

# Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 12-T2N-R66W

Dove 5N-13HZ

Plan B Rev 0

Plan: Plan B Rev 0 - PROPOSAL

## Sperry Drilling Services

### Proposal Report

03 May, 2013

Well Coordinates: 1,301,610.12 N, 3,214,445.59 E (40° 09' 31.56" N, 104° 43' 57.89" W)

Ground Level: 5,000.00 ft

Local Coordinate Origin:

Centered on Well Dove 5N-13HZ

Viewing Datum:

RKB=25 @ 5025.00ft (HP 308)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

**HALLIBURTON**

Project: Weld County, CO (NAD 83)  
 Site: Sec. 12-T2N-R66W  
 Well: Dove 5N-13HZ  
 Wellbore: Plan B Rev 0  
 Design: Plan B Rev 0 - PROPOSAL

# Anadarko Petroleum Corp.

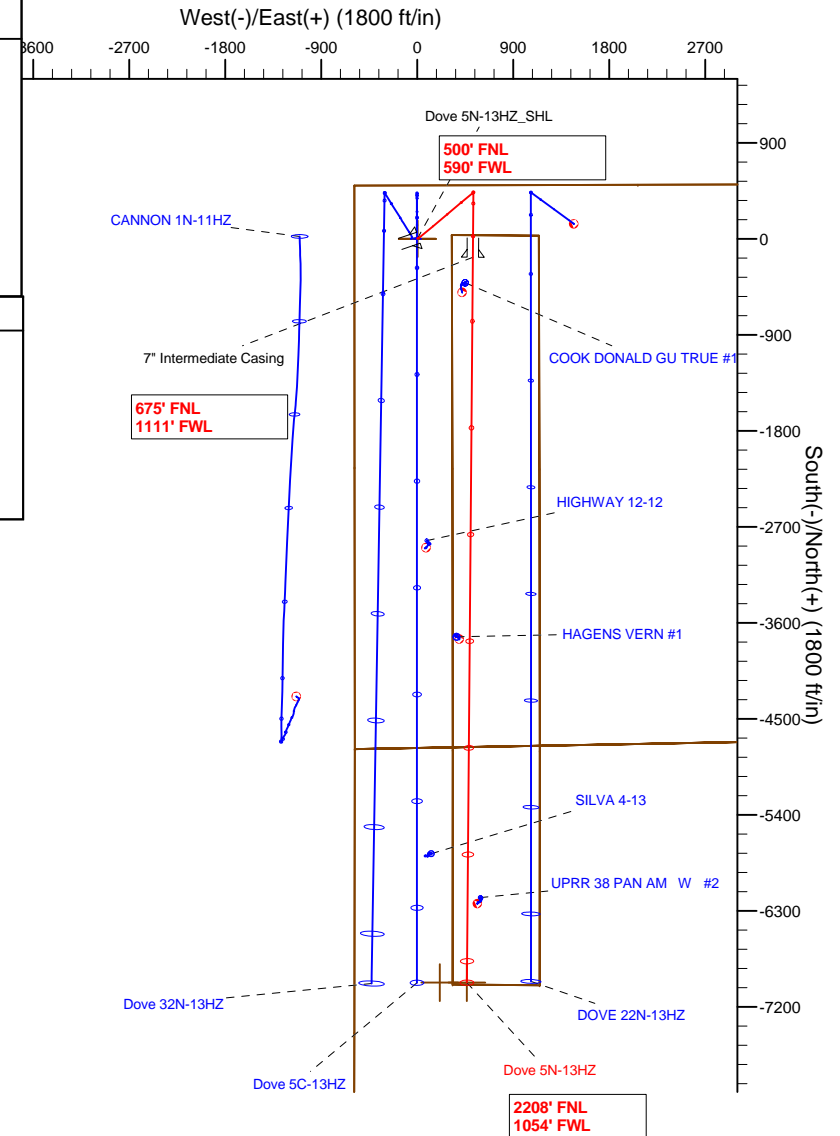
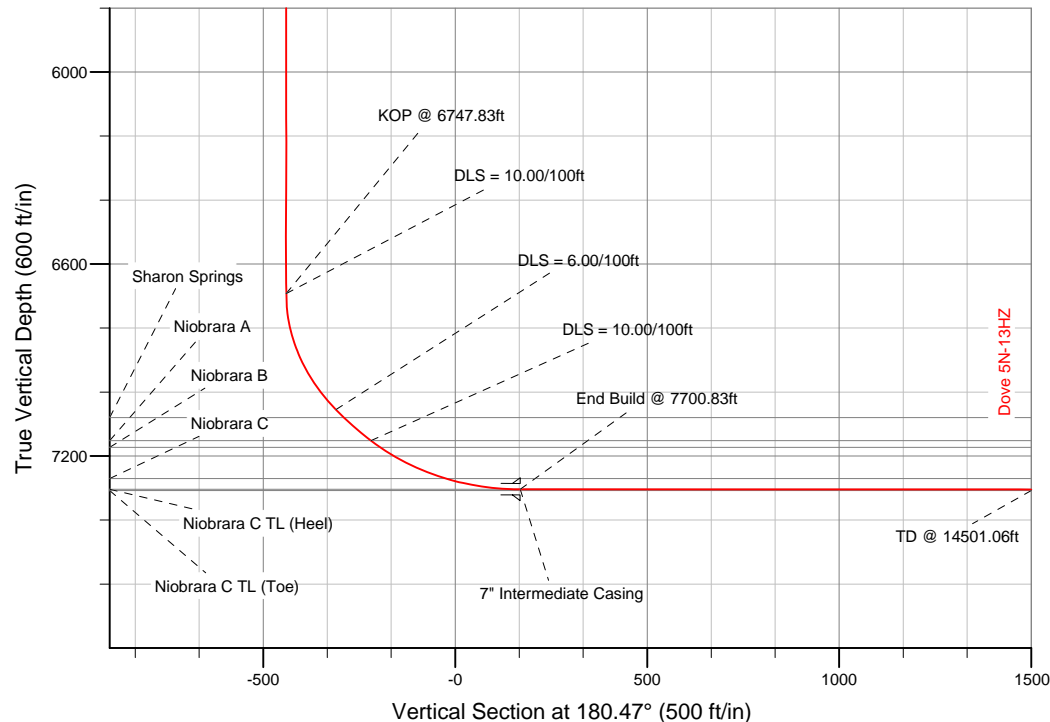
**HALLIBURTON**  
 Sperry Drilling

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	946.00	1.17	71.21	945.89	8.54	8.16	0.00	0.00	-8.60	
2	1446.00	1.17	71.21	1445.79	11.82	17.82	0.00	0.00	-11.97	
3	1891.96	10.00	50.00	1889.21	38.23	51.86	2.00	-23.90	-38.66	
4	5203.06	10.00	50.00	5150.00	407.81	492.31	0.00	0.00	-411.84	
5	5703.06	0.00	0.00	5647.47	435.79	525.65	2.00	180.00	-440.09	
6	6747.83	0.00	0.00	6692.24	435.79	525.65	0.00	0.00	-440.09	
7	7140.65	39.28	180.47	7055.00	306.33	524.59	10.00	180.47	-310.62	
8	7274.00	47.28	180.47	7152.00	214.98	523.84	6.00	0.00	-219.27	
9	7700.83	89.97	180.47	7304.00	-173.35	520.64	10.00	0.00	169.07	
10	14501.06	89.97	180.47	7308.00	-6973.35	464.55	0.00	0.00	6969.30	Dove 5N-13HZ_BHL new

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Dove 5N-13HZ_12/13	0.00	0.00	0.00	40.158768	-104.732747	Polygon
Dove 5N-13HZ_LD	0.00	0.00	0.00	40.158768	-104.732747	Polygon
Dove 5N-13HZ_Sec	0.00	0.00	0.00	40.158768	-104.732747	Polygon
Dove 5N-13HZ_SHL	0.00	0.00	0.00	40.158768	-104.732747	Point
Dove 5N-13HZ_BHL	7308.00	-6973.34	210.25	40.139626	-104.731995	Point
Dove 5N-13HZ_BHL new	7308.00	-6973.35	464.55	40.139626	-104.731085	Point



## WELL DETAILS: Dove 5N-13HZ

Ground Level: 5000.00  
 RKB=25 @ 5025.00ft (HP 308)

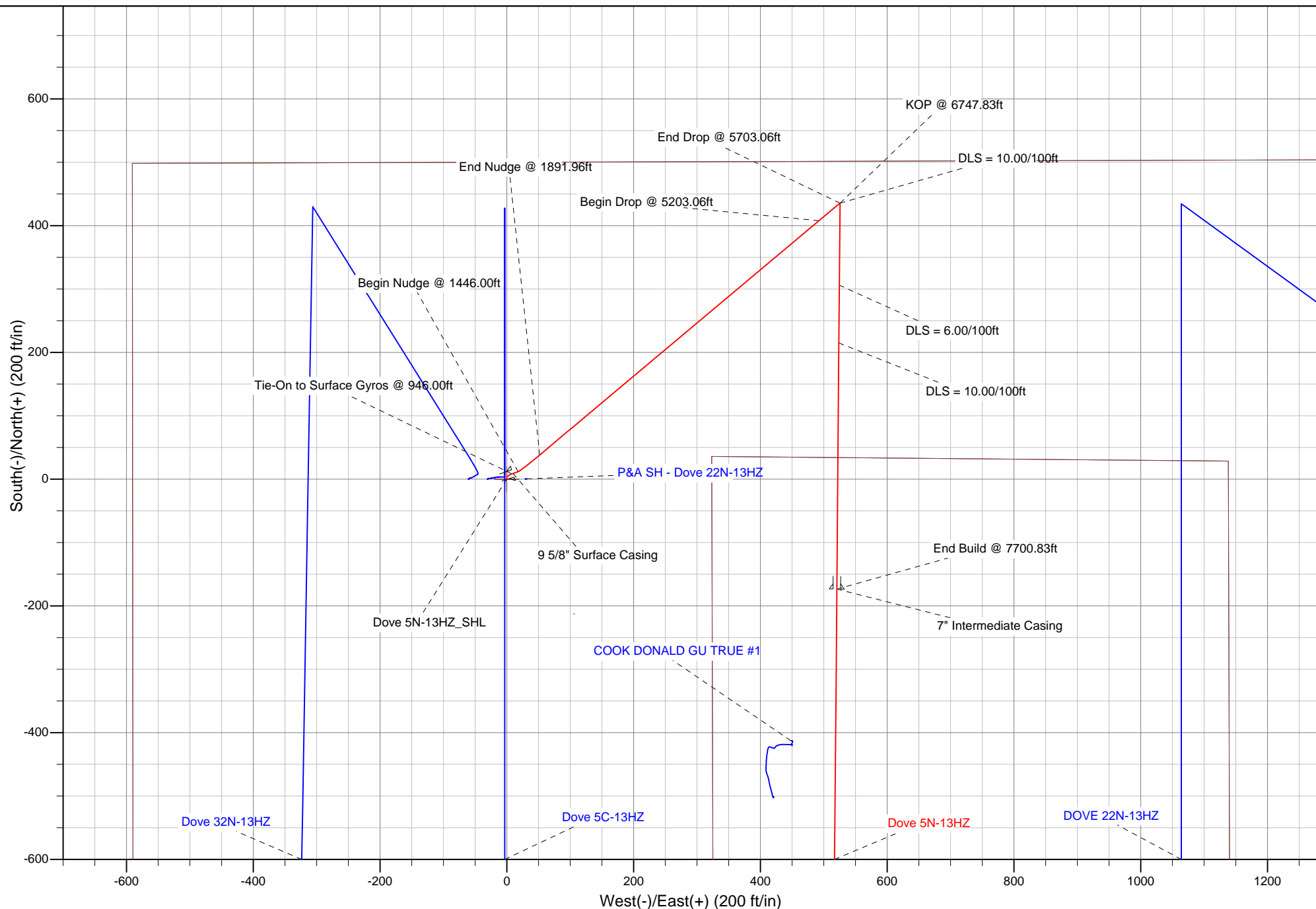
Plan: Plan B Rev 0 - PROPOSAL (Dove 5N-13HZ/Plan B Rev 0)

Created By: Fred Hartmann Date: 05/02/2013  
 Reviewed: Date:

Project: Weld County, CO (NAD 83)  
Site: Sec. 12-T2N-R66W  
Well: Dove 5N-13HZ  
Wellbore: Plan B Rev 0  
Design: Plan B Rev 0 - PROPOSAL

# Anadarko Petroleum Corp.

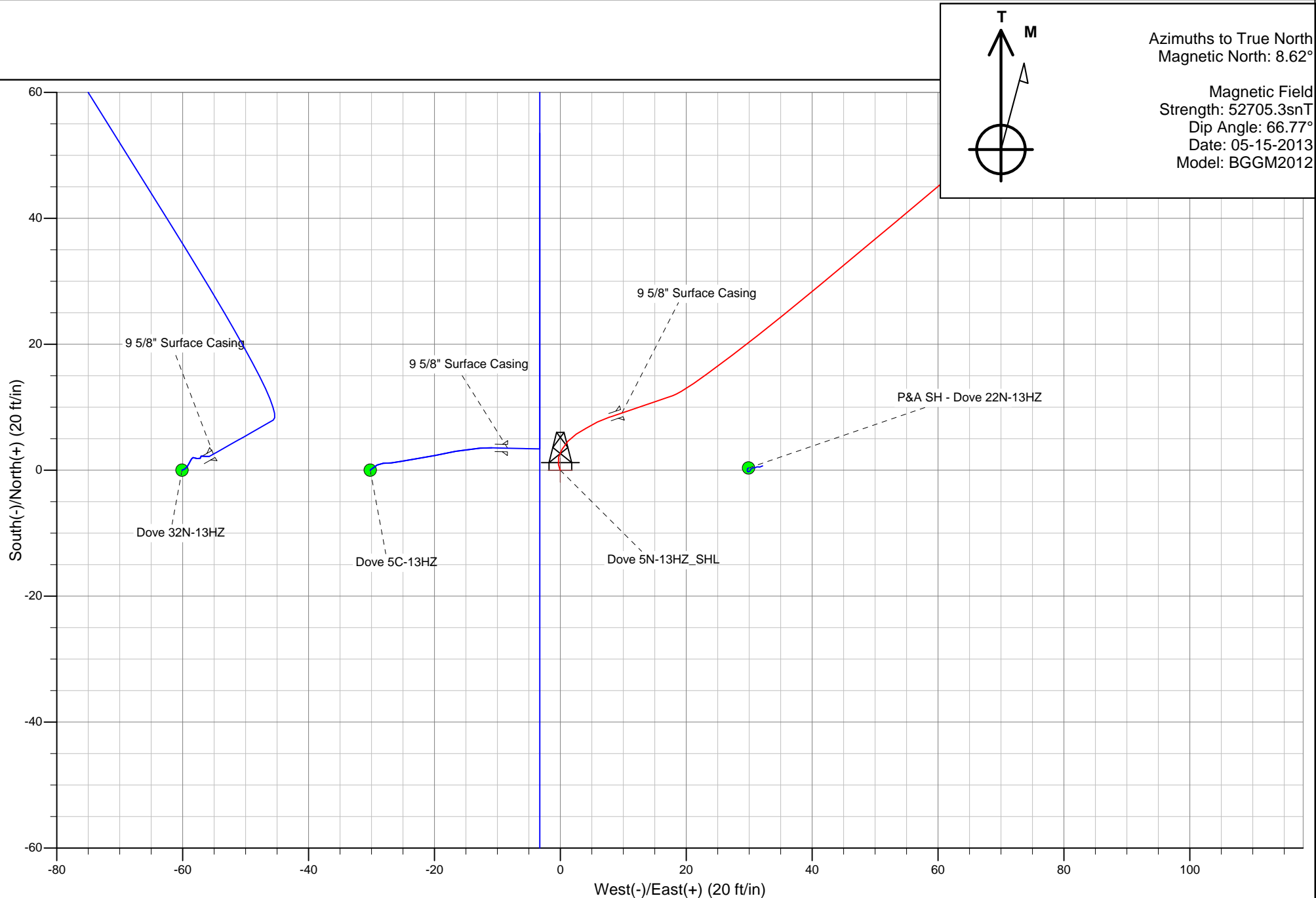
**HALLIBURTON**  
Sperry Drilling



Project: Weld County, CO (NAD 83)  
Site: Sec. 12-T2N-R66W  
Pad: Dove 5N-13HZ  
Plan B Rev 0  
Plan B Rev 0 - PROPOSAL

# Anadarko Petroleum Corp.

**HALLIBURTON**  
Sperry Drilling



## Plan Report for Dove 5N-13HZ - Plan B Rev 0 - PROPOSAL

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 (°)
946.00	1.17	71.21	945.89	8.54	8.16	-8.60	0.00	0.00	0.00	0.00
<b>Tie-On to Surface Gyros @ 946.00ft</b>										
1,000.00	1.17	71.21	999.88	8.89	9.20	-8.97	0.00	0.00	0.00	0.00
1,030.20	1.17	71.21	1,030.07	9.09	9.78	-9.17	0.00	0.00	0.00	0.00
<b>9 5/8" Surface Casing</b>										
1,100.00	1.17	71.21	1,099.86	9.55	11.13	-9.64	0.00	0.00	0.00	0.00
1,200.00	1.17	71.21	1,199.84	10.21	13.07	-10.31	0.00	0.00	0.00	0.00
1,300.00	1.17	71.21	1,299.82	10.86	15.00	-10.99	0.00	0.00	0.00	0.00
1,400.00	1.17	71.21	1,399.80	11.52	16.93	-11.66	0.00	0.00	0.00	0.00
1,446.00	1.17	71.21	1,445.79	11.82	17.82	-11.97	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 1446.00ft</b>										
1,500.00	2.20	59.74	1,499.76	12.52	19.24	-12.68	2.00	1.91	-21.24	-23.90
1,600.00	4.18	53.82	1,599.60	15.64	23.84	-15.84	2.00	1.98	-5.92	-12.44
1,700.00	6.17	51.70	1,699.19	21.12	30.99	-21.38	2.00	1.99	-2.11	-6.52
1,800.00	8.16	50.62	1,798.40	28.96	40.70	-29.29	2.00	2.00	-1.08	-4.42
1,891.96	10.00	50.00	1,889.21	38.23	51.86	-38.66	2.00	2.00	-0.67	-3.34
<b>End Nudge @ 1891.96ft</b>										
1,900.00	10.00	50.00	1,897.13	39.13	52.93	-39.56	0.00	0.00	0.00	-2.73
2,000.00	10.00	50.00	1,995.61	50.29	66.23	-50.83	0.00	0.00	0.00	0.00
2,100.00	10.00	50.00	2,094.09	61.45	79.54	-62.10	0.00	0.00	0.00	0.00
2,200.00	10.00	50.00	2,192.57	72.62	92.84	-73.38	0.00	0.00	0.00	0.00
2,300.00	10.00	50.00	2,291.05	83.78	106.14	-84.65	0.00	0.00	0.00	0.00
2,400.00	10.00	50.00	2,389.53	94.94	119.44	-95.92	0.00	0.00	0.00	0.00
2,500.00	10.00	50.00	2,488.01	106.10	132.75	-107.19	0.00	0.00	0.00	0.00
2,600.00	10.00	50.00	2,586.49	117.26	146.05	-118.46	0.00	0.00	0.00	0.00
2,700.00	10.00	50.00	2,684.97	128.43	159.35	-129.73	0.00	0.00	0.00	0.00
2,800.00	10.00	50.00	2,783.45	139.59	172.65	-141.00	0.00	0.00	0.00	0.00
2,900.00	10.00	50.00	2,881.93	150.75	185.95	-152.27	0.00	0.00	0.00	0.00
3,000.00	10.00	50.00	2,980.41	161.91	199.26	-163.54	0.00	0.00	0.00	0.00
3,100.00	10.00	50.00	3,078.89	173.07	212.56	-174.81	0.00	0.00	0.00	0.00
3,200.00	10.00	50.00	3,177.38	184.24	225.86	-186.08	0.00	0.00	0.00	0.00
3,300.00	10.00	50.00	3,275.86	195.40	239.16	-197.35	0.00	0.00	0.00	0.00
3,400.00	10.00	50.00	3,374.34	206.56	252.47	-208.62	0.00	0.00	0.00	0.00
3,403.72	10.00	50.00	3,378.00	206.97	252.96	-209.04	0.00	0.00	0.00	0.00
<b>Parkman</b>										
3,500.00	10.00	50.00	3,472.82	217.72	265.77	-219.89	0.00	0.00	0.00	0.00
3,600.00	10.00	50.00	3,571.30	228.88	279.07	-231.16	0.00	0.00	0.00	0.00
3,700.00	10.00	50.00	3,669.78	240.04	292.37	-242.43	0.00	0.00	0.00	0.00
3,800.00	10.00	50.00	3,768.26	251.21	305.67	-253.71	0.00	0.00	0.00	0.00
3,900.00	10.00	50.00	3,866.74	262.37	318.98	-264.98	0.00	0.00	0.00	0.00
4,000.00	10.00	50.00	3,965.22	273.53	332.28	-276.25	0.00	0.00	0.00	0.00
4,100.00	10.00	50.00	4,063.70	284.69	345.58	-287.52	0.00	0.00	0.00	0.00
4,200.00	10.00	50.00	4,162.18	295.85	358.88	-298.79	0.00	0.00	0.00	0.00
4,300.00	10.00	50.00	4,260.66	307.02	372.19	-310.06	0.00	0.00	0.00	0.00
4,400.00	10.00	50.00	4,359.14	318.18	385.49	-321.33	0.00	0.00	0.00	0.00
4,457.73	10.00	50.00	4,416.00	324.62	393.17	-327.84	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,500.00	10.00	50.00	4,457.63	329.34	398.79	-332.60	0.00	0.00	0.00	0.00
4,600.00	10.00	50.00	4,556.11	340.50	412.09	-343.87	0.00	0.00	0.00	0.00
4,700.00	10.00	50.00	4,654.59	351.66	425.39	-355.14	0.00	0.00	0.00	0.00
4,800.00	10.00	50.00	4,753.07	362.83	438.70	-366.41	0.00	0.00	0.00	0.00
4,900.00	10.00	50.00	4,851.55	373.99	452.00	-377.68	0.00	0.00	0.00	0.00
5,000.00	10.00	50.00	4,950.03	385.15	465.30	-388.95	0.00	0.00	0.00	0.00
5,100.00	10.00	50.00	5,048.51	396.31	478.60	-400.22	0.00	0.00	0.00	0.00
5,200.00	10.00	50.00	5,146.99	407.47	491.91	-411.49	0.00	0.00	0.00	0.00
5,203.06	10.00	50.00	5,150.00	407.81	492.31	-411.84	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5203.06ft</b>										

**Plan Report for Dove 5N-13HZ - Plan B Rev 0 - PROPOSAL**

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 (°)
5,300.00	8.06	50.00	5,245.74	417.59	503.97	-421.71	2.00	-2.00	0.00	-180.00
5,400.00	6.06	50.00	5,344.97	425.50	513.38	-429.69	2.00	-2.00	0.00	180.00
5,500.00	4.06	50.00	5,444.58	431.17	520.14	-435.42	2.00	-2.00	0.00	180.00
5,600.00	2.06	50.00	5,544.43	434.60	524.23	-438.88	2.00	-2.00	0.00	180.00
5,700.00	0.06	50.00	5,644.41	435.79	525.65	-440.09	2.00	-2.00	0.00	180.00
5,703.06	0.00	0.00	5,647.47	435.79	525.65	-440.09	2.00	-2.00	0.00	-180.00
<b>End Drop @ 5703.06ft</b>										
5,800.00	0.00	0.00	5,744.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,844.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,944.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,044.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,144.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,244.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,344.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,444.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,544.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,644.41	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
6,747.83	0.00	0.00	6,692.24	435.79	525.65	-440.09	0.00	0.00	0.00	0.00
<b>KOP @ 6747.83ft - DLS = 10.00/100ft</b>										
6,800.00	5.22	180.47	6,744.34	433.42	525.63	-437.71	10.00	10.00	0.00	180.47
6,900.00	15.22	180.47	6,842.63	415.70	525.49	-420.00	10.00	10.00	0.00	0.00
7,000.00	25.22	180.47	6,936.35	381.19	525.20	-385.48	10.00	10.00	0.00	0.00
7,100.00	35.22	180.47	7,022.65	330.93	524.79	-335.22	10.00	10.00	0.00	0.00
7,140.65	39.28	180.47	7,055.00	306.33	524.59	-310.62	10.00	10.00	0.00	0.00
<b>DLS = 6.00/100ft</b>										
7,173.41	41.25	180.47	7,080.00	285.15	524.42	-289.45	6.00	6.00	0.00	0.00
<b>Sharon Springs</b>										
7,200.00	42.84	180.47	7,099.74	267.35	524.27	-271.64	6.00	6.00	0.00	0.00
7,274.00	47.28	180.47	7,152.00	214.98	523.84	-219.27	6.00	6.00	0.00	0.00
<b>DLS = 10.00/100ft - Niobrara A</b>										
7,300.00	49.88	180.47	7,169.20	195.49	523.68	-199.78	10.00	10.00	0.00	0.00
7,305.94	50.48	180.47	7,173.00	190.93	523.64	-195.21	10.00	10.00	0.00	0.00
<b>Niobrara B</b>										
7,400.00	59.88	180.47	7,226.65	113.79	523.01	-118.08	10.00	10.00	0.00	0.00
7,500.00	69.88	180.47	7,269.04	23.37	522.27	-27.65	10.00	10.00	0.00	0.00
7,502.80	70.16	180.47	7,270.00	20.73	522.24	-25.02	10.00	10.00	0.00	0.00
<b>Niobrara C</b>										
7,600.00	79.88	180.47	7,295.09	-73.05	521.47	68.77	10.00	10.00	0.00	0.00
7,700.00	89.88	180.47	7,304.00	-172.52	520.65	168.24	10.00	10.00	0.00	0.00
7,700.83	89.97	180.47	7,304.00	-173.35	520.64	169.07	10.00	10.00	0.00	0.00
<b>End Build @ 7700.83ft - 7" Intermediate Casing</b>										
7,704.75	89.97	180.47	7,304.00	-177.26	520.61	172.99	0.01	0.01	0.00	0.00
<b>Niobrara C TL (Heel)</b>										
7,800.00	89.97	180.47	7,304.06	-272.51	519.83	268.24	0.00	0.00	0.00	0.00
7,900.00	89.97	180.47	7,304.11	-372.51	519.00	368.24	0.00	0.00	0.00	0.00
8,000.00	89.97	180.47	7,304.17	-472.51	518.18	468.24	0.00	0.00	0.00	0.00
8,100.00	89.97	180.47	7,304.23	-572.50	517.35	568.24	0.00	0.00	0.00	0.00
8,200.00	89.97	180.47	7,304.29	-672.50	516.53	668.24	0.00	0.00	0.00	0.00
8,300.00	89.97	180.47	7,304.35	-772.50	515.70	768.24	0.00	0.00	0.00	0.00
8,400.00	89.97	180.47	7,304.41	-872.49	514.88	868.24	0.00	0.00	0.00	0.00
8,500.00	89.97	180.47	7,304.47	-972.49	514.05	968.24	0.00	0.00	0.00	0.00
8,600.00	89.97	180.47	7,304.53	-1,072.49	513.23	1,068.24	0.00	0.00	0.00	0.00
8,700.00	89.97	180.47	7,304.59	-1,172.48	512.40	1,168.24	0.00	0.00	0.00	0.00
8,800.00	89.97	180.47	7,304.64	-1,272.48	511.58	1,268.24	0.00	0.00	0.00	0.00
8,900.00	89.97	180.47	7,304.70	-1,372.48	510.75	1,368.24	0.00	0.00	0.00	0.00
9,000.00	89.97	180.47	7,304.76	-1,472.47	509.93	1,468.24	0.00	0.00	0.00	0.00
9,100.00	89.97	180.47	7,304.82	-1,572.47	509.10	1,568.24	0.00	0.00	0.00	0.00
9,200.00	89.97	180.47	7,304.88	-1,672.47	508.28	1,668.24	0.00	0.00	0.00	0.00
9,300.00	89.97	180.47	7,304.94	-1,772.46	507.45	1,768.24	0.00	0.00	0.00	0.00

**Plan Report for Dove 5N-13HZ - Plan B Rev 0 - PROPOSAL**

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 (°)
9,400.00	89.97	180.47	7,305.00	-1,872.46	506.63	1,868.24	0.00	0.00	0.00	0.00
9,500.00	89.97	180.47	7,305.06	-1,972.46	505.80	1,968.24	0.00	0.00	0.00	0.00
9,600.00	89.97	180.47	7,305.12	-2,072.45	504.98	2,068.24	0.00	0.00	0.00	0.00
9,700.00	89.97	180.47	7,305.17	-2,172.45	504.15	2,168.24	0.00	0.00	0.00	0.00
9,800.00	89.97	180.47	7,305.23	-2,272.45	503.33	2,268.24	0.00	0.00	0.00	0.00
9,900.00	89.97	180.47	7,305.29	-2,372.44	502.50	2,368.24	0.00	0.00	0.00	0.00
10,000.00	89.97	180.47	7,305.35	-2,472.44	501.68	2,468.24	0.00	0.00	0.00	0.00
10,100.00	89.97	180.47	7,305.41	-2,572.43	500.85	2,568.24	0.00	0.00	0.00	0.00
10,200.00	89.97	180.47	7,305.47	-2,672.43	500.03	2,668.24	0.00	0.00	0.00	0.00
10,300.00	89.97	180.47	7,305.53	-2,772.43	499.20	2,768.24	0.00	0.00	0.00	0.00
10,400.00	89.97	180.47	7,305.59	-2,872.42	498.38	2,868.24	0.00	0.00	0.00	0.00
10,500.00	89.97	180.47	7,305.65	-2,972.42	497.55	2,968.24	0.00	0.00	0.00	0.00
10,600.00	89.97	180.47	7,305.70	-3,072.42	496.73	3,068.24	0.00	0.00	0.00	0.00
10,700.00	89.97	180.47	7,305.76	-3,172.41	495.90	3,168.24	0.00	0.00	0.00	0.00
10,800.00	89.97	180.47	7,305.82	-3,272.41	495.08	3,268.24	0.00	0.00	0.00	0.00
10,900.00	89.97	180.47	7,305.88	-3,372.41	494.25	3,368.24	0.00	0.00	0.00	0.00
11,000.00	89.97	180.47	7,305.94	-3,472.40	493.43	3,468.24	0.00	0.00	0.00	0.00
11,100.00	89.97	180.47	7,306.00	-3,572.40	492.61	3,568.24	0.00	0.00	0.00	0.00
11,200.00	89.97	180.47	7,306.06	-3,672.40	491.78	3,668.24	0.00	0.00	0.00	0.00
11,300.00	89.97	180.47	7,306.12	-3,772.39	490.96	3,768.24	0.00	0.00	0.00	0.00
11,400.00	89.97	180.47	7,306.17	-3,872.39	490.13	3,868.24	0.00	0.00	0.00	0.00
11,500.00	89.97	180.47	7,306.23	-3,972.39	489.31	3,968.24	0.00	0.00	0.00	0.00
11,600.00	89.97	180.47	7,306.29	-4,072.38	488.48	4,068.24	0.00	0.00	0.00	0.00
11,700.00	89.97	180.47	7,306.35	-4,172.38	487.66	4,168.24	0.00	0.00	0.00	0.00
11,800.00	89.97	180.47	7,306.41	-4,272.38	486.83	4,268.24	0.00	0.00	0.00	0.00
11,900.00	89.97	180.47	7,306.47	-4,372.37	486.01	4,368.24	0.00	0.00	0.00	0.00
12,000.00	89.97	180.47	7,306.53	-4,472.37	485.18	4,468.24	0.00	0.00	0.00	0.00
12,100.00	89.97	180.47	7,306.59	-4,572.37	484.36	4,568.24	0.00	0.00	0.00	0.00
12,200.00	89.97	180.47	7,306.65	-4,672.36	483.53	4,668.24	0.00	0.00	0.00	0.00
12,300.00	89.97	180.47	7,306.70	-4,772.36	482.71	4,768.24	0.00	0.00	0.00	0.00
12,400.00	89.97	180.47	7,306.76	-4,872.36	481.88	4,868.24	0.00	0.00	0.00	0.00
12,500.00	89.97	180.47	7,306.82	-4,972.35	481.06	4,968.24	0.00	0.00	0.00	0.00
12,600.00	89.97	180.47	7,306.88	-5,072.35	480.23	5,068.24	0.00	0.00	0.00	0.00
12,700.00	89.97	180.47	7,306.94	-5,172.35	479.41	5,168.24	0.00	0.00	0.00	0.00
12,800.00	89.97	180.47	7,307.00	-5,272.34	478.58	5,268.24	0.00	0.00	0.00	0.00
12,900.00	89.97	180.47	7,307.06	-5,372.34	477.76	5,368.24	0.00	0.00	0.00	0.00
13,000.00	89.97	180.47	7,307.12	-5,472.34	476.93	5,468.24	0.00	0.00	0.00	0.00
13,100.00	89.97	180.47	7,307.18	-5,572.33	476.11	5,568.24	0.00	0.00	0.00	0.00
13,200.00	89.97	180.47	7,307.23	-5,672.33	475.28	5,668.24	0.00	0.00	0.00	0.00
13,300.00	89.97	180.47	7,307.29	-5,772.33	474.46	5,768.24	0.00	0.00	0.00	0.00
13,400.00	89.97	180.47	7,307.35	-5,872.32	473.63	5,868.24	0.00	0.00	0.00	0.00
13,500.00	89.97	180.47	7,307.41	-5,972.32	472.81	5,968.24	0.00	0.00	0.00	0.00
13,600.00	89.97	180.47	7,307.47	-6,072.32	471.98	6,068.24	0.00	0.00	0.00	0.00
13,700.00	89.97	180.47	7,307.53	-6,172.31	471.16	6,168.24	0.00	0.00	0.00	0.00
13,800.00	89.97	180.47	7,307.59	-6,272.31	470.33	6,268.24	0.00	0.00	0.00	0.00
13,900.00	89.97	180.47	7,307.65	-6,372.30	469.51	6,368.24	0.00	0.00	0.00	0.00
14,000.00	89.97	180.47	7,307.71	-6,472.30	468.68	6,468.24	0.00	0.00	0.00	0.00
14,100.00	89.97	180.47	7,307.76	-6,572.30	467.86	6,568.24	0.00	0.00	0.00	0.00
14,200.00	89.97	180.47	7,307.82	-6,672.29	467.03	6,668.24	0.00	0.00	0.00	0.00
14,300.00	89.97	180.47	7,307.88	-6,772.29	466.21	6,768.24	0.00	0.00	0.00	0.00
14,400.00	89.97	180.47	7,307.94	-6,872.29	465.38	6,868.24	0.00	0.00	0.00	0.00
14,500.00	89.97	180.47	7,308.00	-6,972.28	464.56	6,968.24	0.00	0.00	0.00	0.00
14,501.06	89.97	180.47	7,308.00	-6,973.34	464.55	6,969.30	0.00	0.00	0.00	0.00

TD @ 14501.06ft - Dove 5N-13HZ\_BHL new

## Plan Report for Dove 5N-13HZ - Plan B Rev 0 - PROPOSAL

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
946.00	945.89	8.54	8.16	Tie-On to Surface Gyros @ 946.00ft
1,446.00	1,445.79	11.82	17.82	Begin Nudge @ 1446.00ft
1,891.96	1,889.21	38.23	51.86	End Nudge @ 1891.96ft
5,203.06	5,150.00	407.81	492.31	Begin Drop @ 5203.06ft
5,703.06	5,647.47	435.79	525.65	End Drop @ 5703.06ft
6,747.83	6,692.24	435.79	525.65	KOP @ 6747.83ft
6,747.83	6,692.24	435.79	525.65	DLS = 10.00/100ft
7,140.65	7,055.00	306.33	524.59	DLS = 6.00/100ft
7,274.00	7,152.00	214.98	523.84	DLS = 10.00/100ft
7,700.83	7,304.00	-173.35	520.64	End Build @ 7700.83ft
14,501.06	7,308.00	-6,973.34	464.55	TD @ 14501.06ft

### Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
User	No Target (Freehand)	180.47	Slot	0.00	0.00	0.00

### Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
25.00	946.00	MS Energy Services - Surface Gyros	NS-GYRO-MS
946.00	7,700.83	Plan B Rev 0 - PROPOSAL	MWD+IFR1+SC
7,700.83	14,501.06	Plan B Rev 0 - PROPOSAL	MWD+IFR1+SC

### Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,030.20	1,030.07	9 5/8" Surface Casing	9-5/8	13-1/2
7,700.83	7,304.00	7" Intermediate Casing	7	8-3/4

### Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,403.72	3,378.00	Parkman			
4,457.73	4,416.00	Sussex			
7,173.41	7,080.00	Sharon Springs			
7,274.00	7,152.00	Niobrara A			
7,305.94	7,173.00	Niobrara B			
7,502.80	7,270.00	Niobrara C			
7,704.75	7,304.00	Niobrara C TL (Heel)			
14,501.06	7,308.00	Niobrara C TL (Toe)			



## Plan Report for Dove 5N-13HZ - Plan B Rev 0 - PROPOSAL

### Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Dove 5N-13HZ_SHL	0.00	0.00	0.00	Point
Dove 5N-13HZ_12/13	0.00	0.00	0.00	Polygon
Dove 5N-13HZ_BHL new	7,308.00	-6,973.35	464.55	Point
Dove 5N-13HZ_BHL	7,308.00	-6,973.34	210.25	Point
Dove 5N-13HZ_Sec	0.00	0.00	0.00	Polygon
Dove 5N-13HZ_LD	0.00	0.00	0.00	Polygon

## North Reference Sheet for Sec. 12-T2N-R66W - Dove 5N-13HZ - Plan B Rev 0

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 @ 5025.00ft (HP 308). Northing and Easting are relative to Dove 5N-13HZ  
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: 0.99995813

Grid Coordinates of Well: 1,301,610.12 ft N, 3,214,445.59 ft E  
Geographical Coordinates of Well: 40° 09' 31.56" N, 104° 43' 57.89" W  
Grid Convergence at Surface is: 0.50°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,501.06ft  
the Bottom Hole Displacement is 6,988.80ft in the Direction of 176.19° (True).

Magnetic Convergence at surface is: -8.13° (15 May 2013, , BGGM2012)

