

# Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 6-T1N-R65W

PARAGON 25N-31HZ

API:05-123-38549

Plan B

Plan: Rev B0

## Sperry Drilling Services

### Proposal Report

22 January, 2014

Well Coordinates: 1,270,793.37 N, 3,223,064.66 E (40° 04' 26.28" N, 104° 42' 10.45" W)

Ground Level: 4,985.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well PARAGON 25N-31HZ

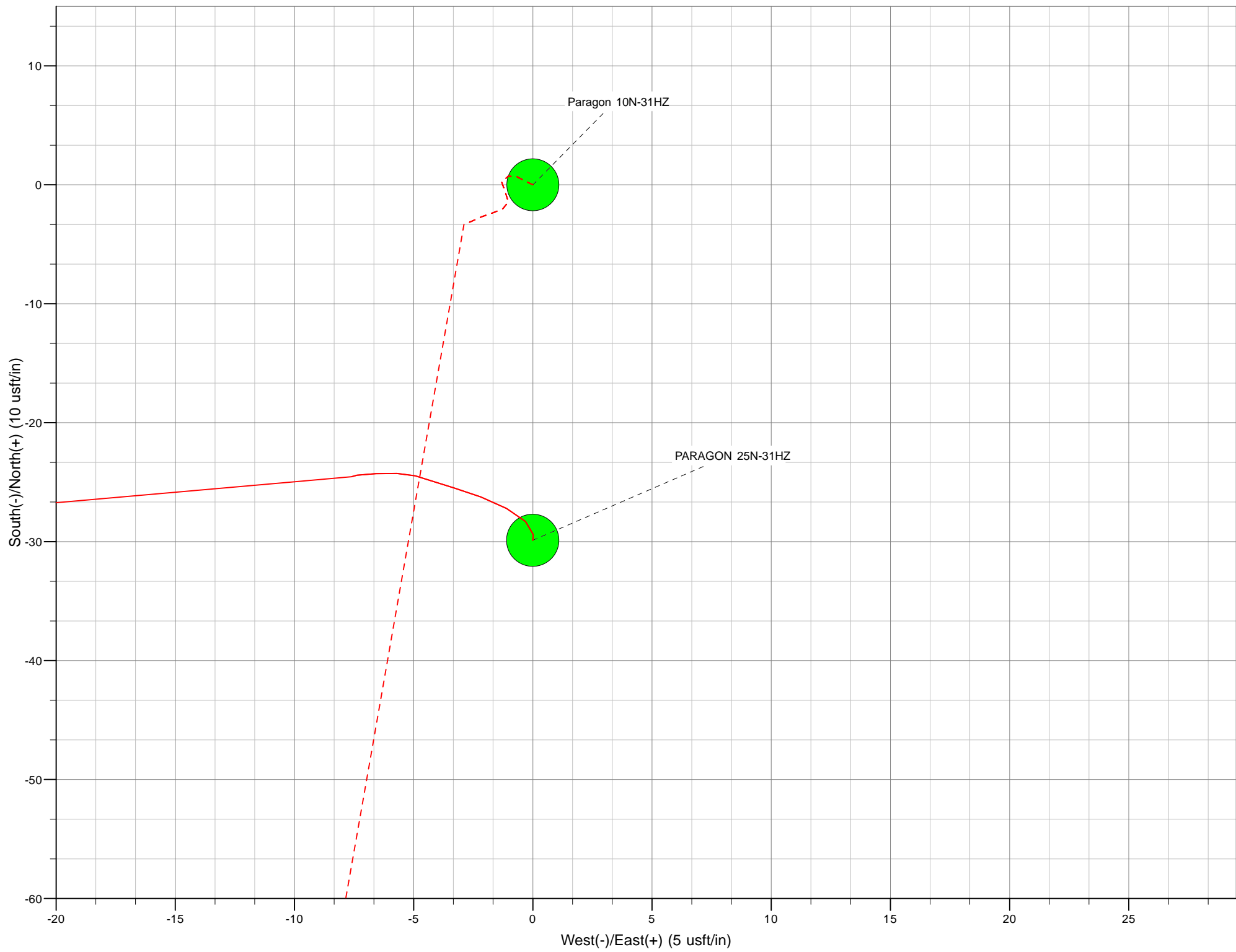
RKB=25' @ 5010.00usft (H&P 308)

N

True

Dec-Deg - API - US Survey Feet - Custom

**HALLIBURTON**



Project: Weld County, CO (NAD 83)  
 Site: Sec. 6-T1N-R65W  
 Well: PARAGON 25N-31HZ  
 Wellbore: Plan B  
 Design: Rev B0

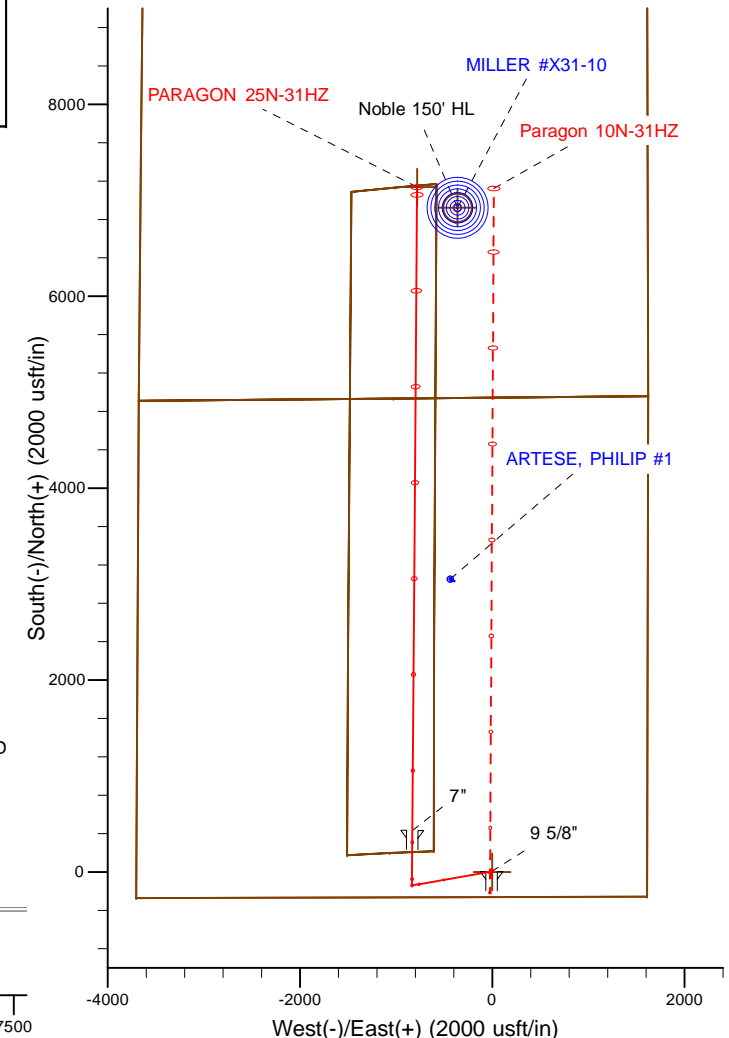
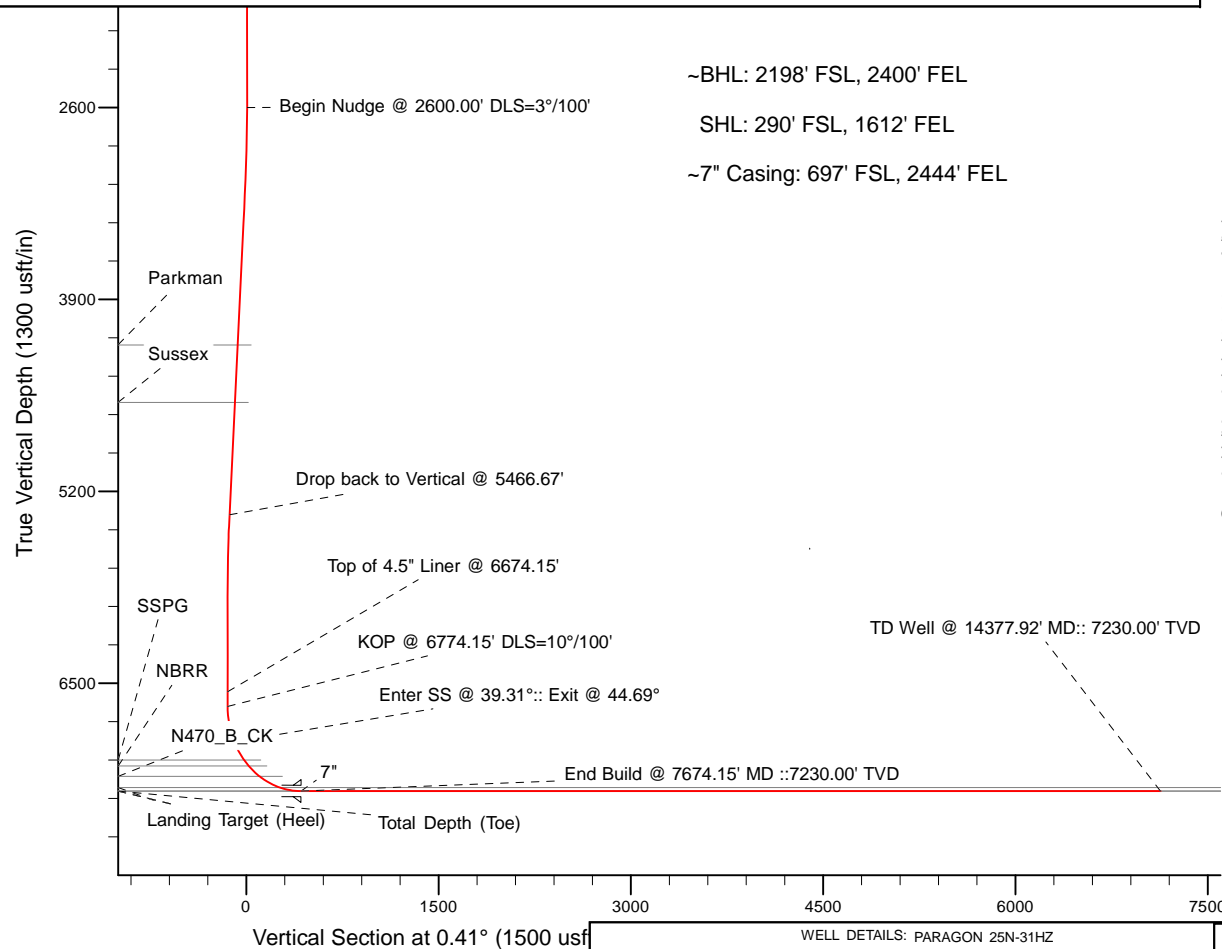
# Anadarko Petroleum Corp.

**HALLIBURTON**  
 Sperry Drilling

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Noble 150' HL	0.00	6923.01	-360.36	1277712.60	3222642.10	40.092970	-104.704190
PARAGON 25N-31HZ SHL	0.00	0.02	0.00	1270793.39	3223064.66	40.073966	-104.702902
Paragon 25N-31HZ_LD	0.00	163.25	1252.09	1270967.86	3224315.19	40.074414	-104.698428
PARAGON 25N-31HZ_Sec Line	0.00	163.25	1312.26	1270968.40	3224375.35	40.074414	-104.698213
PARAGON 25N-31HZ BHL	7230.00	7137.22	-681.54	1277923.90	3222319.02	40.093558	-104.705338
PARAGON 25N-31HZ BHL_Re7230.00	7138.12	-781.54	1277923.90	3222219.03	40.093560	-104.705695	

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1074.00	0.20	216.88	1073.94	5.34	-7.60	0.00	5.29
1075.00	0.00	0.00	1074.94	5.34	-7.60	20.00	5.29
2600.00	0.00	0.00	2599.94	5.34	-7.60	0.00	5.29
3166.67	17.00	260.00	3158.33	-9.15	-89.79	3.00	-9.79
5466.67	17.00	260.00	5357.83	-125.92	-752.03	0.00	-131.30
6033.33	0.00	0.00	5916.22	-140.41	-834.21	3.00	-146.38
6774.15	0.00	0.00	6657.04	-140.41	-834.21	0.00	-146.38
7674.15	90.00	0.41	7230.00	432.53	-830.06	10.00	426.58
14379.92	90.00	0.41	7230.00	7138.12	-781.54	0.00	7132.34



WELL DETAILS: PARAGON 25N-31HZ

Ground Level: 4985.00  
 RKB=25' @ 5010.00usft (H&P 308)

Plan: Rev B0 (PARAGON 25N-31HZ/Plan B)

Created By: Pari Amanlou Date: 12/5/2013

**Plan Report for PARAGON 25N-31HZ - Rev B0**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
1,074.00	0.20	216.88	1,073.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,075.00	0.00	0.00	1,074.94	5.34	-7.60	5.29	20.00	-20.00	0.00	180.00
1,100.00	0.00	0.00	1,099.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,115.00	0.00	0.00	1,114.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
<b>9 5/8"</b>										
1,200.00	0.00	0.00	1,199.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,299.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,399.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,499.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,599.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,699.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,799.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,899.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	1,999.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,099.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,199.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,299.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,399.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,499.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,599.94	5.34	-7.60	5.29	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 2600.00' DLS=3°/100'</b>										
2,700.00	3.00	260.00	2,699.90	4.89	-10.18	4.81	3.00	3.00	0.00	260.00
2,800.00	6.00	260.00	2,799.58	3.52	-17.91	3.40	3.00	3.00	0.00	0.00
2,900.00	9.00	260.00	2,898.71	1.26	-30.76	1.04	3.00	3.00	0.00	0.00
3,000.00	12.00	260.00	2,997.02	-1.91	-48.70	-2.26	3.00	3.00	0.00	0.00
3,100.00	15.00	260.00	3,094.25	-5.96	-71.69	-6.47	3.00	3.00	0.00	0.00
3,166.67	17.00	260.00	3,158.33	-9.15	-89.79	-9.79	3.00	3.00	0.00	0.00
3,200.00	17.00	260.00	3,190.21	-10.84	-99.39	-11.55	0.00	0.00	0.00	0.00
3,300.00	17.00	260.00	3,285.84	-15.92	-128.18	-16.84	0.00	0.00	0.00	0.00
3,400.00	17.00	260.00	3,381.47	-21.00	-156.97	-22.12	0.00	0.00	0.00	0.00
3,500.00	17.00	260.00	3,477.10	-26.07	-185.76	-27.40	0.00	0.00	0.00	0.00
3,600.00	17.00	260.00	3,572.73	-31.15	-214.56	-32.69	0.00	0.00	0.00	0.00
3,700.00	17.00	260.00	3,668.36	-36.23	-243.35	-37.97	0.00	0.00	0.00	0.00
3,800.00	17.00	260.00	3,763.99	-41.31	-272.14	-43.25	0.00	0.00	0.00	0.00
3,900.00	17.00	260.00	3,859.62	-46.38	-300.94	-48.53	0.00	0.00	0.00	0.00
4,000.00	17.00	260.00	3,955.25	-51.46	-329.73	-53.82	0.00	0.00	0.00	0.00
4,100.00	17.00	260.00	4,050.88	-56.54	-358.52	-59.10	0.00	0.00	0.00	0.00
4,200.00	17.00	260.00	4,146.51	-61.61	-387.32	-64.38	0.00	0.00	0.00	0.00
4,263.25	17.00	260.00	4,207.00	-64.82	-405.53	-67.72	0.00	0.00	0.00	0.00
<b>Parkman</b>										
4,300.00	17.00	260.00	4,242.14	-66.69	-416.11	-69.67	0.00	0.00	0.00	0.00
4,400.00	17.00	260.00	4,337.77	-71.77	-444.90	-74.95	0.00	0.00	0.00	0.00
4,500.00	17.00	260.00	4,433.40	-76.84	-473.69	-80.23	0.00	0.00	0.00	0.00
4,600.00	17.00	260.00	4,529.03	-81.92	-502.49	-85.51	0.00	0.00	0.00	0.00
4,671.07	17.00	260.00	4,597.00	-85.53	-522.95	-89.27	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,700.00	17.00	260.00	4,624.67	-87.00	-531.28	-90.80	0.00	0.00	0.00	0.00
4,800.00	17.00	260.00	4,720.30	-92.08	-560.07	-96.08	0.00	0.00	0.00	0.00
4,900.00	17.00	260.00	4,815.93	-97.15	-588.87	-101.36	0.00	0.00	0.00	0.00
5,000.00	17.00	260.00	4,911.56	-102.23	-617.66	-106.65	0.00	0.00	0.00	0.00
5,100.00	17.00	260.00	5,007.19	-107.31	-646.45	-111.93	0.00	0.00	0.00	0.00
5,200.00	17.00	260.00	5,102.82	-112.38	-675.24	-117.21	0.00	0.00	0.00	0.00
5,300.00	17.00	260.00	5,198.45	-117.46	-704.04	-122.49	0.00	0.00	0.00	0.00
5,400.00	17.00	260.00	5,294.08	-122.54	-732.83	-127.78	0.00	0.00	0.00	0.00
5,466.67	17.00	260.00	5,357.84	-125.92	-752.03	-131.30	0.00	0.00	0.00	0.00
<b>Drop back to Vertical @ 5466.67'</b>										
5,500.00	16.00	260.00	5,389.79	-127.57	-761.35	-133.01	3.00	-3.00	0.00	180.00
5,600.00	13.00	260.00	5,486.60	-131.91	-786.00	-137.53	3.00	-3.00	0.00	180.00

**Plan Report for PARAGON 25N-31HZ - Rev B0**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
5,700.00	10.00	260.00	5,584.58	-135.37	-805.64	-141.14	3.00	-3.00	0.00	180.00
5,800.00	7.00	260.00	5,683.47	-137.94	-820.19	-143.81	3.00	-3.00	0.00	180.00
5,900.00	4.00	260.00	5,783.00	-139.60	-829.63	-145.54	3.00	-3.00	0.00	180.00
6,000.00	1.00	260.00	5,882.89	-140.36	-833.92	-146.33	3.00	-3.00	0.00	180.00
6,033.33	0.00	0.00	5,916.22	-140.41	-834.21	-146.38	3.00	-3.00	0.00	180.00
6,100.00	0.00	0.00	5,982.89	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,082.89	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,182.89	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,282.89	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,382.89	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,482.89	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
6,674.15	0.00	0.00	6,557.04	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
<b>Top of 4.5" Liner @ 6674.15'</b>										
6,700.00	0.00	0.00	6,582.89	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
6,774.15	0.00	0.00	6,657.04	-140.41	-834.21	-146.38	0.00	0.00	0.00	0.00
<b>KOP @ 6774.15' DLS=10°/100'</b>										
6,800.00	2.58	0.41	6,682.88	-139.83	-834.21	-145.80	10.00	10.00	0.00	0.41
6,900.00	12.58	0.41	6,781.88	-126.65	-834.11	-132.61	10.00	10.00	0.00	0.00
7,000.00	22.58	0.41	6,877.08	-96.48	-833.89	-102.44	10.00	10.00	0.00	0.00
7,020.00	24.58	0.41	6,895.41	-88.47	-833.83	-94.44	10.00	10.00	0.00	0.00
<b>Enter SS @ 39.31°:: Exit @ 44.69°</b>										
7,100.00	32.58	0.41	6,965.60	-50.23	-833.56	-56.19	10.00	10.00	0.00	0.00
7,167.23	39.31	0.41	7,020.00	-10.79	-833.27	-16.75	10.00	10.00	0.00	0.00
<b>SSPG</b>										
7,200.00	42.58	0.41	7,044.75	10.69	-833.12	4.72	10.00	10.00	0.00	0.00
7,221.07	44.69	0.41	7,060.00	25.23	-833.01	19.27	10.00	10.00	0.00	0.00
<b>NBRR</b>										
7,300.00	52.58	0.41	7,112.11	84.42	-832.58	78.46	10.00	10.00	0.00	0.00
7,330.52	55.64	0.41	7,130.00	109.14	-832.40	103.18	10.00	10.00	0.00	0.00
<b>N470_B_CK</b>										
7,400.00	62.58	0.41	7,165.65	168.73	-831.97	162.77	10.00	10.00	0.00	0.00
7,500.00	72.58	0.41	7,203.73	261.05	-831.30	255.10	10.00	10.00	0.00	0.00
7,504.28	73.01	0.41	7,205.00	265.14	-831.28	259.19	10.00	10.00	0.00	0.00
<b>N700_C_CK</b>										
7,600.00	82.58	0.41	7,225.21	358.59	-830.60	352.63	10.00	10.00	0.00	0.00
7,674.15	90.00	0.41	7,230.00	432.53	-830.06	426.58	10.00	10.00	0.00	0.00
<b>End Build @ 7674.15' MD ::7230.00' TVD - Landing Target (Heel) - 7"</b>										
7,700.00	90.00	0.41	7,230.00	458.38	-829.88	452.43	0.00	0.00	0.00	0.00
7,800.00	90.00	0.41	7,230.00	558.37	-829.15	552.43	0.00	0.00	0.00	0.00
7,900.00	90.00	0.41	7,230.00	658.37	-828.43	652.43	0.00	0.00	0.00	0.00
8,000.00	90.00	0.41	7,230.00	758.37	-827.71	752.43	0.00	0.00	0.00	0.00
8,100.00	90.00	0.41	7,230.00	858.37	-826.98	852.43	0.00	0.00	0.00	0.00
8,200.00	90.00	0.41	7,230.00	958.36	-826.26	952.43	0.00	0.00	0.00	0.00
8,300.00	90.00	0.41	7,230.00	1,058.36	-825.54	1,052.43	0.00	0.00	0.00	0.00
8,400.00	90.00	0.41	7,230.00	1,158.36	-824.81	1,152.43	0.00	0.00	0.00	0.00
8,500.00	90.00	0.41	7,230.00	1,258.36	-824.09	1,252.43	0.00	0.00	0.00	0.00
8,600.00	90.00	0.41	7,230.00	1,358.35	-823.36	1,352.43	0.00	0.00	0.00	0.00
8,700.00	90.00	0.41	7,230.00	1,458.35	-822.64	1,452.43	0.00	0.00	0.00	0.00
8,800.00	90.00	0.41	7,230.00	1,558.35	-821.92	1,552.43	0.00	0.00	0.00	0.00
8,900.00	90.00	0.41	7,230.00	1,658.35	-821.19	1,652.43	0.00	0.00	0.00	0.00
9,000.00	90.00	0.41	7,230.00	1,758.34	-820.47	1,752.43	0.00	0.00	0.00	0.00
9,100.00	90.00	0.41	7,230.00	1,858.34	-819.75	1,852.43	0.00	0.00	0.00	0.00
9,200.00	90.00	0.41	7,230.00	1,958.34	-819.02	1,952.43	0.00	0.00	0.00	0.00
9,300.00	90.00	0.41	7,230.00	2,058.33	-818.30	2,052.43	0.00	0.00	0.00	0.00
9,400.00	90.00	0.41	7,230.00	2,158.33	-817.57	2,152.43	0.00	0.00	0.00	0.00
9,500.00	90.00	0.41	7,230.00	2,258.33	-816.85	2,252.43	0.00	0.00	0.00	0.00
9,600.00	90.00	0.41	7,230.00	2,358.33	-816.13	2,352.43	0.00	0.00	0.00	0.00
9,700.00	90.00	0.41	7,230.00	2,458.32	-815.40	2,452.43	0.00	0.00	0.00	0.00
9,800.00	90.00	0.41	7,230.00	2,558.32	-814.68	2,552.43	0.00	0.00	0.00	0.00

**Plan Report for PARAGON 25N-31HZ - Rev B0**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
9,900.00	90.00	0.41	7,230.00	2,658.32	-813.96	2,652.43	0.00	0.00	0.00	0.00
10,000.00	90.00	0.41	7,230.00	2,758.32	-813.23	2,752.43	0.00	0.00	0.00	0.00
10,100.00	90.00	0.41	7,230.00	2,858.31	-812.51	2,852.43	0.00	0.00	0.00	0.00
10,200.00	90.00	0.41	7,230.00	2,958.31	-811.79	2,952.43	0.00	0.00	0.00	0.00
10,300.00	90.00	0.41	7,230.00	3,058.31	-811.06	3,052.43	0.00	0.00	0.00	0.00
10,400.00	90.00	0.41	7,230.00	3,158.31	-810.34	3,152.43	0.00	0.00	0.00	0.00
10,500.00	90.00	0.41	7,230.00	3,258.30	-809.61	3,252.43	0.00	0.00	0.00	0.00
10,600.00	90.00	0.41	7,230.00	3,358.30	-808.89	3,352.43	0.00	0.00	0.00	0.00
10,700.00	90.00	0.41	7,230.00	3,458.30	-808.17	3,452.43	0.00	0.00	0.00	0.00
10,800.00	90.00	0.41	7,230.00	3,558.30	-807.44	3,552.43	0.00	0.00	0.00	0.00
10,900.00	90.00	0.41	7,230.00	3,658.29	-806.72	3,652.43	0.00	0.00	0.00	0.00
11,000.00	90.00	0.41	7,230.00	3,758.29	-806.00	3,752.43	0.00	0.00	0.00	0.00
11,100.00	90.00	0.41	7,230.00	3,858.29	-805.27	3,852.43	0.00	0.00	0.00	0.00
11,200.00	90.00	0.41	7,230.00	3,958.29	-804.55	3,952.43	0.00	0.00	0.00	0.00
11,300.00	90.00	0.41	7,230.00	4,058.28	-803.83	4,052.43	0.00	0.00	0.00	0.00
11,400.00	90.00	0.41	7,230.00	4,158.28	-803.10	4,152.43	0.00	0.00	0.00	0.00
11,500.00	90.00	0.41	7,230.00	4,258.28	-802.38	4,252.43	0.00	0.00	0.00	0.00
11,600.00	90.00	0.41	7,230.00	4,358.27	-801.65	4,352.43	0.00	0.00	0.00	0.00
11,700.00	90.00	0.41	7,230.00	4,458.27	-800.93	4,452.43	0.00	0.00	0.00	0.00
11,800.00	90.00	0.41	7,230.00	4,558.27	-800.21	4,552.43	0.00	0.00	0.00	0.00
11,900.00	90.00	0.41	7,230.00	4,658.27	-799.48	4,652.43	0.00	0.00	0.00	0.00
12,000.00	90.00	0.41	7,230.00	4,758.26	-798.76	4,752.43	0.00	0.00	0.00	0.00
12,100.00	90.00	0.41	7,230.00	4,858.26	-798.04	4,852.43	0.00	0.00	0.00	0.00
12,200.00	90.00	0.41	7,230.00	4,958.26	-797.31	4,952.43	0.00	0.00	0.00	0.00
12,300.00	90.00	0.41	7,230.00	5,058.26	-796.59	5,052.43	0.00	0.00	0.00	0.00
12,400.00	90.00	0.41	7,230.00	5,158.25	-795.87	5,152.43	0.00	0.00	0.00	0.00
12,500.00	90.00	0.41	7,230.00	5,258.25	-795.14	5,252.43	0.00	0.00	0.00	0.00
12,600.00	90.00	0.41	7,230.00	5,358.25	-794.42	5,352.43	0.00	0.00	0.00	0.00
12,700.00	90.00	0.41	7,230.00	5,458.25	-793.69	5,452.43	0.00	0.00	0.00	0.00
12,800.00	90.00	0.41	7,230.00	5,558.24	-792.97	5,552.43	0.00	0.00	0.00	0.00
12,900.00	90.00	0.41	7,230.00	5,658.24	-792.25	5,652.43	0.00	0.00	0.00	0.00
13,000.00	90.00	0.41	7,230.00	5,758.24	-791.52	5,752.43	0.00	0.00	0.00	0.00
13,100.00	90.00	0.41	7,230.00	5,858.24	-790.80	5,852.43	0.00	0.00	0.00	0.00
13,200.00	90.00	0.41	7,230.00	5,958.23	-790.08	5,952.43	0.00	0.00	0.00	0.00
13,300.00	90.00	0.41	7,230.00	6,058.23	-789.35	6,052.43	0.00	0.00	0.00	0.00
13,400.00	90.00	0.41	7,230.00	6,158.23	-788.63	6,152.43	0.00	0.00	0.00	0.00
13,500.00	90.00	0.41	7,230.00	6,258.22	-787.91	6,252.43	0.00	0.00	0.00	0.00
13,600.00	90.00	0.41	7,230.00	6,358.22	-787.18	6,352.43	0.00	0.00	0.00	0.00
13,700.00	90.00	0.41	7,230.00	6,458.22	-786.46	6,452.43	0.00	0.00	0.00	0.00
13,800.00	90.00	0.41	7,230.00	6,558.22	-785.73	6,552.43	0.00	0.00	0.00	0.00
13,900.00	90.00	0.41	7,230.00	6,658.21	-785.01	6,652.43	0.00	0.00	0.00	0.00
14,000.00	90.00	0.41	7,230.00	6,758.21	-784.29	6,752.43	0.00	0.00	0.00	0.00
14,100.00	90.00	0.41	7,230.00	6,858.21	-783.56	6,852.43	0.00	0.00	0.00	0.00
14,200.00	90.00	0.41	7,230.00	6,958.21	-782.84	6,952.43	0.00	0.00	0.00	0.00
14,300.00	90.00	0.41	7,230.00	7,058.20	-782.12	7,052.43	0.00	0.00	0.00	0.00
14,377.92	90.00	0.41	7,230.00	7,136.12	-781.55	7,130.35	0.00	0.00	0.00	0.00
<b>TD Well @ 14377.92' MD:: 7230.00' TVD - Total Depth (Toe)</b>										
14,379.92	90.00	0.41	7,230.00	7,138.12	-781.54	7,132.34	0.00	0.00	0.00	0.00

## Plan Report for PARAGON 25N-31HZ - Rev B0

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,600.00	2,599.94	5.34	-7.60	Begin Nudge @ 2600.00' DLS=3°/100'
5,466.67	5,357.84	-125.92	-752.03	Drop back to Vertical @ 5466.67'
6,674.15	6,557.04	-140.41	-834.21	Top of 4.5" Liner @ 6674.15'
6,774.15	6,657.04	-140.41	-834.21	KOP @ 6774.15' DLS=10°/100'
7,020.00	6,895.41	-88.47	-833.83	Enter SS @ 39.31°:: Exit @ 44.69°
7,674.15	7,230.00	432.53	-830.06	End Build @ 7674.15' MD :: 7230.00' TVD
14,377.92	7,230.00	7,136.12	-781.55	TD Well @ 14377.92' MD:: 7230.00' TVD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	0.41	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
25.00	1,074.00	Surface Gyros	NS-GYRO-MS
1,074.00	7,674.15	Rev B0	MWD+IFR1+SC
7,674.15	14,379.92	Rev B0	MWD+IFR1+SC

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,115.00	1,114.94	9 5/8"	9-5/8	12-3/4
7,674.15	7,230.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,065.06	1,065.00	Fox Hills Base		0.00	
4,263.25	4,207.00	Parkman		0.00	
4,671.07	4,597.00	Sussex		0.00	
7,167.23	7,020.00	SSPG		0.00	
7,221.07	7,060.00	NBRR		0.00	
7,330.52	7,130.00	N470_B_CK		0.00	
7,504.28	7,205.00	N700_C_CK		0.00	
7,674.15	7,230.00	Landing Target (Heel)		0.00	
14,377.92	7,230.00	Total Depth (Toe)		0.00	

## Plan Report for PARAGON 25N-31HZ - Rev B0

### Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
PARAGON 25N-31HZ_Sec Line	0.00	163.25	1,312.26	Polygon
Noble 150' HL	0.00	6,923.01	-360.36	Circle
Paragon 25N-31HZ_LD	0.00	163.25	1,252.09	Polygon
PARAGON 25N-31HZ SHL	0.00	0.02	0.00	Point
PARAGON 25N-31HZ BHL_Rev1	7,230.00	7,138.12	-781.54	Point
PARAGON 25N-31HZ BHL	7,230.00	7,137.22	-681.54	Point

### Directional Difficulty Index

Average Dogleg over Survey:	0.93 °/100usft	Maximum Dogleg over Survey:	20.00 °/100usft at 1,075.00 usft
Net Tortousity applicable to Plans:	0.93 °/100usft	Directional Difficulty Index:	6.472

### Audit Info



North Reference Sheet for Sec. 6-T1N-R65W - PARAGON 25N-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=25' @ 5010.00usft (H&P 308). Northing and Easting are relative to PARAGON 25N-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: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99996158

Grid Coordinates of Well: 1,270,793.37 usft N, 3,223,064.66 usft E  
Geographical Coordinates of Well: 40° 04' 26.28" N, 104° 42' 10.45" W  
Grid Convergence at Surface is: 0.52°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,379.92usft  
the Bottom Hole Displacement is 7,180.78usft in the Direction of 353.75° ( True).  
Magnetic Convergence at surface is: -7.98° (20 January 2014, , BGGM2013)

