6,436.00	22.90	358.56	6,022.04	1,937.62	-40.34	1,937.62	2.31	2.29	-0.84
6,531.00	24.33	0.61	6,109.08	1,975.67	-40.60	1,975.67	1.74	1.51	2.16
6,625.00	26.48	358.30	6,193.99	2,015.98	-41.02	2,015.98	2.52	2.29	-2.46
6,719.00	27.55	355.97	6,277.73	2,058.62	-43.16	2,058.62	1.60	1.14	-2.48
6,813.00	26.08	0.86	6,361.63	2,100.97	-44.38	2,100.97	2.82	-1.56	5.20
6,908.00	25.24	1.33	6,447.26	2,142.10	-43.60	2,142.10	0.91	-0.88	0.49
7,002.00	23.77	2.86	6,532.79	2,181.06	-42.19	2,181.06	1.70	-1.56	1.63
7,096.00	24.87	357.97	6,618.46	2,219.74	-41.94	2,219.74	2.44	1.17	-5.20
7,190.00	26.47	355.39	6,703.18	2,260.38	-44.33	2,260.38	2.08	1.70	-2.74
7,284.00	24.60	355.22	6,788.00	2,300.76	-47.64	2,300.76	1.99	-1.99	-0.18
7,378.00	25.55	356.33	6,873.14	2,340.49	-50.57	2,340.49	1.13	1.01	1.18
7,472.00	26.46	354.55	6,957.62	2,381.57	-53.86	2,381.57	1.28	0.97	-1.89
7,567.00	27.80	358.98	7,042.18	2,424.79	-56.26	2,424.79	2.55	1.41	4.66
7,661.00	36.85	1.36	7,121.53	2,474.99	-55.98	2,474.99	9.72	9.63	2.53
7,755.00	44.43	358.42	7,192.81	2,536.16	-56.22	2,536.16	8.32	8.06	-3.13
7,849.00	51.65	359.21	7,255.62	2,606.00	-57.64	2,606.00	7.71	7.68	0.84
7,943.00	58.97	359.58	7,309.08	2,683.23	-58.44	2,683.23	7.79	7.79	0.39
8,038.00	68.18	359.21	7,351.32	2,768.21	-59.35	2,768.21	9.70	9.69	-0.39
8,132.00	75.84	357.40	7,380.33	2,857.50	-62.02	2,857.50	8.35	8.15	-1.93
8,226.00	84.35	356.90	7,396.48	2,949.90	-66.63	2,949.90	9.07	9.05	-0.53
8,270.00	86.66	357.10	7,399.93	2,993.70	-68.92	2,993.70	5.28	5.26	0.46
7"(58 FSL 659 FWL)									

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well COBRA 4N-14HZ
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<b>Site:</b>	COBRA 12-23HZ PAD	<b>MD Reference:</b>	GL 4977 & KB 25 @ 5002.00ft (HP 311)
<b>Well:</b>	COBRA 4N-14HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Denver Sales

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)	
8,334.00	90.03	357.40	7,401.78	3,057.59	-71.99	3,057.59	5.28	5.26	0.46	
8,429.00	90.74	358.49	7,401.14	3,152.53	-75.40	3,152.53	1.37	0.75	1.15	
8,523.00	89.83	357.95	7,400.67	3,246.48	-78.32	3,246.48	1.13	-0.97	-0.57	
8,711.00	91.34	358.72	7,398.75	3,434.38	-83.78	3,434.38	0.90	0.80	0.41	
8,899.00	91.01	359.48	7,394.89	3,622.32	-86.73	3,622.32	0.44	-0.18	0.40	
9,088.00	90.37	358.08	7,392.62	3,811.26	-90.75	3,811.26	0.81	-0.34	-0.74	
9,182.00	91.21	359.96	7,391.32	3,905.23	-92.36	3,905.23	2.19	0.89	2.00	
9,276.00	90.84	359.25	7,389.64	3,999.21	-93.01	3,999.21	0.85	-0.39	-0.76	
9,370.00	90.27	359.22	7,388.73	4,093.20	-94.26	4,093.20	0.61	-0.61	-0.03	
9,464.00	90.60	0.13	7,388.02	4,187.19	-94.80	4,187.19	1.03	0.35	0.97	
9,559.00	90.74	1.91	7,386.91	4,282.17	-93.11	4,282.17	1.88	0.15	1.87	
9,653.00	89.60	2.13	7,386.63	4,376.11	-89.79	4,376.11	1.24	-1.21	0.23	
9,747.00	90.00	1.65	7,386.96	4,470.05	-86.69	4,470.05	0.66	0.43	-0.51	
9,841.00	91.17	1.37	7,386.00	4,564.01	-84.22	4,564.01	1.28	1.24	-0.30	
9,935.00	91.92	2.31	7,383.46	4,657.93	-81.20	4,657.93	1.28	0.80	1.00	
10,029.00	91.04	0.99	7,381.03	4,751.86	-78.49	4,751.86	1.69	-0.94	-1.40	
10,124.00	90.24	1.05	7,379.97	4,846.83	-76.80	4,846.83	0.84	-0.84	0.06	
10,218.00	91.78	359.80	7,378.32	4,940.81	-76.11	4,940.81	2.11	1.64	-1.33	
10,313.00	91.68	0.16	7,375.45	5,035.77	-76.14	5,035.77	0.39	-0.11	0.38	
10,406.00	90.97	358.64	7,373.30	5,128.74	-77.11	5,128.74	1.80	-0.76	-1.63	
10,501.00	90.84	358.66	7,371.80	5,223.70	-79.35	5,223.70	0.14	-0.14	0.02	
10,595.00	89.77	357.75	7,371.30	5,317.65	-82.29	5,317.65	1.49	-1.14	-0.97	
10,689.00	90.54	358.35	7,371.04	5,411.59	-85.49	5,411.59	1.04	0.82	0.64	
10,784.00	91.04	358.35	7,369.73	5,506.54	-88.23	5,506.54	0.53	0.53	0.00	
10,972.00	91.07	358.03	7,366.27	5,694.42	-94.17	5,694.42	0.17	0.02	-0.17	
11,161.00	91.78	358.23	7,361.57	5,883.26	-100.33	5,883.26	0.39	0.38	0.11	
11,255.00	91.54	358.27	7,358.85	5,977.17	-103.20	5,977.17	0.26	-0.26	0.04	
11,350.00	91.88	359.71	7,356.01	6,072.11	-104.87	6,072.11	1.56	0.36	1.52	
11,444.00	90.00	0.80	7,354.47	6,166.10	-104.46	6,166.10	2.31	-2.00	1.16	
11,538.00	88.83	0.70	7,355.43	6,260.08	-103.23	6,260.08	1.25	-1.24	-0.11	
11,727.00	90.37	0.45	7,356.75	6,449.06	-101.33	6,449.06	0.83	0.81	-0.13	
11,821.00	89.43	359.76	7,356.91	6,543.06	-101.16	6,543.06	1.24	-1.00	-0.73	
11,915.00	91.11	357.89	7,356.47	6,637.03	-103.08	6,637.03	2.67	1.79	-1.99	
12,010.00	91.68	357.65	7,354.16	6,731.93	-106.78	6,731.93	0.65	0.60	-0.25	
12,104.00	92.11	357.53	7,351.05	6,825.79	-110.73	6,825.79	0.47	0.46	-0.13	
12,198.00	90.87	358.74	7,348.60	6,919.71	-113.79	6,919.71	1.84	-1.32	1.29	
12,293.00	90.80	358.45	7,347.22	7,014.67	-116.12	7,014.67	0.31	-0.07	-0.31	
12,387.00	90.40	358.07	7,346.24	7,108.62	-118.97	7,108.62	0.59	-0.43	-0.40	
12,481.00	91.04	358.12	7,345.05	7,202.56	-122.10	7,202.56	0.68	0.68	0.05	
12,575.00	91.45	357.93	7,343.01	7,296.48	-125.33	7,296.48	0.48	0.44	-0.20	
12,670.00	91.31	357.65	7,340.72	7,391.39	-129.00	7,391.39	0.33	-0.15	-0.29	
12,764.00	89.87	358.86	7,339.76	7,485.33	-131.86	7,485.33	2.00	-1.53	1.29	
12,858.00	90.30	358.27	7,339.62	7,579.30	-134.21	7,579.30	0.78	0.46	-0.63	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well COBRA 4N-14HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4977 & KB 25 @ 5002.00ft (HP 311)
Site:	COBRA 12-23HZ PAD	MD Reference:	GL 4977 & KB 25 @ 5002.00ft (HP 311)
Well:	COBRA 4N-14HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales

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)
12,952.00	90.10	0.34	7,339.29	7,673.29	-135.35	7,673.29	2.21	-0.21	2.20
13,047.00	91.28	0.40	7,338.14	7,768.28	-134.74	7,768.28	1.24	1.24	0.06
13,141.00	89.16	1.02	7,337.78	7,862.27	-133.57	7,862.27	2.35	-2.26	0.66
13,235.00	89.66	1.67	7,338.75	7,956.23	-131.37	7,956.23	0.87	0.53	0.69
13,330.00	91.24	0.95	7,338.01	8,051.20	-129.20	8,051.20	1.83	1.66	-0.76
LAST SDI MWD PRODUCTION SURVEY									
13,411.00	91.24	0.95	7,336.25	8,132.17	-127.85	8,132.17	0.00	0.00	0.00
SDI PROJECTION TO TD(78 FNL 558 FWL)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,213.00	1,212.87	9 5/8"	9.625	13.500	
8,270.00	7,399.93	7"(58 FSL 659 FWL)	7.000	8.750	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
71.00	71.00	-0.04	-0.02	FIRST CATHEDRAL MWD SURFACE SURVEY	
1,178.00	1,177.87	-0.15	4.14	LAST CATHEDRAL MWD SURFACE SURVEY	
1,261.00	1,260.87	0.31	4.92	FIRST SDI MWD PRODUCTION SURVEY	
13,330.00	7,338.01	8,051.20	-129.20	LAST SDI MWD PRODUCTION SURVEY	
13,411.00	7,336.25	8,132.17	-127.85	SDI PROJECTION TO TD(78 FNL 558 FWL)	

Checked By: _____	Approved By: _____	Date: _____
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