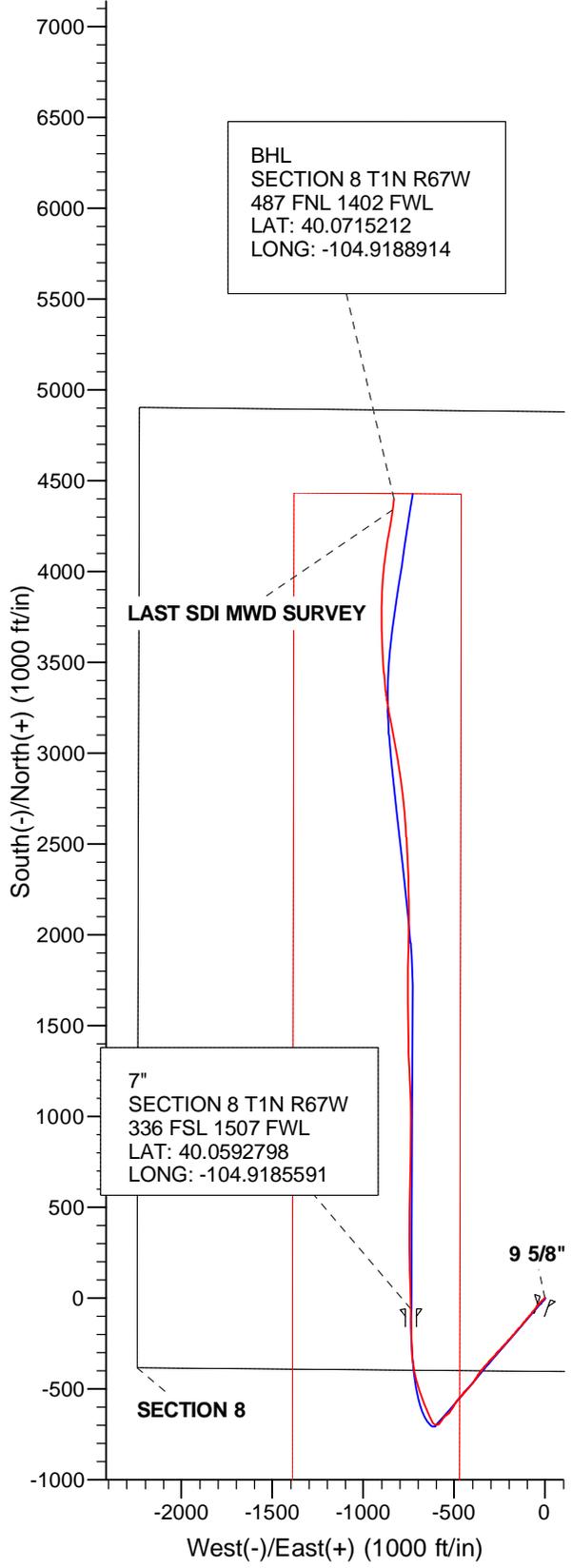
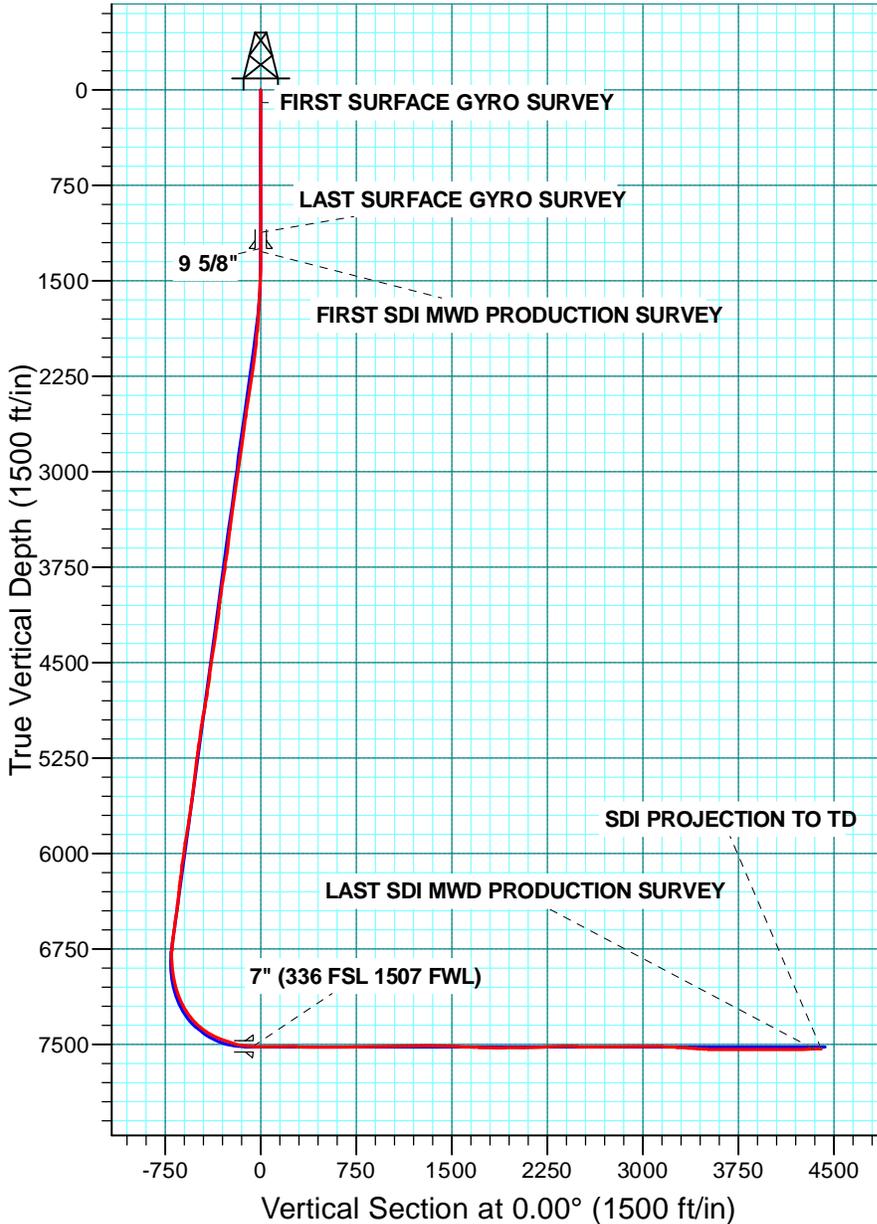


WELL DETAILS: NRC 29N-8HZ					
GL 5052 & KB 25 @ 5077.00ft (H&P 311)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1265039.57	3163486.62	40.0594450	-104.9159260





**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**NRC 14-8HZ PAD**

**NRC 29N-8HZ**

**OH**

**Design: OH**

## **Standard Survey Report**

**27 March, 2014**

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NRC 29N-8HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Site:</b>	NRC 14-8HZ PAD	<b>MD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Well:</b>	NRC 29N-8HZ	<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 Office

<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		

<b>Site</b>	NRC 14-8HZ PAD, SECTION 8 T1N R67W				
<b>Site Position:</b>		<b>Northing:</b>	1,265,039.58 usft	<b>Latitude:</b>	40.0594450
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,163,486.62 usft	<b>Longitude:</b>	-104.9159260
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.38 °

<b>Well</b>	NRC 29N-8HZ, 402 FSL 2245 FWL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,265,039.57 usft	<b>Latitude:</b>	40.0594450
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,163,486.62 usft	<b>Longitude:</b>	-104.9159260
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft	<b>Ground Level:</b>	5,052.00 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	2/20/2014	8.60	66.65	52,571

<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>	3/27/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	1,122.00	Survey #1 SURFACE GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,271.00	12,445.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI_MWD+CRUST_1.0	SDI MWD + Crustal anomaly, Version 1.0	

<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	
100.00	0.32	261.30	100.00	-0.04	-0.28	-0.04	0.32	0.32	0.00	
<b>FIRST SURFACE GYRO SURVEY</b>										
200.00	0.50	122.06	200.00	-0.32	-0.18	-0.32	0.77	0.18	-139.24	
300.00	0.59	31.69	300.00	-0.11	0.46	-0.11	0.78	0.09	-90.37	
400.00	0.48	273.26	399.99	0.35	0.31	0.35	0.92	-0.11	-118.43	
500.00	0.37	139.57	499.99	0.13	0.10	0.13	0.78	-0.11	-133.69	
600.00	0.35	346.43	599.99	0.18	0.24	0.18	0.70	-0.02	-153.14	
700.00	0.57	213.40	699.99	0.06	-0.11	0.06	0.85	0.22	-133.03	
800.00	0.33	64.16	799.99	-0.23	-0.12	-0.23	0.87	-0.24	-149.24	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NRC 29N-8HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Site:</b>	NRC 14-8HZ PAD	<b>MD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Well:</b>	NRC 29N-8HZ	<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 Office

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)	
900.00	0.39	278.15	899.99	-0.05	-0.20	-0.05	0.69	0.06	-146.01	
1,000.00	0.54	184.79	999.99	-0.47	-0.57	-0.47	0.68	0.15	-93.36	
1,100.00	0.39	24.32	1,099.98	-0.63	-0.47	-0.63	0.92	-0.15	-160.47	
1,122.00	0.40	67.22	1,121.98	-0.54	-0.37	-0.54	1.31	0.05	195.00	
<b>LAST SURFACE GYRO SURVEY</b>										
1,246.00	0.23	18.74	1,245.98	-0.13	0.11	-0.13	0.24	-0.14	-39.10	
<b>9 5/8"</b>										
1,271.00	0.23	3.52	1,270.98	-0.04	0.13	-0.04	0.24	0.00	-60.88	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
1,363.00	1.31	259.00	1,362.97	-0.05	-0.90	-0.05	1.51	1.17	-113.61	
1,455.00	3.04	227.70	1,454.91	-1.89	-3.73	-1.89	2.21	1.88	-34.02	
1,547.00	4.05	224.71	1,546.73	-5.85	-7.82	-5.85	1.12	1.10	-3.25	
1,638.00	4.06	225.74	1,637.50	-10.38	-12.39	-10.38	0.08	0.01	1.13	
1,730.00	4.73	225.89	1,729.23	-15.29	-17.45	-15.29	0.73	0.73	0.16	
1,821.00	6.05	227.01	1,819.83	-21.17	-23.65	-21.17	1.46	1.45	1.23	
1,913.00	7.00	224.25	1,911.23	-28.49	-31.11	-28.49	1.09	1.03	-3.00	
2,005.00	7.35	216.99	2,002.51	-37.21	-38.56	-37.21	1.06	0.38	-7.89	
2,096.00	10.02	218.32	2,092.46	-48.07	-46.97	-48.07	2.94	2.93	1.46	
2,188.00	10.76	218.93	2,182.95	-61.03	-57.33	-61.03	0.81	0.80	0.66	
2,280.00	10.86	218.58	2,273.32	-74.49	-68.13	-74.49	0.13	0.11	-0.38	
2,372.00	10.56	219.92	2,363.71	-87.73	-78.95	-87.73	0.42	-0.33	1.46	
2,464.00	11.42	220.04	2,454.03	-101.17	-90.22	-101.17	0.94	0.93	0.13	
2,556.00	10.42	217.28	2,544.36	-114.76	-101.12	-114.76	1.23	-1.09	-3.00	
2,648.00	10.79	218.89	2,634.79	-128.08	-111.56	-128.08	0.52	0.40	1.75	
2,740.00	9.69	222.09	2,725.32	-140.53	-122.16	-140.53	1.35	-1.20	3.48	
2,834.00	10.33	220.99	2,817.89	-152.77	-132.99	-152.77	0.71	0.68	-1.17	
2,928.00	10.06	222.38	2,910.41	-165.19	-144.05	-165.19	0.39	-0.29	1.48	
3,022.00	11.47	220.20	3,002.75	-178.40	-155.62	-178.40	1.56	1.50	-2.32	
3,117.00	10.27	220.60	3,096.05	-192.04	-167.23	-192.04	1.27	-1.26	0.42	
3,211.00	9.79	217.13	3,188.61	-204.78	-177.50	-204.78	0.82	-0.51	-3.69	
3,306.00	10.50	223.53	3,282.13	-217.49	-188.34	-217.49	1.40	0.75	6.74	
3,400.00	10.75	221.87	3,374.51	-230.23	-200.09	-230.23	0.42	0.27	-1.77	
3,495.00	9.88	222.24	3,467.98	-242.86	-211.48	-242.86	0.92	-0.92	0.39	
3,589.00	8.91	218.47	3,560.72	-254.53	-221.43	-254.53	1.22	-1.03	-4.01	
3,684.00	10.69	224.09	3,654.33	-266.62	-232.14	-266.62	2.12	1.87	5.92	
3,778.00	11.54	224.50	3,746.57	-279.59	-244.80	-279.59	0.91	0.90	0.44	
3,872.00	12.07	224.48	3,838.58	-293.31	-258.28	-293.31	0.56	0.56	-0.02	
3,967.00	10.77	216.29	3,931.70	-307.55	-270.49	-307.55	2.18	-1.37	-8.62	
4,061.00	9.17	215.20	4,024.28	-320.75	-280.01	-320.75	1.71	-1.70	-1.16	
4,155.00	9.67	230.79	4,117.03	-331.86	-290.44	-331.86	2.76	0.53	16.59	
4,250.00	10.98	224.63	4,210.49	-343.35	-302.98	-343.35	1.80	1.38	-6.48	
4,344.00	11.76	222.64	4,302.64	-356.77	-315.76	-356.77	0.93	0.83	-2.12	
4,439.00	12.24	219.43	4,395.57	-371.67	-328.71	-371.67	0.87	0.51	-3.38	
4,533.00	10.35	216.32	4,487.74	-386.17	-340.05	-386.17	2.11	-2.01	-3.31	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NRC 29N-8HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Site:</b>	NRC 14-8HZ PAD	<b>MD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Well:</b>	NRC 29N-8HZ	<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 Office

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)	
4,627.00	10.17	220.43	4,580.24	-399.29	-350.43	-399.29	0.80	-0.19	4.37	
4,722.00	9.01	216.80	4,673.91	-411.63	-360.32	-411.63	1.38	-1.22	-3.82	
4,816.00	10.17	212.55	4,766.60	-424.52	-369.20	-424.52	1.44	1.23	-4.52	
4,911.00	12.33	214.03	4,859.77	-440.00	-379.39	-440.00	2.29	2.27	1.56	
5,005.00	11.68	212.54	4,951.71	-456.34	-390.12	-456.34	0.77	-0.69	-1.59	
5,100.00	10.93	219.81	5,044.87	-471.36	-401.06	-471.36	1.69	-0.79	7.65	
5,194.00	10.27	223.93	5,137.27	-484.24	-412.58	-484.24	1.07	-0.70	4.38	
5,289.00	10.61	223.27	5,230.70	-496.71	-424.45	-496.71	0.38	0.36	-0.69	
5,477.00	8.84	222.12	5,415.99	-520.03	-446.01	-520.03	0.95	-0.94	-0.61	
5,572.00	9.16	218.85	5,509.82	-531.33	-455.65	-531.33	0.64	0.34	-3.44	
5,666.00	10.56	221.26	5,602.43	-543.63	-466.02	-543.63	1.55	1.49	2.56	
5,760.00	10.39	221.17	5,694.86	-556.49	-477.28	-556.49	0.18	-0.18	-0.10	
5,854.00	11.72	214.43	5,787.12	-570.75	-488.26	-570.75	1.97	1.41	-7.17	
5,949.00	10.43	210.12	5,880.35	-586.14	-498.03	-586.14	1.61	-1.36	-4.54	
6,043.00	9.28	212.73	5,972.96	-599.88	-506.40	-599.88	1.31	-1.22	2.78	
6,138.00	9.60	213.08	6,066.68	-612.96	-514.86	-612.96	0.34	0.34	0.37	
6,232.00	9.02	216.91	6,159.44	-625.42	-523.57	-625.42	0.90	-0.62	4.07	
6,326.00	10.24	231.42	6,252.13	-636.53	-534.53	-636.53	2.88	1.30	15.44	
6,421.00	8.02	232.98	6,345.92	-645.78	-546.42	-645.78	2.35	-2.34	1.64	
6,515.00	10.37	215.27	6,438.72	-656.64	-556.54	-656.64	3.89	2.50	-18.84	
6,610.00	10.00	216.62	6,532.22	-670.24	-566.40	-670.24	0.46	-0.39	1.42	
6,704.00	9.77	221.02	6,624.83	-682.81	-576.50	-682.81	0.84	-0.24	4.68	
6,751.00	8.53	214.50	6,671.23	-688.69	-581.10	-688.69	3.44	-2.64	-13.87	
6,799.00	7.78	228.08	6,718.75	-693.80	-585.53	-693.80	4.29	-1.56	28.29	
6,846.00	7.68	253.69	6,765.34	-696.81	-590.91	-696.81	7.27	-0.21	54.49	
6,893.00	8.72	279.63	6,811.87	-697.09	-597.44	-697.09	8.10	2.21	55.19	
6,940.00	10.17	287.76	6,858.23	-695.23	-604.91	-695.23	4.19	3.09	17.30	
6,987.00	8.71	307.80	6,904.61	-691.78	-611.67	-691.78	7.60	-3.11	42.64	
7,034.00	8.80	330.49	6,951.08	-686.47	-616.26	-686.47	7.30	0.19	48.28	
7,082.00	11.70	336.87	6,998.31	-678.80	-619.98	-678.80	6.48	6.04	13.29	
7,129.00	15.78	333.94	7,043.95	-668.67	-624.66	-668.67	8.80	8.68	-6.23	
7,176.00	20.40	333.48	7,088.62	-655.59	-631.13	-655.59	9.83	9.83	-0.98	
7,223.00	24.77	333.30	7,132.00	-639.46	-639.21	-639.46	9.30	9.30	-0.38	
7,270.00	28.76	335.46	7,173.96	-620.37	-648.34	-620.37	8.74	8.49	4.60	
7,317.00	32.17	339.31	7,214.47	-598.37	-657.46	-598.37	8.36	7.26	8.19	
7,365.00	36.12	338.60	7,254.19	-573.23	-667.14	-573.23	8.27	8.23	-1.48	
7,412.00	40.81	338.66	7,290.98	-546.01	-677.79	-546.01	9.98	9.98	0.13	
7,459.00	44.40	340.63	7,325.57	-516.19	-688.84	-516.19	8.15	7.64	4.19	
7,506.00	48.88	344.09	7,357.83	-483.63	-699.15	-483.63	10.93	9.53	7.36	
7,553.00	55.28	347.03	7,386.71	-447.74	-708.35	-447.74	14.48	13.62	6.26	
7,600.00	60.00	349.26	7,411.86	-408.89	-716.48	-408.89	10.81	10.04	4.74	
7,647.00	64.88	350.64	7,433.60	-367.88	-723.74	-367.88	10.70	10.38	2.94	
7,694.00	67.25	353.41	7,452.67	-325.34	-729.69	-325.34	7.38	5.04	5.89	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NRC 29N-8HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Site:</b>	NRC 14-8HZ PAD	<b>MD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Well:</b>	NRC 29N-8HZ	<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 Office

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)	
7,742.00	68.87	356.69	7,470.60	-280.99	-733.52	-280.99	7.18	3.38	6.83	
7,789.00	71.71	0.17	7,486.46	-236.78	-734.72	-236.78	9.22	6.04	7.40	
7,836.00	75.81	359.62	7,499.60	-191.66	-734.81	-191.66	8.80	8.72	-1.17	
7,883.00	79.95	358.81	7,509.47	-145.72	-735.44	-145.72	8.97	8.81	-1.72	
7,957.00	88.59	359.04	7,516.85	-72.18	-736.82	-72.18	11.68	11.68	0.31	
7,969.00	88.86	358.90	7,517.11	-60.18	-737.03	-60.18	2.54	2.26	-1.16	
<b>7" (336 FSL 1507 FWL)</b>										
8,051.00	90.71	357.95	7,517.42	21.78	-739.29	21.78	2.54	2.26	-1.16	
8,145.00	89.87	358.01	7,516.95	115.72	-742.60	115.72	0.90	-0.89	0.06	
8,240.00	89.73	358.85	7,517.28	210.68	-745.20	210.68	0.90	-0.15	0.88	
8,334.00	88.59	359.72	7,518.66	304.66	-746.37	304.66	1.53	-1.21	0.93	
8,429.00	90.23	0.71	7,519.63	399.65	-746.02	399.65	2.02	1.73	1.04	
8,523.00	89.19	1.05	7,520.11	493.64	-744.57	493.64	1.16	-1.11	0.36	
8,617.00	90.17	1.08	7,520.63	587.62	-742.83	587.62	1.04	1.04	0.03	
8,712.00	90.44	0.65	7,520.13	682.61	-741.39	682.61	0.53	0.28	-0.45	
8,806.00	90.24	0.87	7,519.57	776.60	-740.15	776.60	0.32	-0.21	0.23	
8,901.00	91.91	0.66	7,517.79	871.57	-738.88	871.57	1.77	1.76	-0.22	
8,995.00	92.22	0.22	7,514.40	965.51	-738.16	965.51	0.57	0.33	-0.47	
9,089.00	91.18	358.86	7,511.61	1,059.46	-738.91	1,059.46	1.82	-1.11	-1.45	
9,184.00	90.81	358.01	7,509.96	1,154.41	-741.51	1,154.41	0.98	-0.39	-0.89	
9,278.00	89.46	356.95	7,509.74	1,248.31	-745.64	1,248.31	1.83	-1.44	-1.13	
9,373.00	88.72	358.52	7,511.25	1,343.22	-749.39	1,343.22	1.83	-0.78	1.65	
9,467.00	87.95	359.14	7,513.98	1,437.16	-751.31	1,437.16	1.05	-0.82	0.66	
9,561.00	88.18	358.27	7,517.16	1,531.08	-753.43	1,531.08	0.96	0.24	-0.93	
9,656.00	88.42	359.50	7,519.97	1,626.02	-755.28	1,626.02	1.32	0.25	1.29	
9,750.00	87.58	0.81	7,523.25	1,719.96	-755.03	1,719.96	1.65	-0.89	1.39	
9,845.00	88.39	0.93	7,526.60	1,814.89	-753.59	1,814.89	0.86	0.85	0.13	
9,939.00	89.60	1.16	7,528.24	1,908.86	-751.87	1,908.86	1.31	1.29	0.24	
10,034.00	90.13	1.04	7,528.47	2,003.84	-750.05	2,003.84	0.57	0.56	-0.13	
10,128.00	92.28	0.34	7,526.49	2,097.81	-748.92	2,097.81	2.41	2.29	-0.74	
10,223.00	93.13	359.29	7,522.01	2,192.70	-749.22	2,192.70	1.42	0.89	-1.11	
10,317.00	91.92	358.02	7,517.87	2,286.58	-751.43	2,286.58	1.87	-1.29	-1.35	
10,411.00	90.17	356.98	7,516.15	2,380.47	-755.53	2,380.47	2.17	-1.86	-1.11	
10,506.00	88.02	357.57	7,517.65	2,475.34	-760.04	2,475.34	2.35	-2.26	0.62	
10,600.00	89.70	356.86	7,519.52	2,569.21	-764.61	2,569.21	1.94	1.79	-0.76	
10,694.00	89.76	354.94	7,519.97	2,662.96	-771.33	2,662.96	2.04	0.06	-2.04	
10,789.00	90.61	353.58	7,519.66	2,757.48	-780.83	2,757.48	1.69	0.89	-1.43	
10,883.00	90.87	352.01	7,518.44	2,850.73	-792.62	2,850.73	1.69	0.28	-1.67	
10,977.00	91.01	350.60	7,516.90	2,943.64	-806.83	2,943.64	1.51	0.15	-1.50	
11,072.00	89.36	349.31	7,516.60	3,037.17	-823.40	3,037.17	2.20	-1.74	-1.36	
11,166.00	89.23	349.29	7,517.75	3,129.53	-840.85	3,129.53	0.14	-0.14	-0.02	
11,260.00	87.41	349.91	7,520.51	3,221.94	-857.81	3,221.94	2.05	-1.94	0.66	
11,355.00	85.86	351.89	7,526.08	3,315.58	-872.81	3,315.58	2.64	-1.63	2.08	

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NRC 29N-8HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Site:</b>	NRC 14-8HZ PAD	<b>MD Reference:</b>	GL 5052 & KB 25 @ 5077.00ft (H&P 311)
<b>Well:</b>	NRC 29N-8HZ	<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 Office

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)	
11,449.00	86.30	355.13	7,532.51	3,408.75	-883.41	3,408.75	3.47	0.47	3.45	
11,544.00	87.48	356.54	7,537.67	3,503.35	-890.29	3,503.35	1.93	1.24	1.48	
11,638.00	88.89	357.75	7,540.64	3,597.18	-894.97	3,597.18	1.98	1.50	1.29	
11,733.00	90.03	358.66	7,541.54	3,692.13	-897.95	3,692.13	1.54	1.20	0.96	
11,827.00	90.10	359.61	7,541.43	3,786.12	-899.37	3,786.12	1.01	0.07	1.01	
11,921.00	89.80	1.85	7,541.51	3,880.10	-898.17	3,880.10	2.40	-0.32	2.38	
12,016.00	89.13	5.08	7,542.40	3,974.91	-892.43	3,974.91	3.47	-0.71	3.40	
12,110.00	90.91	7.83	7,542.37	4,068.30	-881.86	4,068.30	3.48	1.89	2.93	
12,205.00	90.13	9.33	7,541.51	4,162.23	-867.69	4,162.23	1.78	-0.82	1.58	
12,299.00	91.55	9.69	7,540.13	4,254.93	-852.16	4,254.93	1.56	1.51	0.38	
12,385.00	92.76	8.39	7,536.89	4,339.80	-838.66	4,339.80	2.06	1.41	-1.51	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
12,445.00	92.76	8.39	7,534.01	4,399.09	-829.92	4,399.09	0.00	0.00	0.00	
<b>SDI PROJECTION TO TD</b>										

Casing Points							
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)			
1,246.00	1,245.98	9 5/8"	9.625	12.250			
7,969.00	7,517.11	7" (336 FSL 1507 FWL)	7.000	7.500			

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
100.00	100.00	-0.04	-0.28	FIRST SURFACE GYRO SURVEY	
1,122.00	1,121.98	-0.54	-0.37	LAST SURFACE GYRO SURVEY	
1,271.00	1,270.98	-0.04	0.13	FIRST SDI MWD PRODUCTION SURVEY	
12,385.00	7,536.89	4,339.80	-838.66	LAST SDI MWD PRODUCTION SURVEY	
12,445.00	7,534.01	4,399.09	-829.92	SDI PROJECTION TO TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_