

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 6-T1N-R65W

PARAGON 40C-31HZ

Plan B

Plan: Plan B0 Permit

Sperry Drilling Services

Proposal Report

04 September, 2013

Well Coordinates: 1,270,968.40 N, 3,224,375.35 E (40° 04' 27.89" N, 104° 41' 53.57" W)

Ground Level: 4,975.00 ft

Local Coordinate Origin:

Centered on Well PARAGON 40C-31HZ

Viewing Datum:

RKB = 17' @ 4992.00ft (Drilling Rig)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 6-T1N-R65W
Well: PARAGON 40C-31HZ
Wellbore: Plan B
Design: Plan B0 Permit

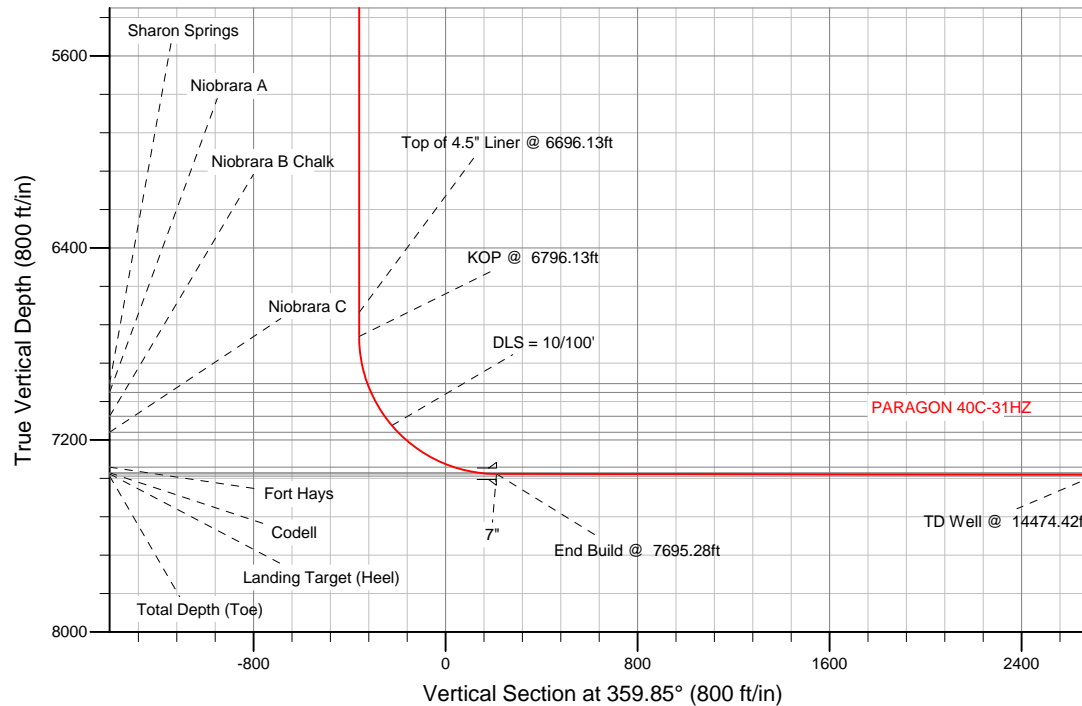


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	
3	1950.00	9.00	168.00	1948.15	-34.50	7.33	2.00	168.00	-34.52	
4	3850.00	9.00	168.00	3824.76	-325.23	69.13	0.00	0.00	-325.41	
5	4300.00	0.00	0.00	4272.91	-359.73	76.46	2.00	180.00	-359.93	
6	6796.13	0.00	0.00	6769.04	-359.73	76.46	0.00	0.00	-359.93	
7	7695.28	89.92	359.85	7342.00	212.38	74.93	10.00	359.85	212.18	
8	14474.42	89.92	359.85	7352.00	6991.49	56.80	0.00	0.00	6991.31	Paragon 40C-31HZ_BHL

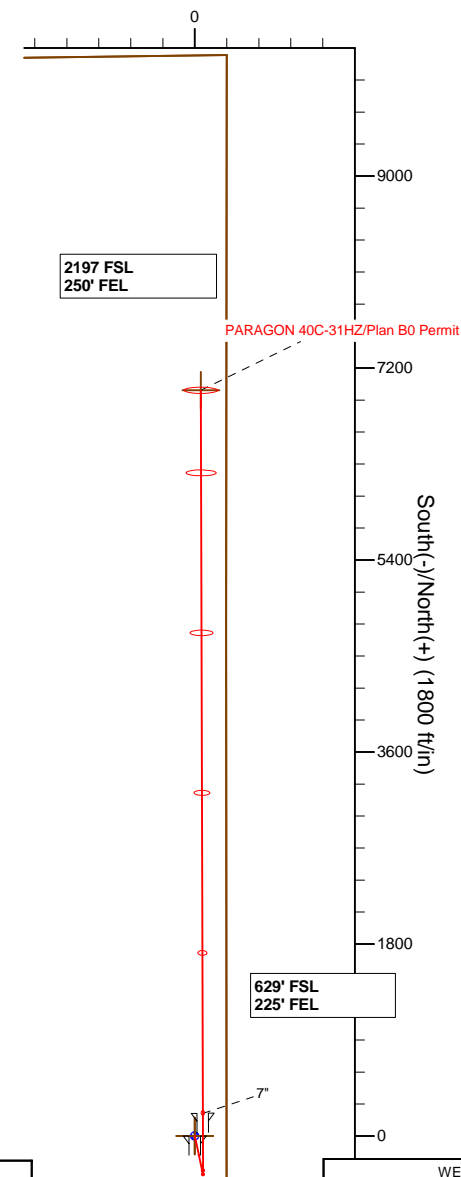
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Paragon 40C-31HZ_SHL	0.00	0.00	0.00	40.074414	-104.698213	Point
Paragon_Sec	0.00	0.00	0.00	40.074414	-104.698213	Polygon
Paragon 40C-31HZ_BHL	7352.00	6991.49	56.80	40.093606	-104.698010	Point



TVD	MD	
6669.04	6696.13	Top of 4.5" Liner @ 6696.13ft
6769.04	6796.13	KOP @ 6796.13ft

West(-)/East(+) (1800 ft/in)

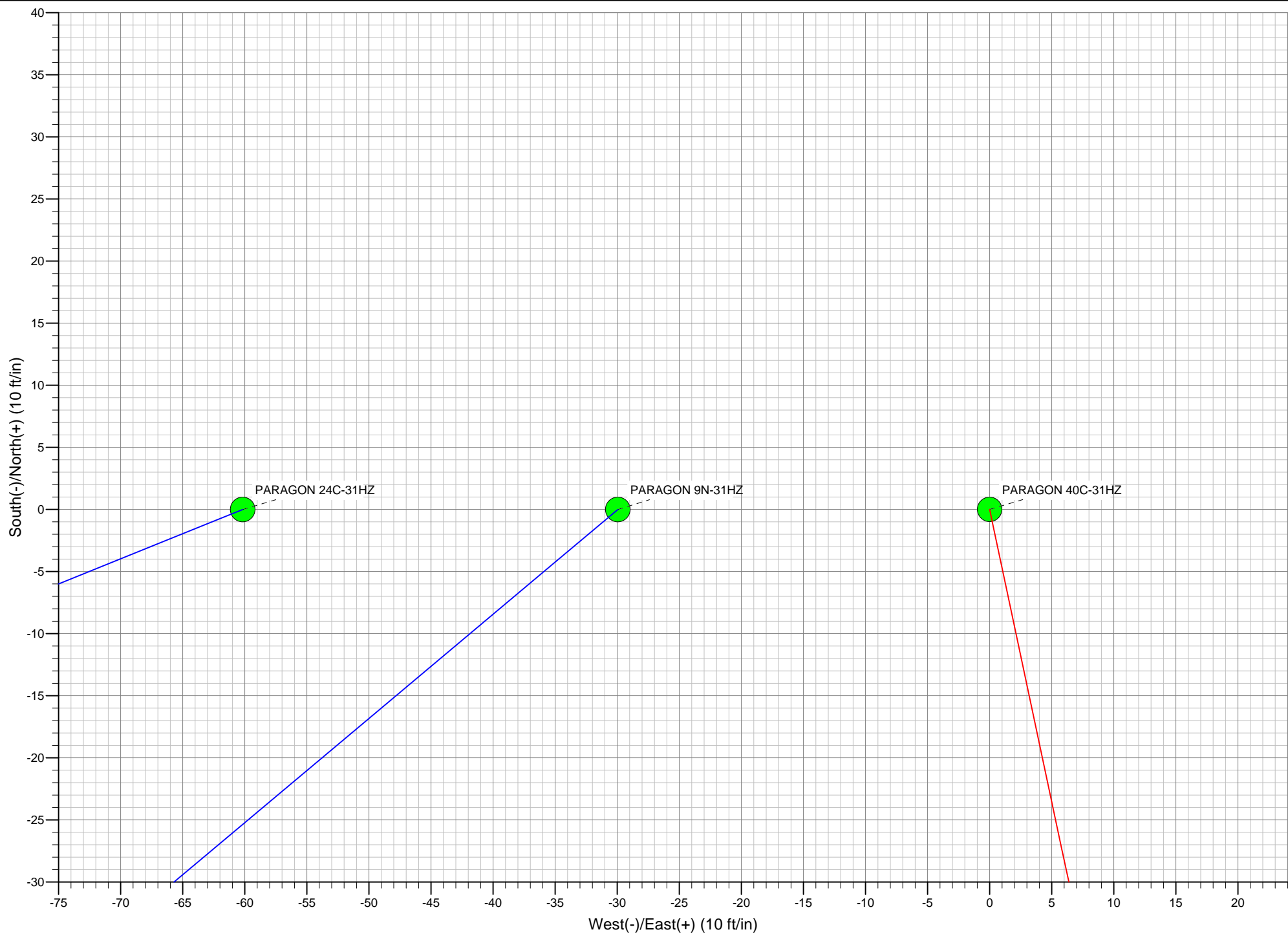


WELL DETAILS: PARAGON 40C-31HZ

Ground Level: 4975.00
RKB = 17' @ 4992.00ft (Drilling Rig)

Plan: Plan B0 Permit (PARAGON 40C-31HZ/Plan B)

Created By: Clint Eshelman Date: 09/04/2013



Plan Report for PARAGON 40C-31HZ - Plan B0 Permit

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paragon 40C-31HZ_SHL - Paragon_Sec										
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
1,025.00	0.00	0.00	1,025.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base										
1,075.00	0.00	0.00	1,075.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
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
1,400.00	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
Begin Nudge @ 1500.00ft										
1,600.00	2.00	168.00	1,599.98	-1.71	0.36	-1.71	2.00	2.00	0.00	168.00
1,700.00	4.00	168.00	1,699.84	-6.83	1.45	-6.83	2.00	2.00	0.00	0.00
1,800.00	6.00	168.00	1,799.45	-15.35	3.26	-15.36	2.00	2.00	0.00	0.00
1,900.00	8.00	168.00	1,898.70	-27.27	5.80	-27.29	2.00	2.00	0.00	0.00
1,950.00	9.00	168.00	1,948.15	-34.50	7.33	-34.52	2.00	2.00	0.00	0.00
End Nudge @ 1950.00ft										
2,000.00	9.00	168.00	1,997.54	-42.15	8.96	-42.17	0.00	0.00	0.00	0.00
2,100.00	9.00	168.00	2,096.30	-57.45	12.21	-57.48	0.00	0.00	0.00	0.00
2,200.00	9.00	168.00	2,195.07	-72.75	15.46	-72.79	0.00	0.00	0.00	0.00
2,300.00	9.00	168.00	2,293.84	-88.06	18.72	-88.10	0.00	0.00	0.00	0.00
2,400.00	9.00	168.00	2,392.61	-103.36	21.97	-103.41	0.00	0.00	0.00	0.00
2,500.00	9.00	168.00	2,491.38	-118.66	25.22	-118.72	0.00	0.00	0.00	0.00
2,600.00	9.00	168.00	2,590.15	-133.96	28.47	-134.03	0.00	0.00	0.00	0.00
2,700.00	9.00	168.00	2,688.92	-149.26	31.73	-149.34	0.00	0.00	0.00	0.00
2,800.00	9.00	168.00	2,787.69	-164.56	34.98	-164.65	0.00	0.00	0.00	0.00
2,900.00	9.00	168.00	2,886.46	-179.86	38.23	-179.96	0.00	0.00	0.00	0.00
3,000.00	9.00	168.00	2,985.22	-195.17	41.48	-195.27	0.00	0.00	0.00	0.00
3,100.00	9.00	168.00	3,083.99	-210.47	44.74	-210.58	0.00	0.00	0.00	0.00
3,200.00	9.00	168.00	3,182.76	-225.77	47.99	-225.89	0.00	0.00	0.00	0.00
3,300.00	9.00	168.00	3,281.53	-241.07	51.24	-241.20	0.00	0.00	0.00	0.00
3,400.00	9.00	168.00	3,380.30	-256.37	54.49	-256.51	0.00	0.00	0.00	0.00
3,500.00	9.00	168.00	3,479.07	-271.67	57.75	-271.82	0.00	0.00	0.00	0.00
3,600.00	9.00	168.00	3,577.84	-286.98	61.00	-287.13	0.00	0.00	0.00	0.00
3,700.00	9.00	168.00	3,676.61	-302.28	64.25	-302.44	0.00	0.00	0.00	0.00
3,800.00	9.00	168.00	3,775.38	-317.58	67.50	-317.75	0.00	0.00	0.00	0.00
3,850.00	9.00	168.00	3,824.76	-325.23	69.13	-325.41	0.00	0.00	0.00	0.00
Begin Drop @ 3850.00ft										
3,900.00	8.00	168.00	3,874.21	-332.46	70.67	-332.64	2.00	-2.00	0.00	180.00
4,000.00	6.00	168.00	3,973.46	-344.38	73.20	-344.57	2.00	-2.00	0.00	180.00
4,100.00	4.00	168.00	4,073.07	-352.90	75.01	-353.10	2.00	-2.00	0.00	180.00
4,200.00	2.00	168.00	4,172.93	-358.02	76.10	-358.22	2.00	-2.00	0.00	180.00
4,300.00	0.00	0.00	4,272.91	-359.73	76.46	-359.93	2.00	-2.00	0.00	-180.00
End Drop @ 4300.00ft										
4,400.00	0.00	0.00	4,372.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,472.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00

Plan Report for PARAGON 40C-31HZ - Plan B0 Permit

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
4,566.09	0.00	0.00	4,539.00	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
Parkman										
4,600.00	0.00	0.00	4,572.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,672.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,772.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,872.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,972.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,072.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,172.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,224.09	0.00	0.00	5,197.00	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
Sussex										
5,300.00	0.00	0.00	5,272.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,372.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,472.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,572.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,672.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,772.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,872.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,972.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,072.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,172.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,272.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,372.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,472.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,572.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,696.13	0.00	0.00	6,669.04	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6696.13ft										
6,700.00	0.00	0.00	6,672.91	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
6,796.13	0.00	0.00	6,769.04	-359.73	76.46	-359.93	0.00	0.00	0.00	0.00
KOP @ 6796.13ft										
6,800.00	0.39	359.85	6,772.91	-359.72	76.46	-359.92	10.00	10.00	0.00	359.85
6,900.00	10.39	359.85	6,872.34	-350.34	76.44	-350.54	10.00	10.00	0.00	0.00
6,997.19	20.11	359.85	6,966.00	-324.81	76.37	-325.01	10.00	10.00	0.00	0.00
Sharon Springs										
7,000.00	20.39	359.85	6,968.64	-323.84	76.37	-324.04	10.00	10.00	0.00	0.00
7,037.13	24.10	359.85	7,003.00	-309.79	76.33	-309.98	10.00	10.00	0.00	0.00
Niobrara A										
7,100.00	30.39	359.85	7,058.87	-281.02	76.25	-281.22	10.00	10.00	0.00	0.00
7,151.43	35.53	359.85	7,102.00	-253.05	76.18	-253.25	10.00	10.00	0.00	0.00
Niobrara B Chalk										
7,200.00	40.39	359.85	7,140.29	-223.19	76.10	-223.38	10.00	10.00	0.00	0.00
DLS = 10/100'										
7,237.45	44.13	359.85	7,168.00	-198.01	76.03	-198.20	10.00	10.00	0.00	0.00
Niobrara C										
7,300.00	50.39	359.85	7,210.43	-152.09	75.91	-152.29	10.00	10.00	0.00	0.00
7,400.00	60.39	359.85	7,267.16	-69.89	75.69	-70.09	10.00	10.00	0.00	0.00
7,500.00	70.39	359.85	7,308.76	20.90	75.44	20.71	10.00	10.00	0.00	0.00
7,516.27	72.01	359.85	7,314.00	36.31	75.40	36.11	10.00	10.00	0.00	0.00
Fort Hays										
7,600.00	80.39	359.85	7,333.95	117.55	75.19	117.35	10.00	10.00	0.00	0.00
7,620.39	82.43	359.85	7,337.00	137.70	75.13	137.51	10.00	10.00	0.00	0.00
Codell										
7,695.28	89.91	359.85	7,342.00	212.38	74.93	212.18	10.00	10.00	0.00	0.00
End Build @ 7695.28ft - Landing Target (Heel) - 7"										
7,700.00	89.92	359.85	7,342.01	217.10	74.92	216.90	0.01	0.01	0.00	0.00
7,800.00	89.92	359.85	7,342.15	317.10	74.65	316.90	0.00	0.00	0.00	0.00
7,900.00	89.92	359.85	7,342.30	417.10	74.38	416.90	0.00	0.00	0.00	0.00
8,000.00	89.92	359.85	7,342.45	517.09	74.12	516.90	0.00	0.00	0.00	0.00

Plan Report for PARAGON 40C-31HZ - Plan B0 Permit

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
8,100.00	89.92	359.85	7,342.60	617.09	73.85	616.90	0.00	0.00	0.00	0.00
8,200.00	89.92	359.85	7,342.74	717.09	73.58	716.90	0.00	0.00	0.00	0.00
8,300.00	89.92	359.85	7,342.89	817.09	73.31	816.90	0.00	0.00	0.00	0.00
8,400.00	89.92	359.85	7,343.04	917.09	73.05	916.90	0.00	0.00	0.00	0.00
8,500.00	89.92	359.85	7,343.19	1,017.09	72.78	1,016.90	0.00	0.00	0.00	0.00
8,600.00	89.92	359.85	7,343.33	1,117.09	72.51	1,116.90	0.00	0.00	0.00	0.00
8,700.00	89.92	359.85	7,343.48	1,217.09	72.24	1,216.90	0.00	0.00	0.00	0.00
8,800.00	89.92	359.85	7,343.63	1,317.09	71.98	1,316.90	0.00	0.00	0.00	0.00
8,900.00	89.92	359.85	7,343.78	1,417.09	71.71	1,416.90	0.00	0.00	0.00	0.00
9,000.00	89.92	359.85	7,343.92	1,517.09	71.44	1,516.90	0.00	0.00	0.00	0.00
9,100.00	89.92	359.85	7,344.07	1,617.09	71.17	1,616.90	0.00	0.00	0.00	0.00
9,200.00	89.92	359.85	7,344.22	1,717.09	70.91	1,716.90	0.00	0.00	0.00	0.00
9,300.00	89.92	359.85	7,344.37	1,817.09	70.64	1,816.90	0.00	0.00	0.00	0.00
9,400.00	89.92	359.85	7,344.51	1,917.09	70.37	1,916.90	0.00	0.00	0.00	0.00
9,500.00	89.92	359.85	7,344.66	2,017.09	70.10	2,016.90	0.00	0.00	0.00	0.00
9,600.00	89.92	359.85	7,344.81	2,117.09	69.84	2,116.90	0.00	0.00	0.00	0.00
9,700.00	89.92	359.85	7,344.96	2,217.09	69.57	2,216.90	0.00	0.00	0.00	0.00
9,800.00	89.92	359.85	7,345.10	2,317.09	69.30	2,316.90	0.00	0.00	0.00	0.00
9,900.00	89.92	359.85	7,345.25	2,417.09	69.03	2,416.90	0.00	0.00	0.00	0.00
10,000.00	89.92	359.85	7,345.40	2,517.09	68.77	2,516.90	0.00	0.00	0.00	0.00
10,100.00	89.92	359.85	7,345.55	2,617.08	68.50	2,616.90	0.00	0.00	0.00	0.00
10,200.00	89.92	359.85	7,345.69	2,717.08	68.23	2,716.90	0.00	0.00	0.00	0.00
10,300.00	89.92	359.85	7,345.84	2,817.08	67.96	2,816.90	0.00	0.00	0.00	0.00
10,400.00	89.92	359.85	7,345.99	2,917.08	67.70	2,916.90	0.00	0.00	0.00	0.00
10,500.00	89.92	359.85	7,346.14	3,017.08	67.43	3,016.90	0.00	0.00	0.00	0.00
10,600.00	89.92	359.85	7,346.28	3,117.08	67.16	3,116.90	0.00	0.00	0.00	0.00
10,700.00	89.92	359.85	7,346.43	3,217.08	66.89	3,216.90	0.00	0.00	0.00	0.00
10,800.00	89.92	359.85	7,346.58	3,317.08	66.63	3,316.90	0.00	0.00	0.00	0.00
10,900.00	89.92	359.85	7,346.73	3,417.08	66.36	3,416.90	0.00	0.00	0.00	0.00
11,000.00	89.92	359.85	7,346.87	3,517.08	66.09	3,516.90	0.00	0.00	0.00	0.00
11,100.00	89.92	359.85	7,347.02	3,617.08	65.82	3,616.90	0.00	0.00	0.00	0.00
11,200.00	89.92	359.85	7,347.17	3,717.08	65.56	3,716.90	0.00	0.00	0.00	0.00
11,300.00	89.92	359.85	7,347.32	3,817.08	65.29	3,816.90	0.00	0.00	0.00	0.00
11,400.00	89.92	359.85	7,347.46	3,917.08	65.02	3,916.90	0.00	0.00	0.00	0.00
11,500.00	89.92	359.85	7,347.61	4,017.08	64.75	4,016.90	0.00	0.00	0.00	0.00
11,600.00	89.92	359.85	7,347.76	4,117.08	64.49	4,116.90	0.00	0.00	0.00	0.00
11,700.00	89.92	359.85	7,347.91	4,217.08	64.22	4,216.89	0.00	0.00	0.00	0.00
11,800.00	89.92	359.85	7,348.05	4,317.08	63.95	4,316.89	0.00	0.00	0.00	0.00
11,900.00	89.92	359.85	7,348.20	4,417.08	63.68	4,416.89	0.00	0.00	0.00	0.00
12,000.00	89.92	359.85	7,348.35	4,517.08	63.42	4,516.89	0.00	0.00	0.00	0.00
12,100.00	89.92	359.85	7,348.50	4,617.08	63.15	4,616.89	0.00	0.00	0.00	0.00
12,200.00	89.92	359.85	7,348.64	4,717.08	62.88	4,716.89	0.00	0.00	0.00	0.00
12,300.00	89.92	359.85	7,348.79	4,817.07	62.61	4,816.89	0.00	0.00	0.00	0.00
12,400.00	89.92	359.85	7,348.94	4,917.07	62.35	4,916.89	0.00	0.00	0.00	0.00
12,500.00	89.92	359.85	7,349.09	5,017.07	62.08	5,016.89	0.00	0.00	0.00	0.00
12,600.00	89.92	359.85	7,349.23	5,117.07	61.81	5,116.89	0.00	0.00	0.00	0.00
12,700.00	89.92	359.85	7,349.38	5,217.07	61.54	5,216.89	0.00	0.00	0.00	0.00
12,800.00	89.92	359.85	7,349.53	5,317.07	61.28	5,316.89	0.00	0.00	0.00	0.00
12,900.00	89.92	359.85	7,349.68	5,417.07	61.01	5,416.89	0.00	0.00	0.00	0.00
13,000.00	89.92	359.85	7,349.82	5,517.07	60.74	5,516.89	0.00	0.00	0.00	0.00
13,100.00	89.92	359.85	7,349.97	5,617.07	60.47	5,616.89	0.00	0.00	0.00	0.00
13,200.00	89.92	359.85	7,350.12	5,717.07	60.20	5,716.89	0.00	0.00	0.00	0.00
13,300.00	89.92	359.85	7,350.27	5,817.07	59.94	5,816.89	0.00	0.00	0.00	0.00
13,400.00	89.92	359.85	7,350.41	5,917.07	59.67	5,916.89	0.00	0.00	0.00	0.00
13,500.00	89.92	359.85	7,350.56	6,017.07	59.40	6,016.89	0.00	0.00	0.00	0.00
13,600.00	89.92	359.85	7,350.71	6,117.07	59.13	6,116.89	0.00	0.00	0.00	0.00
13,700.00	89.92	359.85	7,350.86	6,217.07	58.87	6,216.89	0.00	0.00	0.00	0.00
13,800.00	89.92	359.85	7,351.01	6,317.07	58.60	6,316.89	0.00	0.00	0.00	0.00
13,900.00	89.92	359.85	7,351.15	6,417.07	58.33	6,416.89	0.00	0.00	0.00	0.00
14,000.00	89.92	359.85	7,351.30	6,517.07	58.06	6,516.89	0.00	0.00	0.00	0.00

Plan Report for PARAGON 40C-31HZ - Plan B0 Permit

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
14,100.00	89.92	359.85	7,351.45	6,617.07	57.80	6,616.89	0.00	0.00	0.00	0.00
14,200.00	89.92	359.85	7,351.60	6,717.07	57.53	6,716.89	0.00	0.00	0.00	0.00
14,300.00	89.92	359.85	7,351.74	6,817.07	57.26	6,816.89	0.00	0.00	0.00	0.00
14,400.00	89.92	359.85	7,351.89	6,917.06	56.99	6,916.89	0.00	0.00	0.00	0.00
14,474.42	89.92	359.85	7,352.00	6,991.48	56.80	6,991.31	0.00	0.00	0.00	0.00
TD Well @ 14474.42ft - Total Depth (Toe) - Paragon 40C-31HZ_BHL										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,500.00	1,500.00	0.00	0.00	Begin Nudge @ 1500.00ft
1,950.00	1,948.15	-34.50	7.33	End Nudge @ 1950.00ft
3,850.00	3,824.76	-325.23	69.13	Begin Drop @ 3850.00ft
4,300.00	4,272.91	-359.73	76.46	End Drop @ 4300.00ft
6,696.13	6,669.04	-359.73	76.46	Top of 4.5" Liner @ 6696.13ft
6,796.13	6,769.04	-359.73	76.46	KOP @ 6796.13ft
7,200.00	7,140.29	-223.19	76.10	DLS = 10/100'
7,695.28	7,342.00	212.38	74.93	End Build @ 7695.28ft
14,474.42	7,352.00	6,991.48	56.80	TD Well @ 14474.42ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
User	No Target (Freehand)	359.85	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,695.28	Plan B0 Permit	MWD
7,695.28	14,474.42	Plan B0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,075.00	1,075.00	9 5/8"	9-5/8	13-1/2
7,695.28	7,342.00	7"	7	8-3/4

Plan Report for PARAGON 40C-31HZ - Plan B0 Permit**Formation Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,025.00	1,025.00	Fox Hills Base		0.00	
4,566.09	4,539.00	Parkman		0.00	
5,224.09	5,197.00	Sussex		0.00	
6,997.19	6,966.00	Sharon Springs		0.00	
7,037.13	7,003.00	Niobrara A		0.00	
7,151.43	7,102.00	Niobrara B Chalk		0.00	
7,237.45	7,168.00	Niobrara C		0.00	
7,516.27	7,314.00	Fort Hays		0.00	
7,620.39	7,337.00	Codell		0.00	
7,695.28	7,342.00	Landing Target (Heel)		0.00	
14,474.42	7,352.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Paragon_Sec	0.00	0.00	0.00	Polygon
Paragon 40C-31HZ_BHL	7,352.00	6,991.49	56.80	Point
Paragon 40C-31HZ_SHL	0.00	0.00	0.00	Point

North Reference Sheet for Sec. 6-T1N-R65W - PARAGON 40C-31HZ - Plan B

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB = 17' @ 4992.00ft (Drilling Rig). Northing and Easting are relative to PARAGON 40C-31HZ

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.50°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99996156

Grid Coordinates of Well: 1,270,968.40 ft N, 3,224,375.35 ft E

Geographical Coordinates of Well: 40° 04' 27.89" N, 104° 41' 53.57" W

Grid Convergence at Surface is: 0.52°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,474.42ft
the Bottom Hole Displacement is 6,991.72ft in the Direction of 0.47° (True).

Magnetic Convergence at surface is: -8.02° (3 September 2013, , BGGM2013)

