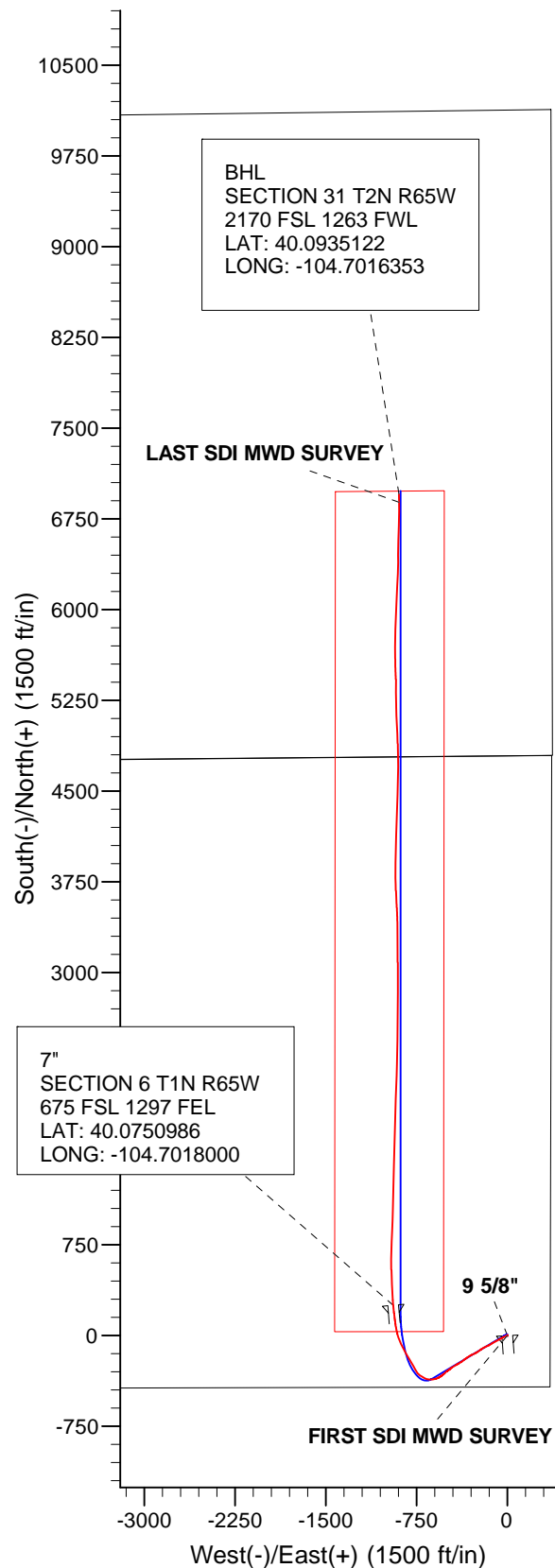
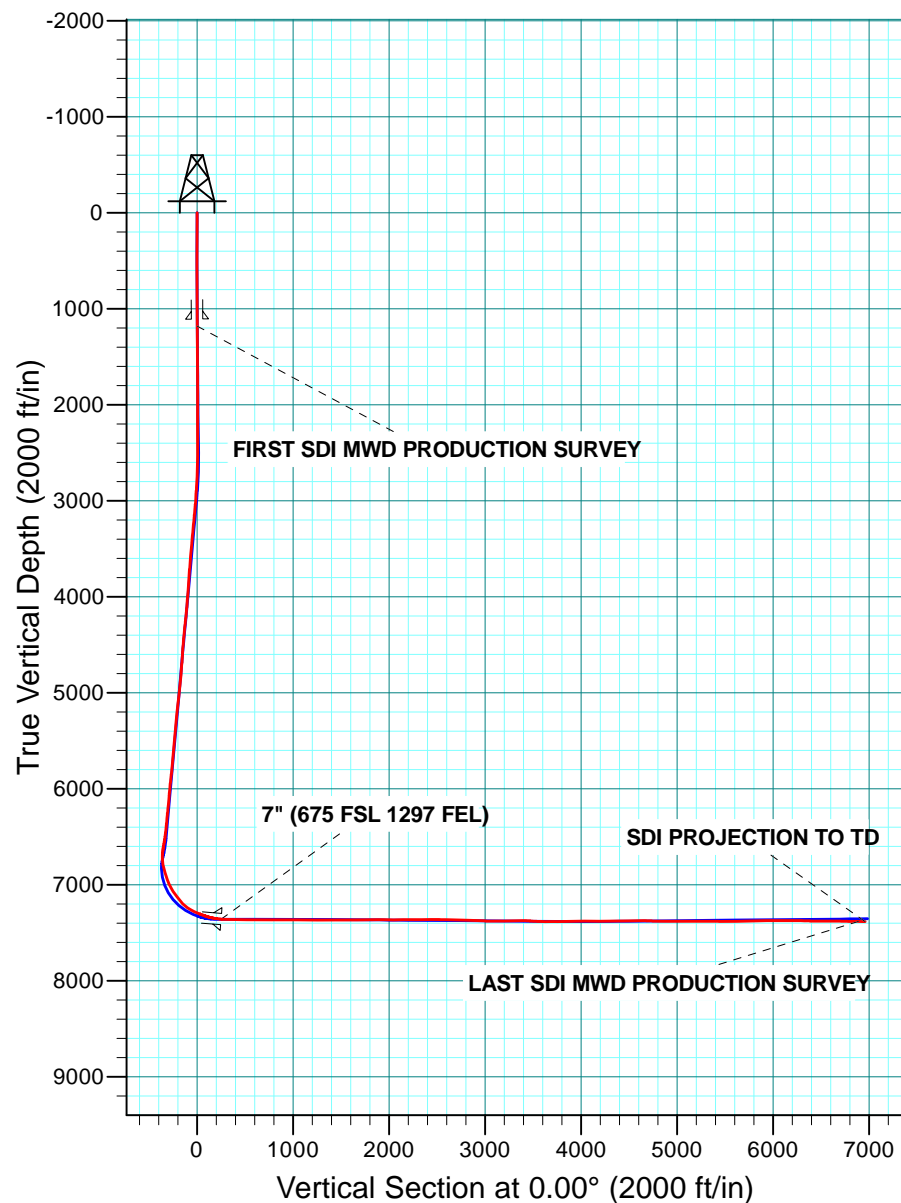


WELL DETAILS: PARAGON 24C-31HZ					
GL 4975 & KB 25 @ 5000.00ft (HP 311)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1270967.85	3224315.19	40.0744140	-104.6984280





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

PARAGON 16-6HZ PAD

PARAGON 24C-31HZ

OH

Design: OH

Standard Survey Report

03 February, 2014

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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	PARAGON 16-6HZ PAD, SESE SECTION 6 T1N R65W		
Site Position:		Northing:	1,270,968.13 usft
From:	Lat/Long	Easting:	3,224,345.41 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	40.0744140
		Longitude:	-104.6983200
		Grid Convergence:	0.52 °

Well	PARAGON 24C-31HZ, 422 FSL 360 FEL		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	40.0744140
		Longitude:	-104.6984280
		Ground Level:	4,975.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	12/20/2013	8.50	66.70	52,623

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00		0.00

Survey Program	Date	2/3/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	1,017.00	Survey #1 MS SURFACE GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,181.00	14,533.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI_MWD+CRUST_1.0	SDI MWD + Crustal anomaly, Version 1.0	

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	
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	
125.00	0.50	226.26	125.00	-0.30	-0.32	-0.30	0.50	0.50	0.00	
FIRST GYRO SURFACE SURVEY										
225.00	0.35	197.38	225.00	-0.89	-0.72	-0.89	0.26	-0.15	-28.88	
325.00	0.26	158.33	324.99	-1.40	-0.73	-1.40	0.22	-0.09	-39.05	
425.00	0.36	136.85	424.99	-1.84	-0.43	-1.84	0.15	0.10	-21.48	
525.00	0.25	123.08	524.99	-2.19	-0.03	-2.19	0.13	-0.11	-13.77	
625.00	0.22	134.04	624.99	-2.44	0.29	-2.44	0.05	-0.03	10.96	
725.00	0.28	132.52	724.99	-2.74	0.61	-2.74	0.06	0.06	-1.52	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
825.00	0.50	20.46	824.99	-2.49	0.94	-2.49	0.66	0.22	-112.06
925.00	0.42	349.82	924.99	-1.72	1.03	-1.72	0.26	-0.08	-30.64
1,017.00	0.52	352.23	1,016.98	-0.98	0.91	-0.98	0.11	0.11	2.62
LAST GYRO SURFACE SURVEY									
1,108.00	0.37	356.22	1,107.98	-0.27	0.83	-0.27	0.16	-0.16	4.38
9 5/8"									
1,181.00	0.26	2.62	1,180.98	0.13	0.83	0.13	0.16	-0.16	8.77
FIRST SDI MWD PRODUCTION SURVEY									
1,272.00	0.36	4.15	1,271.98	0.62	0.86	0.62	0.11	0.11	1.68
1,364.00	0.17	339.15	1,363.98	1.04	0.83	1.04	0.24	-0.21	-27.17
1,456.00	0.24	306.22	1,455.98	1.28	0.63	1.28	0.15	0.08	-35.79
1,547.00	0.32	312.78	1,546.97	1.56	0.28	1.56	0.09	0.09	7.21
1,566.00	0.34	319.85	1,565.97	1.64	0.21	1.64	0.24	0.11	37.21
1,658.00	0.13	335.46	1,657.97	1.95	-0.01	1.95	0.24	-0.23	16.97
1,750.00	0.23	12.58	1,749.97	2.22	-0.01	2.22	0.16	0.11	40.35
1,841.00	0.23	3.94	1,840.97	2.58	0.04	2.58	0.04	0.00	-9.49
1,932.00	0.24	336.29	1,931.97	2.94	-0.02	2.94	0.12	0.01	-30.38
2,024.00	0.14	342.30	2,023.97	3.22	-0.14	3.22	0.11	-0.11	6.53
2,115.00	0.07	350.06	2,114.97	3.38	-0.18	3.38	0.08	-0.08	8.53
2,207.00	0.14	332.86	2,206.97	3.54	-0.24	3.54	0.08	0.08	-18.70
2,298.00	0.21	34.28	2,297.97	3.78	-0.20	3.78	0.21	0.08	67.49
2,390.00	0.33	34.17	2,389.97	4.13	0.05	4.13	0.13	0.13	-0.12
2,482.00	0.39	27.48	2,481.97	4.63	0.34	4.63	0.08	0.07	-7.27
2,574.00	1.32	228.97	2,573.96	4.21	-0.32	4.21	1.84	1.01	-172.29
2,665.00	3.94	236.49	2,664.86	1.80	-3.71	1.80	2.90	2.88	8.26
2,757.00	6.29	242.93	2,756.49	-2.24	-10.84	-2.24	2.63	2.55	7.00
2,848.00	7.52	243.95	2,846.82	-7.12	-20.63	-7.12	1.36	1.35	1.12
2,940.00	8.09	242.29	2,937.97	-12.78	-31.77	-12.78	0.67	0.62	-1.80
3,031.00	8.79	239.63	3,027.99	-19.27	-43.43	-19.27	0.88	0.77	-2.92
3,123.00	11.15	241.99	3,118.59	-27.00	-57.35	-27.00	2.60	2.57	2.57
3,215.00	11.94	242.82	3,208.73	-35.53	-73.67	-35.53	0.88	0.86	0.90
3,306.00	11.46	242.65	3,297.84	-43.98	-90.08	-43.98	0.53	-0.53	-0.19
3,398.00	10.66	241.85	3,388.13	-52.19	-105.70	-52.19	0.89	-0.87	-0.87
3,489.00	9.95	240.05	3,477.66	-60.09	-119.93	-60.09	0.86	-0.78	-1.98
3,581.00	8.92	238.04	3,568.41	-67.83	-132.87	-67.83	1.18	-1.12	-2.18
3,673.00	9.33	236.90	3,659.25	-75.68	-145.17	-75.68	0.49	0.45	-1.24
3,764.00	9.62	245.74	3,749.01	-82.84	-158.28	-82.84	1.63	0.32	9.71
3,856.00	8.95	246.99	3,839.81	-88.79	-171.88	-88.79	0.76	-0.73	1.36
3,948.00	9.83	243.89	3,930.57	-95.04	-185.52	-95.04	1.10	0.96	-3.37
4,039.00	8.76	239.28	4,020.38	-102.00	-198.45	-102.00	1.43	-1.18	-5.07
4,131.00	8.83	238.42	4,111.30	-109.28	-210.49	-109.28	0.16	0.08	-0.93
4,223.00	9.74	232.93	4,202.09	-117.67	-222.71	-117.67	1.38	0.99	-5.97
4,317.00	10.62	235.74	4,294.61	-127.34	-236.22	-127.34	1.07	0.94	2.99
4,411.00	10.28	234.96	4,387.05	-137.03	-250.24	-137.03	0.39	-0.36	-0.83

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
4,506.00	9.90	243.14	4,480.59	-145.59	-264.47	-145.59	1.56	-0.40	8.61
4,600.00	9.41	247.05	4,573.26	-152.24	-278.75	-152.24	0.87	-0.52	4.16
4,694.00	9.25	246.94	4,666.01	-158.19	-292.78	-158.19	0.17	-0.17	-0.12
4,789.00	9.49	238.90	4,759.75	-165.23	-306.51	-165.23	1.40	0.25	-8.46
4,883.00	10.21	238.18	4,852.36	-173.62	-320.23	-173.62	0.78	0.77	-0.77
4,977.00	9.50	234.54	4,944.98	-182.52	-333.63	-182.52	1.00	-0.76	-3.87
5,071.00	10.91	234.01	5,037.49	-192.24	-347.14	-192.24	1.50	1.50	-0.56
5,166.00	9.84	230.33	5,130.93	-202.71	-360.67	-202.71	1.32	-1.13	-3.87
5,260.00	9.87	234.12	5,223.55	-212.56	-373.38	-212.56	0.69	0.03	4.03
5,355.00	10.31	239.82	5,317.08	-221.60	-387.32	-221.60	1.15	0.46	6.00
5,449.00	10.19	241.00	5,409.58	-229.86	-401.87	-229.86	0.26	-0.13	1.26
5,543.00	9.02	237.16	5,502.26	-237.89	-415.33	-237.89	1.42	-1.24	-4.09
5,638.00	9.89	240.40	5,595.97	-245.96	-428.68	-245.96	1.07	0.92	3.41
5,732.00	10.24	239.72	5,688.53	-254.16	-442.92	-254.16	0.39	0.37	-0.72
5,826.00	9.94	236.90	5,781.07	-262.80	-456.93	-262.80	0.61	-0.32	-3.00
5,921.00	9.82	226.84	5,874.67	-272.82	-469.71	-272.82	1.82	-0.13	-10.59
6,015.00	10.21	236.68	5,967.24	-282.88	-482.52	-282.88	1.86	0.41	10.47
6,109.00	8.08	235.85	6,060.04	-291.17	-494.95	-291.17	2.27	-2.27	-0.88
6,203.00	8.63	229.27	6,153.05	-299.48	-505.76	-299.48	1.17	0.59	-7.00
6,298.00	8.74	225.96	6,246.96	-309.15	-516.35	-309.15	0.54	0.12	-3.48
6,392.00	7.84	231.08	6,339.98	-318.14	-526.47	-318.14	1.24	-0.96	5.45
6,486.00	10.01	230.71	6,432.83	-327.34	-537.78	-327.34	2.31	2.31	-0.39
6,533.00	11.59	234.08	6,479.00	-332.70	-544.77	-332.70	3.62	3.36	7.17
6,581.00	15.54	236.99	6,525.65	-339.03	-554.07	-339.03	8.35	8.23	6.06
6,628.00	21.41	241.51	6,570.21	-346.56	-566.90	-346.56	12.85	12.49	9.62
6,675.00	25.68	249.69	6,613.30	-354.20	-584.00	-354.20	11.42	9.09	17.40
6,722.00	26.66	258.17	6,655.50	-359.89	-603.88	-359.89	8.22	2.09	18.04
6,769.00	27.09	266.09	6,697.44	-362.79	-624.88	-362.79	7.67	0.91	16.85
6,816.00	27.56	273.40	6,739.20	-362.87	-646.42	-362.87	7.21	1.00	15.55
6,864.00	28.34	287.61	6,781.65	-358.76	-668.39	-358.76	13.94	1.63	29.60
6,911.00	28.39	298.18	6,823.04	-350.10	-688.88	-350.10	10.67	0.11	22.49
6,958.00	28.17	303.71	6,864.43	-338.67	-707.97	-338.67	5.59	-0.47	11.77
7,005.00	27.97	308.58	6,905.91	-325.64	-725.81	-325.64	4.89	-0.43	10.36
7,053.00	25.83	318.20	6,948.73	-310.81	-741.59	-310.81	10.09	-4.46	20.04
7,100.00	27.34	329.38	6,990.79	-293.88	-753.92	-293.88	11.10	3.21	23.79
7,147.00	32.46	332.32	7,031.52	-273.41	-765.29	-273.41	11.33	10.89	6.26
7,194.00	36.28	328.89	7,070.31	-250.32	-778.34	-250.32	9.11	8.13	-7.30
7,241.00	39.74	330.03	7,107.34	-225.39	-793.03	-225.39	7.51	7.36	2.43
7,288.00	42.38	329.49	7,142.78	-198.73	-808.58	-198.73	5.67	5.62	-1.15
7,335.00	45.82	328.88	7,176.52	-170.65	-825.34	-170.65	7.37	7.32	-1.30
7,382.00	50.82	331.04	7,207.77	-140.26	-842.88	-140.26	11.18	10.64	4.60
7,430.00	56.70	333.88	7,236.14	-105.93	-860.74	-105.93	13.14	12.25	5.92
7,477.00	62.08	335.42	7,260.06	-69.39	-878.04	-69.39	11.79	11.45	3.28

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
7,524.00	66.69	338.68	7,280.38	-30.37	-894.53	-30.37	11.63	9.81	6.94
7,571.00	68.67	344.79	7,298.24	10.90	-908.13	10.90	12.74	4.21	13.00
7,618.00	69.80	348.90	7,314.91	53.68	-918.13	53.68	8.52	2.40	8.74
7,665.00	71.65	352.11	7,330.43	97.43	-925.44	97.43	7.55	3.94	6.83
7,713.00	77.65	352.80	7,343.13	143.30	-931.51	143.30	12.58	12.50	1.44
7,760.00	81.34	353.06	7,351.70	189.15	-937.20	189.15	7.87	7.85	0.55
7,773.00	82.42	353.22	7,353.53	201.93	-938.73	201.93	8.40	8.31	1.23
7,821.00	85.40	354.96	7,358.63	249.39	-943.64	249.39	7.18	6.21	3.63
7" (675 FSL 1297 FEL)									
7,881.00	89.13	357.12	7,361.49	309.17	-947.78	309.17	7.18	6.22	3.60
7,973.00	88.79	357.12	7,363.16	401.04	-952.40	401.04	0.37	-0.37	0.00
8,064.00	89.16	357.23	7,364.79	491.91	-956.88	491.91	0.42	0.41	0.12
8,156.00	89.50	358.89	7,365.86	583.85	-960.00	583.85	1.84	0.37	1.80
8,247.00	89.43	1.12	7,366.71	674.84	-959.99	674.84	2.45	-0.08	2.45
8,339.00	89.60	2.96	7,367.49	766.77	-956.72	766.77	2.01	0.18	2.00
8,431.00	90.44	2.49	7,367.46	858.67	-952.34	858.67	1.05	0.91	-0.51
8,522.00	90.94	1.83	7,366.36	949.60	-948.91	949.60	0.91	0.55	-0.73
8,614.00	89.83	0.97	7,365.74	1,041.57	-946.67	1,041.57	1.53	-1.21	-0.93
8,705.00	89.16	1.53	7,366.55	1,132.54	-944.68	1,132.54	0.96	-0.74	0.62
8,797.00	89.66	1.25	7,367.49	1,224.51	-942.45	1,224.51	0.62	0.54	-0.30
8,889.00	89.80	2.09	7,367.93	1,316.47	-939.77	1,316.47	0.93	0.15	0.91
8,980.00	90.30	1.56	7,367.85	1,407.42	-936.87	1,407.42	0.80	0.55	-0.58
9,072.00	90.37	0.75	7,367.31	1,499.40	-935.01	1,499.40	0.88	0.08	-0.88
9,164.00	90.17	1.76	7,366.88	1,591.37	-933.00	1,591.37	1.12	-0.22	1.10
9,255.00	90.74	1.90	7,366.15	1,682.32	-930.09	1,682.32	0.64	0.63	0.15
9,347.00	90.07	1.06	7,365.50	1,774.29	-927.72	1,774.29	1.17	-0.73	-0.91
9,439.00	90.77	2.04	7,364.83	1,866.25	-925.23	1,866.25	1.31	0.76	1.07
9,533.00	88.56	1.65	7,365.38	1,960.20	-922.20	1,960.20	2.39	-2.35	-0.41
9,627.00	90.70	2.65	7,365.99	2,054.12	-918.68	2,054.12	2.51	2.28	1.06
9,722.00	91.11	1.76	7,364.49	2,149.04	-915.02	2,149.04	1.03	0.43	-0.94
9,816.00	89.20	1.03	7,364.23	2,243.00	-912.73	2,243.00	2.18	-2.03	-0.78
9,910.00	90.84	1.34	7,364.20	2,336.98	-910.79	2,336.98	1.78	1.74	0.33
10,005.00	90.81	1.45	7,362.83	2,431.94	-908.48	2,431.94	0.12	-0.03	0.12
10,099.00	88.32	0.02	7,363.54	2,525.92	-907.27	2,525.92	3.05	-2.65	-1.52
10,194.00	89.16	0.79	7,365.63	2,620.90	-906.60	2,620.90	1.20	0.88	0.81
10,288.00	88.89	0.32	7,367.23	2,714.88	-905.69	2,714.88	0.58	-0.29	-0.50
10,382.00	87.99	0.41	7,369.79	2,808.84	-905.09	2,808.84	0.96	-0.96	0.10
10,477.00	87.65	359.55	7,373.41	2,903.77	-905.12	2,903.77	0.97	-0.36	-0.91
10,571.00	87.69	359.82	7,377.23	2,997.69	-905.64	2,997.69	0.29	0.04	0.29
10,665.00	89.73	358.99	7,379.34	3,091.66	-906.62	3,091.66	2.34	2.17	-0.88
10,760.00	91.24	359.85	7,378.54	3,186.64	-907.58	3,186.64	1.83	1.59	0.91
10,854.00	91.64	359.75	7,376.18	3,280.61	-907.91	3,280.61	0.44	0.43	-0.11
10,948.00	90.37	359.32	7,374.53	3,374.59	-908.67	3,374.59	1.43	-1.35	-0.46

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
11,042.00	85.88	357.69	7,377.60	3,468.48	-911.12	3,468.48	5.08	-4.78	-1.73
11,137.00	88.05	357.18	7,382.63	3,563.25	-915.36	3,563.25	2.35	2.28	-0.54
11,231.00	89.56	356.81	7,384.59	3,657.10	-920.29	3,657.10	1.65	1.61	-0.39
11,325.00	90.23	358.65	7,384.77	3,751.02	-924.01	3,751.02	2.08	0.71	1.96
11,420.00	91.78	359.88	7,383.10	3,845.99	-925.23	3,845.99	2.08	1.63	1.29
11,514.00	91.31	1.33	7,380.56	3,939.95	-924.24	3,939.95	1.62	-0.50	1.54
11,608.00	90.34	1.95	7,379.21	4,033.90	-921.55	4,033.90	1.22	-1.03	0.66
11,702.00	90.40	1.24	7,378.60	4,127.86	-918.93	4,127.86	0.76	0.06	-0.76
11,797.00	90.37	2.51	7,377.97	4,222.81	-915.83	4,222.81	1.34	-0.03	1.34
11,891.00	90.10	2.11	7,377.58	4,316.73	-912.04	4,316.73	0.51	-0.29	-0.43
11,986.00	89.83	0.38	7,377.64	4,411.70	-909.97	4,411.70	1.84	-0.28	-1.82
12,080.00	91.21	1.85	7,376.79	4,505.68	-908.14	4,505.68	2.14	1.47	1.56
12,174.00	90.87	2.36	7,375.08	4,599.60	-904.69	4,599.60	0.65	-0.36	0.54
12,269.00	87.85	359.70	7,376.14	4,694.56	-902.98	4,694.56	4.24	-3.18	-2.80
12,363.00	88.59	359.06	7,379.06	4,788.50	-904.00	4,788.50	1.04	0.79	-0.68
12,457.00	89.73	358.22	7,380.44	4,882.46	-906.23	4,882.46	1.51	1.21	-0.89
12,552.00	90.27	357.14	7,380.44	4,977.38	-910.08	4,977.38	1.27	0.57	-1.14
12,646.00	89.06	357.50	7,380.99	5,071.28	-914.47	5,071.28	1.34	-1.29	0.38
12,741.00	90.34	357.81	7,381.49	5,166.20	-918.36	5,166.20	1.39	1.35	0.33
12,835.00	90.77	359.12	7,380.57	5,260.16	-920.88	5,260.16	1.47	0.46	1.39
12,930.00	90.13	1.03	7,379.83	5,355.15	-920.75	5,355.15	2.12	-0.67	2.01
13,024.00	86.91	356.57	7,382.26	5,449.06	-922.72	5,449.06	5.85	-3.43	-4.74
13,118.00	91.74	358.76	7,383.36	5,542.94	-926.54	5,542.94	5.64	5.14	2.33
13,213.00	91.58	359.65	7,380.61	5,637.89	-927.86	5,637.89	0.95	-0.17	0.94
13,307.00	90.84	0.26	7,378.63	5,731.87	-927.94	5,731.87	1.02	-0.79	0.65
13,401.00	91.48	2.06	7,376.72	5,825.83	-926.03	5,825.83	2.03	0.68	1.91
13,496.00	91.34	2.64	7,374.39	5,920.72	-922.14	5,920.72	0.63	-0.15	0.61
13,590.00	89.09	2.38	7,374.03	6,014.62	-918.02	6,014.62	2.41	-2.39	-0.28
13,684.00	89.70	2.31	7,375.03	6,108.54	-914.18	6,108.54	0.65	0.65	-0.07
13,779.00	90.64	3.06	7,374.74	6,203.43	-909.73	6,203.43	1.27	0.99	0.79
13,873.00	88.25	2.30	7,375.65	6,297.31	-905.33	6,297.31	2.67	-2.54	-0.81
13,967.00	89.36	0.49	7,377.62	6,391.26	-903.04	6,391.26	2.26	1.18	-1.93
14,062.00	90.17	0.40	7,378.01	6,486.26	-902.31	6,486.26	0.86	0.85	-0.09
14,156.00	88.96	1.65	7,378.72	6,580.24	-900.63	6,580.24	1.85	-1.29	1.33
14,250.00	90.20	2.05	7,379.41	6,674.18	-897.59	6,674.18	1.39	1.32	0.43
14,345.00	87.69	1.03	7,381.16	6,769.12	-895.04	6,769.12	2.85	-2.64	-1.07
14,439.00	89.73	359.11	7,383.27	6,863.09	-894.92	6,863.09	2.98	2.17	-2.04
14,464.00	89.83	358.45	7,383.37	6,888.08	-895.46	6,888.08	2.67	0.40	-2.64
LAST SDI MWD PRODUCTION SURVEY									
14,533.00	89.83	358.45	7,383.57	6,957.06	-897.32	6,957.06	0.00	0.00	0.00
SDI PROJECTION TO TD									

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (in)	Hole Diameter (in)
1,108.00	1,107.98	9 5/8"		9.625	12.250
7,821.00	7,358.63	7" (675 FSL 1297 FEL)		7.000	7.500

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
125.00	125.00	-0.30	-0.32	FIRST GYRO SURFACE SURVEY	
1,017.00	1,016.98	-0.98	0.91	LAST GYRO SURFACE SURVEY	
1,181.00	1,180.98	0.13	0.83	FIRST SDI MWD PRODUCTION SURVEY	
14,464.00	7,383.37	6,888.08	-895.46	LAST SDI MWD PRODUCTION SURVEY	
14,533.00	7,383.57	6,957.06	-897.32	SDI PROJECTION TO TD	

Checked By: _____ Approved By: _____ Date: _____



Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

PARAGON 16-6HZ PAD

PARAGON 24C-31HZ

OH

Design: OH

Survey Report - Geographic

03 February, 2014

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

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	PARAGON 16-6HZ PAD, SESE SECTION 6 T1N R65W		
Site Position:		Northing:	1,270,968.13 usft
From:	Lat/Long	Easting:	3,224,345.41 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	40.0744140
		Longitude:	-104.6983200
		Grid Convergence:	0.52 °

Well	PARAGON 24C-31HZ, 422 FSL 360 FEL		
Well Position	+N/-S	0.00 ft	Northing: 1,270,967.85 usft
	+E/-W	0.00 ft	Easting: 3,224,315.19 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	40.0744140
		Longitude:	-104.6984280
		Ground Level:	4,975.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	12/20/2013	8.50	66.70	52,623

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	282.14	

Survey Program	Date	2/3/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	1,017.00	Survey #1 MS SURFACE GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,181.00	14,533.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI_MWD+CRUST_1.0	SDI MWD + Crustal anomaly, Version 1.0	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	1,270,967.85	3,224,315.19	40.0744140	-104.6984280	
25.00	0.00	0.00	25.00	0.00	0.00	1,270,967.85	3,224,315.19	40.0744140	-104.6984280	
125.00	0.50	226.26	125.00	-0.30	-0.32	1,270,967.54	3,224,314.88	40.0744132	-104.6984291	
FIRST GYRO SURFACE SURVEY										
225.00	0.35	197.38	225.00	-0.89	-0.72	1,270,966.95	3,224,314.47	40.0744115	-104.6984306	
325.00	0.26	158.33	324.99	-1.40	-0.73	1,270,966.44	3,224,314.47	40.0744102	-104.6984306	
425.00	0.36	136.85	424.99	-1.84	-0.43	1,270,966.01	3,224,314.77	40.0744089	-104.6984295	
525.00	0.25	123.08	524.99	-2.19	-0.03	1,270,965.66	3,224,315.17	40.0744080	-104.6984281	
625.00	0.22	134.04	624.99	-2.44	0.29	1,270,965.41	3,224,315.50	40.0744073	-104.6984269	
725.00	0.28	132.52	724.99	-2.74	0.61	1,270,965.12	3,224,315.82	40.0744065	-104.6984258	
825.00	0.50	20.46	824.99	-2.49	0.94	1,270,965.36	3,224,316.15	40.0744071	-104.6984246	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
925.00	0.42	349.82	924.99	-1.72	1.03	1,270,966.13	3,224,316.23	40.0744093	-104.6984243
1,017.00	0.52	352.23	1,016.98	-0.98	0.91	1,270,966.88	3,224,316.11	40.0744113	-104.6984247
LAST GYRO SURFACE SURVEY									
1,108.00	0.37	356.22	1,107.98	-0.27	0.83	1,270,967.58	3,224,316.03	40.0744132	-104.6984250
9 5/8"									
1,181.00	0.26	2.62	1,180.98	0.13	0.83	1,270,967.99	3,224,316.01	40.0744143	-104.6984250
FIRST SDI MWD PRODUCTION SURVEY									
1,272.00	0.36	4.15	1,271.98	0.62	0.86	1,270,968.48	3,224,316.04	40.0744157	-104.6984249
1,364.00	0.17	339.15	1,363.98	1.04	0.83	1,270,968.89	3,224,316.01	40.0744168	-104.6984250
1,456.00	0.24	306.22	1,455.98	1.28	0.63	1,270,969.13	3,224,315.80	40.0744175	-104.6984257
1,547.00	0.32	312.78	1,546.97	1.56	0.28	1,270,969.42	3,224,315.46	40.0744183	-104.6984270
1,566.00	0.34	319.85	1,565.97	1.64	0.21	1,270,969.49	3,224,315.38	40.0744185	-104.6984272
1,658.00	0.13	335.46	1,657.97	1.95	-0.01	1,270,969.80	3,224,315.16	40.0744193	-104.6984280
1,750.00	0.23	12.58	1,749.97	2.22	-0.01	1,270,970.07	3,224,315.15	40.0744201	-104.6984280
1,841.00	0.23	3.94	1,840.97	2.58	0.04	1,270,970.43	3,224,315.20	40.0744211	-104.6984278
1,932.00	0.24	336.29	1,931.97	2.94	-0.02	1,270,970.79	3,224,315.14	40.0744221	-104.6984281
2,024.00	0.14	342.30	2,023.97	3.22	-0.14	1,270,971.07	3,224,315.02	40.0744228	-104.6984285
2,115.00	0.07	350.06	2,114.97	3.38	-0.18	1,270,971.23	3,224,314.98	40.0744233	-104.6984286
2,207.00	0.14	332.86	2,206.97	3.54	-0.24	1,270,971.39	3,224,314.92	40.0744237	-104.6984288
2,298.00	0.21	34.28	2,297.97	3.78	-0.20	1,270,971.62	3,224,314.96	40.0744244	-104.6984287
2,390.00	0.33	34.17	2,389.97	4.13	0.05	1,270,971.98	3,224,315.20	40.0744253	-104.6984278
2,482.00	0.39	27.48	2,481.97	4.63	0.34	1,270,972.48	3,224,315.49	40.0744267	-104.6984268
2,574.00	1.32	228.97	2,573.96	4.21	-0.32	1,270,972.06	3,224,314.83	40.0744256	-104.6984291
2,665.00	3.94	236.49	2,664.86	1.80	-3.71	1,270,969.61	3,224,311.46	40.0744189	-104.6984412
2,757.00	6.29	242.93	2,756.49	-2.24	-10.84	1,270,965.51	3,224,304.37	40.0744078	-104.6984667
2,848.00	7.52	243.95	2,846.82	-7.12	-20.63	1,270,960.54	3,224,294.63	40.0743944	-104.6985017
2,940.00	8.09	242.29	2,937.97	-12.78	-31.77	1,270,954.78	3,224,283.54	40.0743789	-104.6985415
3,031.00	8.79	239.63	3,027.99	-19.27	-43.43	1,270,948.19	3,224,271.93	40.0743611	-104.6985832
3,123.00	11.15	241.99	3,118.59	-27.00	-57.35	1,270,940.33	3,224,258.08	40.0743399	-104.6986329
3,215.00	11.94	242.82	3,208.73	-35.53	-73.67	1,270,931.66	3,224,241.84	40.0743165	-104.6986912
3,306.00	11.46	242.65	3,297.84	-43.98	-90.08	1,270,923.06	3,224,225.51	40.0742933	-104.6987499
3,398.00	10.66	241.85	3,388.13	-52.19	-105.70	1,270,914.70	3,224,209.97	40.0742707	-104.6988057
3,489.00	9.95	240.05	3,477.66	-60.09	-119.93	1,270,906.68	3,224,195.80	40.0742490	-104.6988565
3,581.00	8.92	238.04	3,568.41	-67.83	-132.87	1,270,898.82	3,224,182.94	40.0742278	-104.6989028
3,673.00	9.33	236.90	3,659.25	-75.68	-145.17	1,270,890.86	3,224,170.71	40.0742062	-104.6989467
3,764.00	9.62	245.74	3,749.01	-82.84	-158.28	1,270,883.59	3,224,157.66	40.0741866	-104.6989936
3,856.00	8.95	246.99	3,839.81	-88.79	-171.88	1,270,877.51	3,224,144.12	40.0741702	-104.6990422
3,948.00	9.83	243.89	3,930.57	-95.04	-185.52	1,270,871.13	3,224,130.54	40.0741531	-104.6990909
4,039.00	8.76	239.28	4,020.38	-102.00	-198.45	1,270,864.06	3,224,117.67	40.0741340	-104.6991371
4,131.00	8.83	238.42	4,111.30	-109.28	-210.49	1,270,856.67	3,224,105.70	40.0741140	-104.6991801
4,223.00	9.74	232.93	4,202.09	-117.67	-222.71	1,270,848.17	3,224,093.55	40.0740910	-104.6992238
4,317.00	10.62	235.74	4,294.61	-127.34	-236.22	1,270,838.38	3,224,080.13	40.0740644	-104.6992721
4,411.00	10.28	234.96	4,387.05	-137.03	-250.24	1,270,828.56	3,224,066.19	40.0740378	-104.6993222
4,506.00	9.90	243.14	4,480.59	-145.59	-264.47	1,270,819.88	3,224,052.05	40.0740143	-104.6993730
4,600.00	9.41	247.05	4,573.26	-152.24	-278.75	1,270,813.10	3,224,037.82	40.0739961	-104.6994241
4,694.00	9.25	246.94	4,666.01	-158.19	-292.78	1,270,807.02	3,224,023.85	40.0739797	-104.6994742
4,789.00	9.49	238.90	4,759.75	-165.23	-306.51	1,270,799.86	3,224,010.18	40.0739604	-104.6995233
4,883.00	10.21	238.18	4,852.36	-173.62	-320.23	1,270,791.34	3,223,996.54	40.0739374	-104.6995723
4,977.00	9.50	234.54	4,944.98	-182.52	-333.63	1,270,782.32	3,223,983.23	40.0739129	-104.6996201
5,071.00	10.91	234.01	5,037.49	-192.24	-347.14	1,270,772.48	3,223,969.80	40.0738862	-104.6996684
5,166.00	9.84	230.33	5,130.93	-202.71	-360.67	1,270,761.89	3,223,956.37	40.0738575	-104.6997168
5,260.00	9.87	234.12	5,223.55	-212.56	-373.38	1,270,751.92	3,223,943.75	40.0738305	-104.6997622
5,355.00	10.31	239.82	5,317.08	-221.60	-387.32	1,270,742.75	3,223,929.89	40.0738056	-104.6998120
5,449.00	10.19	241.00	5,409.58	-229.86	-401.87	1,270,734.36	3,223,915.42	40.0737830	-104.6998640
5,543.00	9.02	237.16	5,502.26	-237.89	-415.33	1,270,726.21	3,223,902.03	40.0737609	-104.6999121

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,638.00	9.89	240.40	5,595.97	-245.96	-428.68	1,270,718.02	3,223,888.75	40.0737388	-104.6999598
5,732.00	10.24	239.72	5,688.53	-254.16	-442.92	1,270,709.69	3,223,874.59	40.0737163	-104.7000107
5,826.00	9.94	236.90	5,781.07	-262.80	-456.93	1,270,700.93	3,223,860.66	40.0736925	-104.7000607
5,921.00	9.82	226.84	5,874.67	-272.82	-469.71	1,270,690.79	3,223,847.97	40.0736650	-104.7001064
6,015.00	10.21	236.68	5,967.24	-282.88	-482.52	1,270,680.61	3,223,835.25	40.0736374	-104.7001522
6,109.00	8.08	235.85	6,060.04	-291.17	-494.95	1,270,672.22	3,223,822.89	40.0736147	-104.7001966
6,203.00	8.63	229.27	6,153.05	-299.48	-505.76	1,270,663.81	3,223,812.16	40.0735918	-104.7002352
6,298.00	8.74	225.96	6,246.96	-309.15	-516.35	1,270,654.05	3,223,801.66	40.0735653	-104.7002731
6,392.00	7.84	231.08	6,339.98	-318.14	-526.47	1,270,644.96	3,223,791.62	40.0735406	-104.7003092
6,486.00	10.01	230.71	6,432.83	-327.34	-537.78	1,270,635.66	3,223,780.39	40.0735154	-104.7003496
6,533.00	11.59	234.08	6,479.00	-332.70	-544.77	1,270,630.24	3,223,773.45	40.0735007	-104.7003746
6,581.00	15.54	236.99	6,525.65	-339.03	-554.07	1,270,623.82	3,223,764.21	40.0734833	-104.7004078
6,628.00	21.41	241.51	6,570.21	-346.56	-566.90	1,270,616.18	3,223,751.45	40.0734626	-104.7004537
6,675.00	25.68	249.69	6,613.30	-354.20	-584.00	1,270,608.39	3,223,734.41	40.0734416	-104.7005148
6,722.00	26.66	258.17	6,655.50	-359.89	-603.88	1,270,602.51	3,223,714.59	40.0734260	-104.7005858
6,769.00	27.09	266.09	6,697.44	-362.79	-624.88	1,270,599.43	3,223,693.61	40.0734181	-104.7006609
6,816.00	27.56	273.40	6,739.20	-362.87	-646.42	1,270,599.15	3,223,672.07	40.0734178	-104.7007378
6,864.00	28.34	287.61	6,781.65	-358.76	-668.39	1,270,603.06	3,223,650.07	40.0734291	-104.7008163
6,911.00	28.39	298.18	6,823.04	-350.10	-688.88	1,270,611.53	3,223,629.50	40.0734529	-104.7008896
6,958.00	28.17	303.71	6,864.43	-338.67	-707.97	1,270,622.79	3,223,610.31	40.0734843	-104.7009578
7,005.00	27.97	308.58	6,905.91	-325.64	-725.81	1,270,635.66	3,223,592.35	40.0735200	-104.7010215
7,053.00	25.83	318.20	6,948.73	-310.81	-741.59	1,270,650.35	3,223,576.44	40.0735607	-104.7010779
7,100.00	27.34	329.38	6,990.79	-293.88	-753.92	1,270,667.17	3,223,563.95	40.0736072	-104.7011220
7,147.00	32.46	332.32	7,031.52	-273.41	-765.29	1,270,687.53	3,223,552.41	40.0736634	-104.7011626
7,194.00	36.28	328.89	7,070.31	-250.32	-778.34	1,270,710.50	3,223,539.15	40.0737268	-104.7012092
7,241.00	39.74	330.03	7,107.34	-225.39	-793.03	1,270,735.30	3,223,524.23	40.0737952	-104.7012617
7,288.00	42.38	329.49	7,142.78	-198.73	-808.58	1,270,761.82	3,223,508.44	40.0738684	-104.7013173
7,335.00	45.82	328.88	7,176.52	-170.65	-825.34	1,270,789.75	3,223,491.43	40.0739455	-104.7013772
7,382.00	50.82	331.04	7,207.77	-140.26	-842.88	1,270,819.98	3,223,473.61	40.0740289	-104.7014399
7,430.00	56.70	333.88	7,236.14	-105.93	-860.74	1,270,854.14	3,223,455.44	40.0741231	-104.7015037
7,477.00	62.08	335.42	7,260.06	-69.39	-878.04	1,270,890.53	3,223,437.82	40.0742235	-104.7015655
7,524.00	66.69	338.68	7,280.38	-30.37	-894.53	1,270,929.39	3,223,420.97	40.0743306	-104.7016245
7,571.00	68.67	344.79	7,298.24	10.90	-908.13	1,270,970.54	3,223,406.99	40.0744439	-104.7016731
7,618.00	69.80	348.90	7,314.91	53.68	-918.13	1,271,013.23	3,223,396.61	40.0745613	-104.7017088
7,665.00	71.65	352.11	7,330.43	97.43	-925.44	1,271,056.91	3,223,388.91	40.0746814	-104.7017349
7,713.00	77.65	352.80	7,343.13	143.30	-931.51	1,271,102.72	3,223,382.42	40.0748073	-104.7017566
7,760.00	81.34	353.06	7,351.70	189.15	-937.20	1,271,148.52	3,223,376.32	40.0749332	-104.7017769
7,773.00	82.42	353.22	7,353.53	201.93	-938.73	1,271,161.28	3,223,374.67	40.0749683	-104.7017824
7,821.00	85.40	354.96	7,358.63	249.39	-943.64	1,271,208.70	3,223,369.33	40.0750986	-104.7018000
7" (675 FSL 1297 FEL)									
7,881.00	89.13	357.12	7,361.49	309.17	-947.78	1,271,268.44	3,223,364.65	40.0752627	-104.7018148
7,973.00	88.79	357.12	7,363.16	401.04	-952.40	1,271,360.26	3,223,359.20	40.0755148	-104.7018313
8,064.00	89.16	357.23	7,364.79	491.91	-956.88	1,271,451.09	3,223,353.90	40.0757643	-104.7018473
8,156.00	89.50	358.89	7,365.86	583.85	-960.00	1,271,543.00	3,223,349.95	40.0760167	-104.7018585
8,247.00	89.43	1.12	7,366.71	674.84	-959.99	1,271,633.98	3,223,349.14	40.0762665	-104.7018585
8,339.00	89.60	2.96	7,367.49	766.77	-956.72	1,271,725.94	3,223,351.58	40.0765189	-104.7018468
8,431.00	90.44	2.49	7,367.46	858.67	-952.34	1,271,817.87	3,223,355.12	40.0767711	-104.7018312
8,522.00	90.94	1.83	7,366.36	949.60	-948.91	1,271,908.83	3,223,357.73	40.0770207	-104.7018189
8,614.00	89.83	0.97	7,365.74	1,041.57	-946.67	1,272,000.81	3,223,359.15	40.0772732	-104.7018109
8,705.00	89.16	1.53	7,366.55	1,132.54	-944.68	1,272,091.80	3,223,360.31	40.0775229	-104.7018038
8,797.00	89.66	1.25	7,367.49	1,224.51	-942.45	1,272,183.78	3,223,361.71	40.0777754	-104.7017959
8,889.00	89.80	2.09	7,367.93	1,316.47	-939.77	1,272,275.76	3,223,363.56	40.0780278	-104.7017863
8,980.00	90.30	1.56	7,367.85	1,407.42	-936.87	1,272,366.74	3,223,365.64	40.0782775	-104.7017759
9,072.00	90.37	0.75	7,367.31	1,499.40	-935.01	1,272,458.73	3,223,366.66	40.0785300	-104.7017693
9,164.00	90.17	1.76	7,366.88	1,591.37	-933.00	1,272,550.72	3,223,367.84	40.0787825	-104.7017621

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,255.00	90.74	1.90	7,366.15	1,682.32	-930.09	1,272,641.69	3,223,369.93	40.0790322	-104.7017518
9,347.00	90.07	1.06	7,365.50	1,774.29	-927.72	1,272,733.68	3,223,371.47	40.0792846	-104.7017433
9,439.00	90.77	2.04	7,364.83	1,866.25	-925.23	1,272,825.66	3,223,373.13	40.0795371	-104.7017344
9,533.00	88.56	1.65	7,365.38	1,960.20	-922.20	1,272,919.62	3,223,375.30	40.0797950	-104.7017236
9,627.00	90.70	2.65	7,365.99	2,054.12	-918.68	1,273,013.58	3,223,377.98	40.0800528	-104.7017110
9,722.00	91.11	1.76	7,364.49	2,149.04	-915.02	1,273,108.52	3,223,380.78	40.0803134	-104.7016980
9,816.00	89.20	1.03	7,364.23	2,243.00	-912.73	1,273,202.51	3,223,382.22	40.0805713	-104.7016898
9,910.00	90.84	1.34	7,364.20	2,336.98	-910.79	1,273,296.50	3,223,383.31	40.0808293	-104.7016829
10,005.00	90.81	1.45	7,362.83	2,431.94	-908.48	1,273,391.47	3,223,384.77	40.0810900	-104.7016746
10,099.00	88.32	0.02	7,363.54	2,525.92	-907.27	1,273,485.46	3,223,385.12	40.0813480	-104.7016703
10,194.00	89.16	0.79	7,365.63	2,620.90	-906.60	1,273,580.44	3,223,384.93	40.0816087	-104.7016679
10,288.00	88.89	0.32	7,367.23	2,714.88	-905.69	1,273,674.42	3,223,385.00	40.0818667	-104.7016647
10,382.00	87.99	0.41	7,369.79	2,808.84	-905.09	1,273,768.39	3,223,384.74	40.0821246	-104.7016626
10,477.00	87.65	359.55	7,373.41	2,903.77	-905.12	1,273,863.31	3,223,383.85	40.0823852	-104.7016627
10,571.00	87.69	359.82	7,377.23	2,997.69	-905.64	1,273,957.22	3,223,382.49	40.0826431	-104.7016646
10,665.00	89.73	358.99	7,379.34	3,091.66	-906.62	1,274,051.18	3,223,380.66	40.0829010	-104.7016681
10,760.00	91.24	359.85	7,378.54	3,186.64	-907.58	1,274,146.15	3,223,378.84	40.0831618	-104.7016715
10,854.00	91.64	359.75	7,376.18	3,280.61	-907.91	1,274,240.11	3,223,377.67	40.0834197	-104.7016727
10,948.00	90.37	359.32	7,374.53	3,374.59	-908.67	1,274,334.08	3,223,376.05	40.0836777	-104.7016754
11,042.00	85.88	357.69	7,377.60	3,468.48	-911.12	1,274,427.95	3,223,372.76	40.0839355	-104.7016842
11,137.00	88.05	357.18	7,382.63	3,563.25	-915.36	1,274,522.67	3,223,367.65	40.0841956	-104.7016994
11,231.00	89.56	356.81	7,384.59	3,657.10	-920.29	1,274,616.47	3,223,361.88	40.0844532	-104.7017170
11,325.00	90.23	358.65	7,384.77	3,751.02	-924.01	1,274,710.35	3,223,357.31	40.0847111	-104.7017303
11,420.00	91.78	359.88	7,383.10	3,845.99	-925.23	1,274,805.31	3,223,355.23	40.0849718	-104.7017347
11,514.00	91.31	1.33	7,380.56	3,939.95	-924.24	1,274,899.27	3,223,355.37	40.0852297	-104.7017311
11,608.00	90.34	1.95	7,379.21	4,033.90	-921.55	1,274,993.25	3,223,357.21	40.0854876	-104.7017215
11,702.00	90.40	1.24	7,378.60	4,127.86	-918.93	1,275,087.23	3,223,358.98	40.0857456	-104.7017122
11,797.00	90.37	2.51	7,377.97	4,222.81	-915.83	1,275,182.19	3,223,361.23	40.0860062	-104.7017011
11,891.00	90.10	2.11	7,377.58	4,316.73	-912.04	1,275,276.15	3,223,364.17	40.0862640	-104.7016876
11,986.00	89.83	0.38	7,377.64	4,411.70	-909.97	1,275,371.14	3,223,365.38	40.0865248	-104.7016802
12,080.00	91.21	1.85	7,376.79	4,505.68	-908.14	1,275,465.12	3,223,366.35	40.0867827	-104.7016737
12,174.00	90.87	2.36	7,375.08	4,599.60	-904.69	1,275,559.07	3,223,368.96	40.0870406	-104.7016614
12,269.00	87.85	359.70	7,376.14	4,694.56	-902.98	1,275,654.04	3,223,369.81	40.0873012	-104.7016553
12,363.00	88.59	359.06	7,379.06	4,788.50	-904.00	1,275,747.98	3,223,367.94	40.0875591	-104.7016589
12,457.00	89.73	358.22	7,380.44	4,882.46	-906.23	1,275,841.91	3,223,364.86	40.0878171	-104.7016669
12,552.00	90.27	357.14	7,380.44	4,977.38	-910.08	1,275,936.79	3,223,360.16	40.0880776	-104.7016807
12,646.00	89.06	357.50	7,380.99	5,071.28	-914.47	1,276,030.64	3,223,354.91	40.0883354	-104.7016964
12,741.00	90.34	357.81	7,381.49	5,166.20	-918.36	1,276,125.52	3,223,350.17	40.0885960	-104.7017103
12,835.00	90.77	359.12	7,380.57	5,260.16	-920.88	1,276,219.45	3,223,346.80	40.0888539	-104.7017193
12,930.00	90.13	1.03	7,379.83	5,355.15	-920.75	1,276,314.44	3,223,346.07	40.0891147	-104.7017189
13,024.00	86.91	356.57	7,382.26	5,449.06	-922.72	1,276,408.33	3,223,343.25	40.0893725	-104.7017259
13,118.00	91.74	358.76	7,383.36	5,542.94	-926.54	1,276,502.18	3,223,338.58	40.0896302	-104.7017396
13,213.00	91.58	359.65	7,380.61	5,637.89	-927.86	1,276,597.11	3,223,336.40	40.0898908	-104.7017443
13,307.00	90.84	0.26	7,378.63	5,731.87	-927.94	1,276,691.08	3,223,335.48	40.0901488	-104.7017446
13,401.00	91.48	2.06	7,376.72	5,825.83	-926.03	1,276,785.05	3,223,336.53	40.0904067	-104.7017378
13,496.00	91.34	2.64	7,374.39	5,920.72	-922.14	1,276,879.98	3,223,339.57	40.0906672	-104.7017239
13,590.00	89.09	2.38	7,374.03	6,014.62	-918.02	1,276,973.91	3,223,342.84	40.0909250	-104.7017092
13,684.00	89.70	2.31	7,375.03	6,108.54	-914.18	1,277,067.86	3,223,345.83	40.0911828	-104.7016955
13,779.00	90.64	3.06	7,374.74	6,203.43	-909.73	1,277,162.79	3,223,349.43	40.0914433	-104.7016796
13,873.00	88.25	2.30	7,375.65	6,297.31	-905.33	1,277,256.71	3,223,352.97	40.0917011	-104.7016639
13,967.00	89.36	0.49	7,377.62	6,391.26	-903.04	1,277,350.67	3,223,354.41	40.0919590	-104.7016557
14,062.00	90.17	0.40	7,378.01	6,486.26	-902.31	1,277,445.67	3,223,354.29	40.0922197	-104.7016531
14,156.00	88.96	1.65	7,378.72	6,580.24	-900.63	1,277,539.66	3,223,355.12	40.0924777	-104.7016471
14,250.00	90.20	2.05	7,379.41	6,674.18	-897.59	1,277,633.63	3,223,357.31	40.0927356	-104.7016363
14,345.00	87.69	1.03	7,381.16	6,769.12	-895.04	1,277,728.59	3,223,359.00	40.0929962	-104.7016271

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well PARAGON 24C-31HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Site:	PARAGON 16-6HZ PAD	MD Reference:	GL 4975 & KB 25 @ 5000.00ft (HP 311)
Well:	PARAGON 24C-31HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,439.00	89.73	359.11	7,383.27	6,863.09	-894.92	1,277,822.55	3,223,358.26	40.0932542	-104.7016267
14,464.00	89.83	358.45	7,383.37	6,888.08	-895.46	1,277,847.54	3,223,357.51	40.0933228	-104.7016287
LAST SDI MWD PRODUCTION SURVEY									
14,533.00	89.83	358.45	7,383.57	6,957.06	-897.32	1,277,916.50	3,223,355.02	40.0935122	-104.7016353
SDI PROJECTION TO TD									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,108.00	1,107.98	9 5/8"	9.625	12.250	
7,821.00	7,358.63	7" (675 FSL 1297 FEL)	7.000	7.500	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
125.00	125.00	-0.30	-0.32	FIRST GYRO SURFACE SURVEY	
1,017.00	1,016.98	-0.98	0.91	LAST GYRO SURFACE SURVEY	
1,181.00	1,180.98	0.13	0.83	FIRST SDI MWD PRODUCTION SURVEY	
14,464.00	7,383.37	6,888.08	-895.46	LAST SDI MWD PRODUCTION SURVEY	
14,533.00	7,383.57	6,957.06	-897.32	SDI PROJECTION TO TD	

Checked By: _____ Approved By: _____ Date: _____