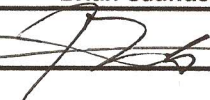
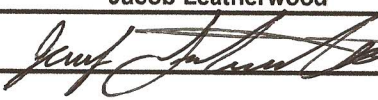
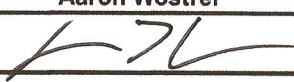


SPERRY-SUN DRILLING SERVICES

CERTIFIED SURVEY WORK SHEET

OPERATOR:	Anadarko Petroleum Corp.
WELL:	Cline 26C-2HZ
FIELD:	Wattenberg
RIG:	H&P 308
LEGALS:	2-T2N-R67W
COUNTY:	Weld
STATE:	Colorado
CAL. METHOD:	Min. Curvature
MAG. DECL. APPLIED:	8.59
VERTICAL SEC. DIR. :	0.000

SSDS Job Number :	CA-XX-0900823949
Start Date of Job :	12/18/2013
End Date of Job :	12/25/2013
Lead Directional Driller:	Brian Saunders
Other SSDS DD's :	Aaron Wostrel
SSDS MWD Engineers :	Jacob Leatherwood
	Patrick Lane

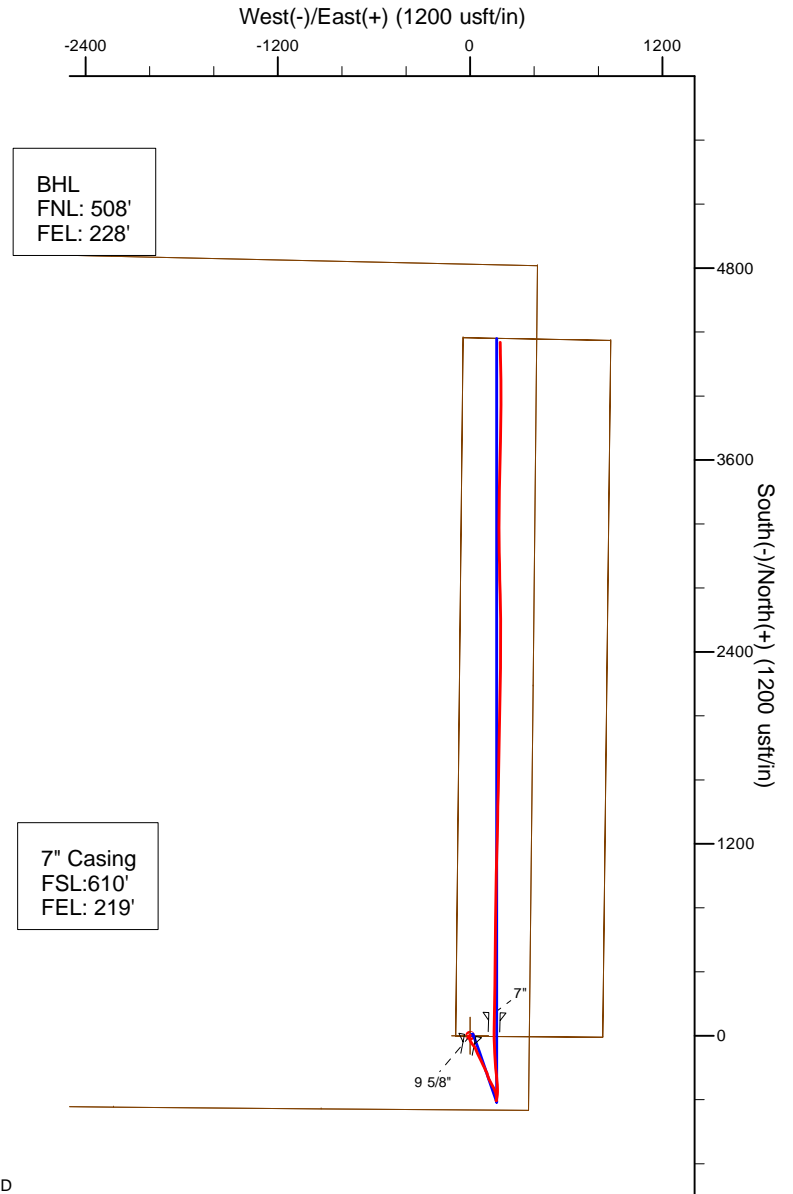
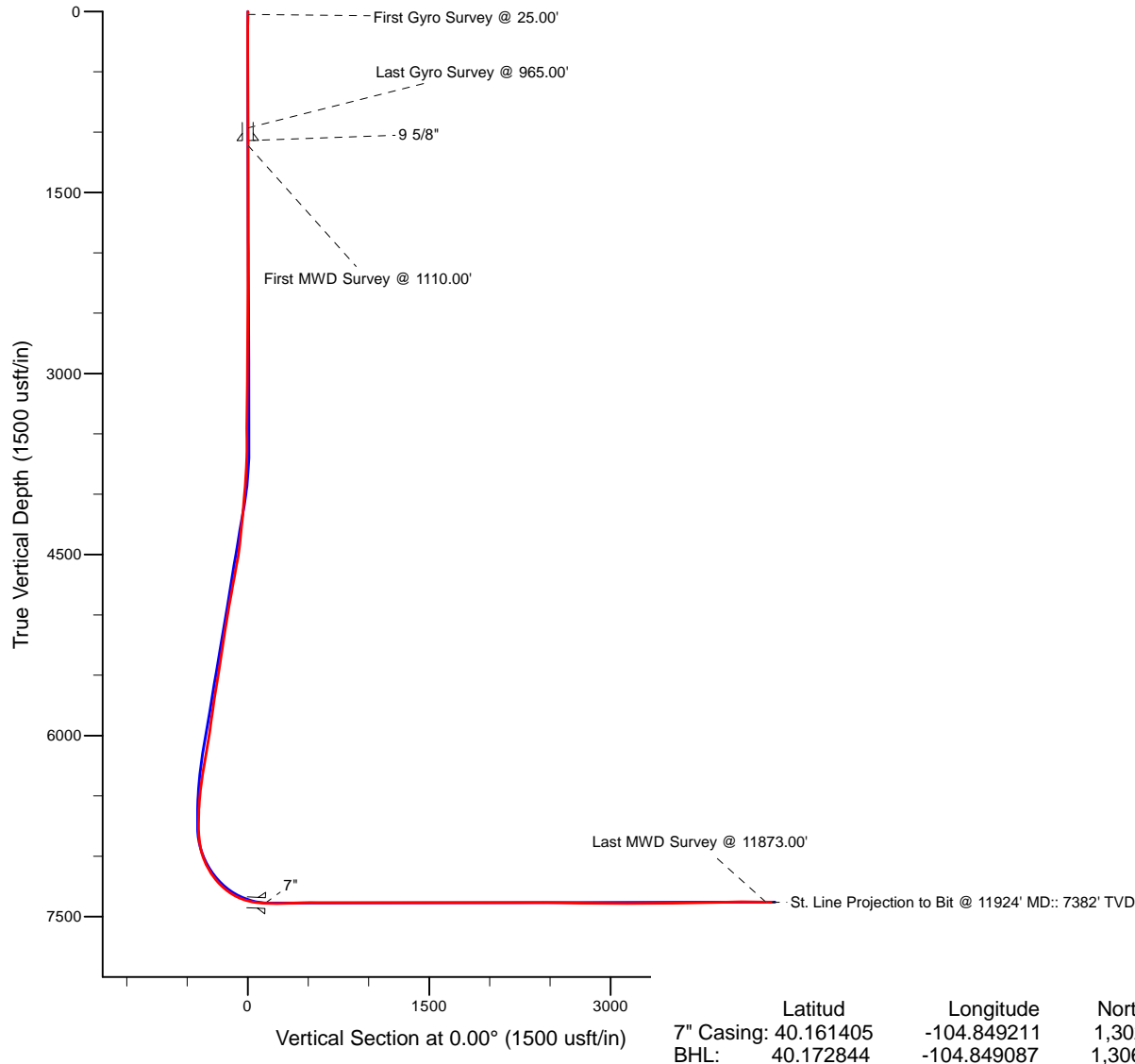
	Main Hole =====>	1st Side Track =====>	2nd Side Track =====>	3rd Side Track =====>	4th Side Track =====>
ESS Survey	Tie On	Tie On	Tie On	Tie On	Tie On
First Survey Depth	25.00	Gyro			
Last Survey Depth	965.00				
KOP Depth/Sidetrack MD	6784.00	KOP	KOP-ST1	KOP-ST2	KOP-ST3
First Survey Depth	1110.00	MWD	MWD	MWD	MWD
Last Survey Depth	11873.00	MWD	MWD	MWD	MWD
Bit Extrapolation to TD	11924.00	T.D.	T.D.	T.D.	T.D.
The following Sperry Sun Drilling Services personnel listed below, do certify the above survey information to be accurate :					
Print Name : Brian Saunders		Print Name : Jacob Leatherwood		Print Name :	
Sign Name : 		Sign Name : 		Sign Name :	
Print Name : Aaron Wostrel		Print Name :		Print Name :	
Sign Name : 		Sign Name :		Sign Name :	
Examples of Survey Types:	Tie On Tie On to Surface Casing (Assumed Vertical), Tie On to existing MWD Survey (prior drilled hole) MWD Sperry Sun Drilling Services (SSDS) Measurement While Drilling (MWD) Survey's ESS Sperry Sun Drilling Services (SSDS) Electronic Survey System (ESS) Survey's Gyro Gyro Survey's ; Provided by third party vendor, or by Sperry Sun Drilling Services (SSDS) SS Single Shot (SS) Survey's ; Provided by Sperry Sun Drilling Services (SSDS) or third party vendor.				

Project: Weld County, CO (NAD 83)
 Site: Sec. 2-T2N-R67W
 Well: Cline 26C-2HZ
 Wellbore: Plan A
 Design: Actual Field Surveys



LEGEND

- △ Cline 26C-2HZ, Plan A, Rev A1 V0
- ▣ Actual Field Surveys



WELL DETAILS: Cline 26C-2HZ	
Ground Level:	4853.00
RKB = 25' @ 4878.00usft (H&P 308)	
Design: Actual Field Surveys (Cline 26C-2HZ/Plan A)	
Created By: Pari Amanlou	Date: 1/7/2014

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 2-T2N-R67W

Cline 26C-2HZ

Job # 900823949 :: API # 05-123-38260

Plan A

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

25 August, 2014

Surface UWI : Job # 900823949 :: API # 05-123-38260

Well Coordinates: 1,302,164.67 N, 3,181,735.64 E (40° 09' 39.63" N, 104° 50' 59.13" W)

Ground Level: 4,853.00 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 Cline 26C-2HZ

RKB = 25' @ 4878.00usft (H&P 308)

N

True

API - US Survey Feet - Custom

HALLIBURTON

Design Report for Cline 26C-2HZ - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
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
First Gyro Survey @ 25.00'							
125.00	0.24	190.61	125.00	-0.21	-0.04	-0.21	0.24
225.00	0.29	1.48	225.00	-0.16	-0.07	-0.16	0.53
325.00	0.26	232.60	325.00	-0.04	-0.24	-0.04	0.50
425.00	0.21	124.46	425.00	-0.29	-0.27	-0.29	0.38
525.00	0.34	80.72	525.00	-0.34	0.17	-0.34	0.24
625.00	0.37	34.22	625.00	-0.03	0.64	-0.03	0.28
725.00	0.38	323.79	724.99	0.51	0.63	0.51	0.43
825.00	0.24	207.19	824.99	0.59	0.34	0.59	0.53
925.00	0.24	75.80	924.99	0.45	0.45	0.45	0.44
965.00	0.43	58.21	964.99	0.55	0.66	0.55	0.53
Last Gyro Survey @ 965.00'							
1,070.70	0.25	11.07	1,070.69	0.99	1.04	0.99	0.30
9 5/8"							
1,110.00	0.26	344.28	1,109.99	1.16	1.03	1.16	0.30
First MWD Survey @ 1110.00'							
1,484.00	0.28	15.86	1,483.99	2.85	1.05	2.85	0.04
1,858.00	0.03	67.55	1,857.98	3.77	1.39	3.77	0.07
2,231.00	0.71	235.99	2,230.98	2.51	-0.44	2.51	0.20
2,605.00	0.99	240.11	2,604.93	-0.39	-5.16	-0.39	0.08
2,983.00	0.57	229.70	2,982.90	-3.23	-9.42	-3.23	0.12
3,361.00	0.87	193.96	3,360.87	-7.24	-11.55	-7.24	0.14
3,456.00	0.47	285.98	3,455.86	-7.83	-12.10	-7.83	1.06
3,551.00	1.25	45.31	3,550.86	-6.99	-11.74	-6.99	1.62
3,645.00	1.52	128.68	3,644.84	-7.05	-10.03	-7.05	1.97
3,740.00	3.26	142.27	3,739.75	-9.97	-7.40	-9.97	1.91
3,834.00	3.81	147.25	3,833.57	-14.72	-4.07	-14.72	0.67
3,929.00	4.41	165.94	3,928.33	-20.91	-1.48	-20.91	1.54
4,023.00	5.62	168.53	4,021.97	-28.93	0.32	-28.93	1.31
4,118.00	5.62	148.78	4,116.52	-37.47	3.65	-37.47	2.03
4,212.00	6.29	146.31	4,210.02	-45.69	8.89	-45.69	0.76
4,306.00	7.21	140.81	4,303.36	-54.55	15.48	-54.55	1.20
4,400.00	8.06	142.09	4,396.53	-64.32	23.25	-64.32	0.92
4,495.00	9.49	150.45	4,490.42	-76.39	31.21	-76.39	2.01
4,590.00	11.21	157.18	4,583.87	-91.71	38.65	-91.71	2.21
4,684.00	12.14	157.60	4,675.93	-109.27	45.96	-109.27	0.99
4,778.00	11.05	153.62	4,768.01	-126.48	53.73	-126.48	1.44
4,873.00	9.88	154.02	4,861.43	-141.96	61.35	-141.96	1.23
4,968.00	12.13	153.93	4,954.68	-158.26	69.31	-158.26	2.37
5,062.00	10.86	153.77	5,046.79	-175.07	77.56	-175.07	1.35
5,157.00	8.65	153.19	5,140.41	-189.48	84.74	-189.48	2.33
5,251.00	9.49	155.76	5,233.23	-202.86	91.11	-202.86	0.99
5,346.00	10.24	154.40	5,326.83	-217.61	97.97	-217.61	0.83
5,440.00	9.57	158.76	5,419.43	-232.43	104.42	-232.43	1.07
5,535.00	9.36	162.69	5,513.13	-247.17	109.58	-247.17	0.72
5,629.00	9.51	160.40	5,605.86	-261.78	114.45	-261.78	0.43
5,724.00	9.62	154.76	5,699.54	-276.35	120.47	-276.35	0.99
5,818.00	9.29	154.24	5,792.27	-290.29	127.12	-290.29	0.36

Design Report for Cline 26C-2HZ - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
5,913.00	9.85	149.68	5,885.95	-304.21	134.55	-304.21	0.99
6,008.00	8.61	147.25	5,979.72	-317.21	142.50	-317.21	1.37
6,102.00	9.55	156.52	6,072.54	-330.28	149.42	-330.28	1.85
6,197.00	10.79	161.08	6,166.05	-345.92	155.44	-345.92	1.56
6,291.00	10.48	166.98	6,258.44	-362.57	160.22	-362.57	1.20
6,386.00	8.70	172.16	6,352.11	-378.11	163.15	-378.11	2.08
6,480.00	6.62	175.76	6,445.26	-390.56	164.52	-390.56	2.27
6,575.00	4.61	180.50	6,539.80	-399.84	164.89	-399.84	2.17
6,669.00	1.68	206.99	6,633.66	-404.84	164.23	-404.84	3.40
6,764.00	1.39	201.28	6,728.62	-407.16	163.18	-407.16	0.34
6,811.00	1.40	336.25	6,775.62	-407.16	162.74	-407.16	5.48
6,858.00	4.95	353.30	6,822.54	-404.62	162.27	-404.62	7.73
6,905.00	7.95	16.85	6,869.24	-399.50	162.98	-399.50	8.38
6,953.00	10.76	17.31	6,916.60	-392.04	165.28	-392.04	5.86
7,000.00	15.14	11.94	6,962.39	-381.84	167.85	-381.84	9.65
7,048.00	17.71	5.87	7,008.43	-368.44	169.90	-368.44	6.43
7,095.00	23.25	0.53	7,052.45	-352.04	170.71	-352.04	12.43
7,142.00	27.91	357.05	7,094.83	-331.77	170.23	-331.77	10.41
7,189.00	34.19	356.31	7,135.08	-307.58	168.82	-307.58	13.39
7,237.00	39.59	356.89	7,173.46	-278.83	167.12	-278.83	11.27
7,284.00	39.32	353.47	7,209.75	-249.08	164.61	-249.08	4.66
7,331.00	44.51	354.95	7,244.71	-217.85	161.46	-217.85	11.24
7,378.00	50.54	354.32	7,276.44	-183.35	158.22	-183.35	12.87
7,426.00	56.77	357.77	7,304.87	-144.81	155.60	-144.81	14.21
7,473.00	61.41	356.43	7,329.01	-104.55	153.55	-104.55	10.17
7,521.00	67.52	357.70	7,349.69	-61.31	151.34	-61.31	12.95
7,568.00	73.87	359.20	7,365.22	-17.00	150.15	-17.00	13.84
7,615.00	78.59	1.14	7,376.41	28.64	150.30	28.64	10.81
7,662.00	82.43	1.66	7,384.16	74.97	151.43	74.97	8.24
7,684.00	84.57	1.41	7,386.65	96.82	152.02	96.82	9.79
7,732.00	87.25	1.27	7,390.07	144.68	153.14	144.68	5.59
7"							
7,794.00	90.71	1.10	7,391.18	206.65	154.42	206.65	5.59
7,889.00	90.99	0.20	7,389.77	301.63	155.50	301.63	0.99
7,983.00	91.66	359.84	7,387.59	395.60	155.53	395.60	0.81
8,078.00	90.22	0.51	7,386.03	490.59	155.82	490.59	1.67
8,172.00	89.85	0.67	7,385.98	584.58	156.79	584.58	0.43
8,267.00	90.34	1.25	7,385.82	679.57	158.38	679.57	0.80
8,362.00	90.03	0.89	7,385.51	774.55	160.16	774.55	0.50
8,456.00	90.00	0.67	7,385.49	868.54	161.44	868.54	0.24
8,551.00	89.66	1.02	7,385.77	963.53	162.84	963.53	0.51
8,645.00	90.52	1.48	7,385.62	1,057.51	164.89	1,057.51	1.04
8,740.00	90.28	1.42	7,384.96	1,152.48	167.29	1,152.48	0.26
8,834.00	89.63	1.20	7,385.03	1,246.45	169.44	1,246.45	0.73
8,929.00	89.97	0.93	7,385.36	1,341.43	171.21	1,341.43	0.46
9,023.00	90.77	1.71	7,384.76	1,435.40	173.37	1,435.40	1.19
9,118.00	90.46	1.32	7,383.74	1,530.37	175.88	1,530.37	0.52
9,212.00	89.44	1.28	7,383.82	1,624.34	178.02	1,624.34	1.09
9,306.00	90.19	0.66	7,384.12	1,718.33	179.61	1,718.33	1.04
9,401.00	90.03	1.14	7,383.94	1,813.31	181.10	1,813.31	0.53
9,495.00	89.32	0.86	7,384.47	1,907.30	182.74	1,907.30	0.81

Design Report for Cline 26C-2HZ - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
9,590.00	89.23	1.03	7,385.68	2,002.28	184.31	2,002.28	0.20
9,684.00	90.59	0.89	7,385.82	2,096.26	185.88	2,096.26	1.45
9,779.00	90.68	0.72	7,384.77	2,191.25	187.22	2,191.25	0.20
9,874.00	90.12	0.79	7,384.11	2,286.23	188.47	2,286.23	0.59
9,968.00	89.94	0.96	7,384.06	2,380.22	189.90	2,380.22	0.26
10,063.00	89.85	0.98	7,384.23	2,475.21	191.51	2,475.21	0.10
10,157.00	88.86	359.70	7,385.29	2,569.20	192.07	2,569.20	1.72
10,252.00	89.26	357.54	7,386.85	2,664.15	189.78	2,664.15	2.31
10,346.00	89.54	358.90	7,387.83	2,758.10	186.86	2,758.10	1.48
10,441.00	89.23	359.04	7,388.85	2,853.08	185.15	2,853.08	0.36
10,535.00	89.23	358.83	7,390.12	2,947.05	183.41	2,947.05	0.22
10,630.00	89.29	358.92	7,391.34	3,042.03	181.54	3,042.03	0.11
10,724.00	89.29	359.61	7,392.51	3,136.01	180.34	3,136.01	0.73
10,819.00	90.77	0.53	7,392.46	3,231.01	180.45	3,231.01	1.83
10,913.00	90.59	0.89	7,391.34	3,324.99	181.62	3,324.99	0.43
11,008.00	91.11	0.83	7,389.93	3,419.97	183.04	3,419.97	0.55
11,102.00	90.99	1.65	7,388.21	3,513.93	185.08	3,513.93	0.88
11,197.00	90.95	1.05	7,386.60	3,608.89	187.31	3,608.89	0.63
11,292.00	90.49	1.65	7,385.41	3,703.86	189.55	3,703.86	0.80
11,386.00	91.08	0.51	7,384.12	3,797.83	191.32	3,797.83	1.37
11,480.00	91.26	0.19	7,382.20	3,891.81	191.90	3,891.81	0.39
11,575.00	92.07	0.61	7,379.44	3,986.77	192.56	3,986.77	0.96
11,669.00	89.35	359.10	7,378.28	4,080.75	192.32	4,080.75	3.31
11,764.00	89.11	359.22	7,379.55	4,175.73	190.93	4,175.73	0.28
11,858.00	88.95	358.66	7,381.14	4,269.70	189.19	4,269.70	0.62
11,873.00	89.04	358.32	7,381.41	4,284.69	188.80	4,284.69	2.34
Last MWD Survey @ 11873.00'							
11,924.00	89.04	358.32	7,382.26	4,335.66	187.30	4,335.66	0.00
St. Line Projection to Bit @ 11924' MD:: 7382' TVD							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
25.00	25.00	0.00	0.00	First Gyro Survey @ 25.00'
965.00	964.99	0.55	0.66	Last Gyro Survey @ 965.00'
1,110.00	1,109.99	1.16	1.03	First MWD Survey @ 1110.00'
11,873.00	7,381.41	4,284.69	188.80	Last MWD Survey @ 11873.00'
11,924.00	7,382.26	4,335.66	187.30	St. Line Projection to Bit @ 11924' MD:: 7382' TVD

Vertical Section Information

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

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
25.00	965.00	MS Energy Gyros	NS-GYRO-MS
1,110.00	8,929.00	MWD Surveys-Vertical & Build	MWD+IFR1+SC

Design Report for Cline 26C-2HZ - Actual Field Surveys

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
9,023.00	11,873.00	MWD Surveys- Lateral	MWD+IFR1+SC

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,070.70	1,070.69	9 5/8"	9-5/8	12-3/4
7,732.00	7,390.07	7"	7	8-3/4

Wellbore Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Cline 26C-2HZ_SHL	0.00	0.00	0.00	0.01	0.00	1,302,164.69	3,181,735.64	40° 9' 39.629 N	104° 50' 59.132 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Cline 26C-2HZ_SEC	0.00	0.00	0.00	0.01	0.00	1,302,164.69	3,181,735.64	40° 9' 39.629 N	104° 50' 59.132 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	4,925.86	-4,804.81	1,307,054.98	3,176,895.04	
Point 2				0.00	4,874.87	-2,237.42	1,307,022.82	3,179,462.63	
Point 3				0.00	4,814.57	420.70	1,306,982.01	3,182,121.01	
Point 4				0.00	2,186.65	393.68	1,304,354.07	3,182,113.26	
Point 5				0.00	-466.60	365.27	1,301,700.80	3,182,104.30	
Point 6				0.00	-456.64	-929.97	1,301,701.26	3,180,809.08	
Point 7				0.00	-446.74	-2,225.59	1,301,701.66	3,179,513.48	
Point 8				0.00	-424.19	-4,852.55	1,301,704.94	3,176,886.53	
Point 9				0.00	2,204.74	-4,819.75	1,304,333.93	3,176,900.05	
Point 10				0.00	4,925.86	-4,804.81	1,307,054.98	3,176,895.04	
Cline 26C-2HZ_LD	0.00	0.00	0.00	0.01	0.00	1,302,164.69	3,181,735.64	40° 9' 39.629 N	104° 50' 59.132 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	4,364.97	-43.97	1,306,529.03	3,181,659.67	
Point 2				0.00	4,348.21	877.31	1,306,519.03	3,182,581.01	
Point 3				0.00	-9.80	828.65	1,302,160.96	3,182,564.30	
Point 4				0.00	-3.07	-89.81	1,302,160.96	3,181,645.86	
Point 5				0.00	4,364.97	-43.97	1,306,529.03	3,181,659.67	
Cline 26C-2HZ_BHL	0.00	0.00	7,380.00	4,360.29	166.00	1,306,525.88	3,181,869.65	40° 10' 22.717 N	104° 50' 56.994 W
- actual wellpath misses target center by 32.64usft at 11924.00usft MD (7382.26 TVD, 4335.66 N, 187.30 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	1.57 °/100usft	Maximum Dogleg over Survey:	14.21 °/100usft at 7,426.00 usft
Net Tortousity applicable to Plans:	0.61 °/100usft	Directional Difficulty Index:	6.198

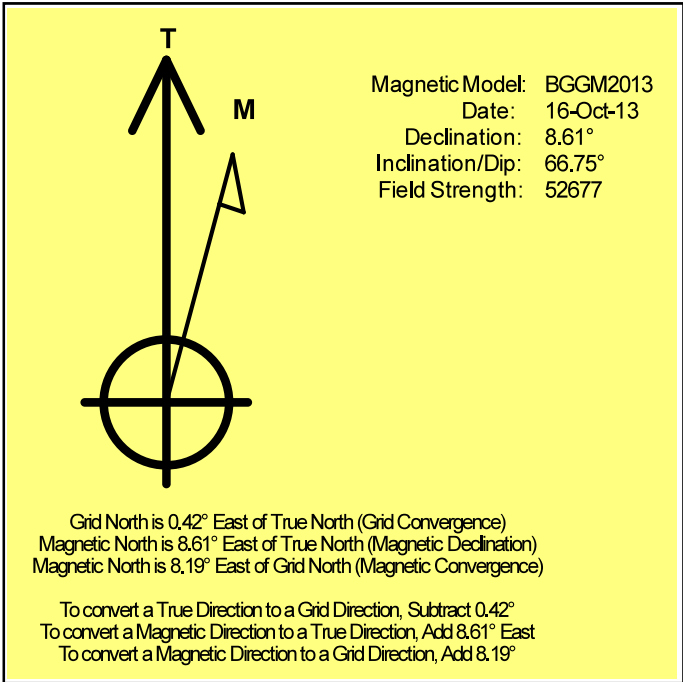
Audit Info

North Reference Sheet for Sec. 2-T2N-R67W - Cline 26C-2HZ - Plan A

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' @ 4878.00usft (H&P 308). Northing and Easting are relative to Cline 26C-2HZ
 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° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 47' 0.000 N°
 False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995807

Grid Coordinates of Well: 1,302,164.67 usft N, 3,181,735.64 usft E
 Geographical Coordinates of Well: 40° 09' 39.63" N, 104° 50' 59.13" W
 Grid Convergence at Surface is: 0.42°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,924.00usft
 the Bottom Hole Displacement is 4,339.71usft in the Direction of 2.47° (True).
 Magnetic Convergence at surface is: -8.19° (16 October 2013, , BGGM2013)



Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 2-T2N-R67W

Cline 26C-2HZ

Job # 900823949 :: API # 05-123-38260

Plan A

Design: Actual Field Surveys

Sperry Drilling Services

Geodetic Report

25 August, 2014

Well Coordinates: 1,302,164.67 N, 3,181,735.64 E (40° 09' 39.63" N, 104° 50' 59.13" W)

Ground Level: 4,853.00 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 Cline 26C-2HZ

RKB = 25' @ 4878.00usft (H&P 308)

N

True

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Design Report for Cline 26C-2HZ - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Geographic Coordinates		UTM Coordinates	
				+N/-S (usft)	+E/-W (usft)	Latitude (usft)	Longitude (usft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	40.161008	-104.849759	1,302,164.67	3,181,735.64
25.00	0.00	0.00	25.00	0.00	0.00	40.161008	-104.849759	1,302,164.67	3,181,735.64
125.00	0.24	190.61	125.00	-0.21	-0.04	40.161007	-104.849759	1,302,164.47	3,181,735.60
225.00	0.29	1.48	225.00	-0.16	-0.07	40.161008	-104.849760	1,302,164.51	3,181,735.57
325.00	0.26	232.60	325.00	-0.04	-0.24	40.161008	-104.849760	1,302,164.63	3,181,735.39
425.00	0.21	124.46	425.00	-0.29	-0.27	40.161007	-104.849760	1,302,164.39	3,181,735.37
525.00	0.34	80.72	525.00	-0.34	0.17	40.161007	-104.849759	1,302,164.33	3,181,735.81
625.00	0.37	34.22	625.00	-0.03	0.64	40.161008	-104.849757	1,302,164.65	3,181,736.28
725.00	0.38	323.79	724.99	0.51	0.63	40.161009	-104.849757	1,302,165.19	3,181,736.27
825.00	0.24	207.19	824.99	0.59	0.34	40.161010	-104.849758	1,302,165.27	3,181,735.97
925.00	0.24	75.80	924.99	0.45	0.45	40.161009	-104.849758	1,302,165.13	3,181,736.08
965.00	0.43	58.21	964.99	0.55	0.66	40.161010	-104.849757	1,302,165.23	3,181,736.29
1,070.70	0.25	11.07	1,070.69	0.99	1.04	40.161011	-104.849756	1,302,165.67	3,181,736.67
1,110.00	0.26	344.28	1,109.99	1.16	1.03	40.161011	-104.849756	1,302,165.84	3,181,736.66
1,484.00	0.28	15.86	1,483.99	2.85	1.05	40.161016	-104.849756	1,302,167.54	3,181,736.67
1,858.00	0.03	67.55	1,857.98	3.77	1.39	40.161018	-104.849754	1,302,168.45	3,181,737.00
2,231.00	0.71	235.99	2,230.98	2.51	-0.44	40.161015	-104.849761	1,302,167.19	3,181,735.18
2,605.00	0.99	240.11	2,604.93	-0.39	-5.16	40.161007	-104.849778	1,302,164.24	3,181,730.48
2,983.00	0.57	229.70	2,982.90	-3.23	-9.42	40.160999	-104.849793	1,302,161.37	3,181,726.24
3,361.00	0.87	193.96	3,360.87	-7.24	-11.55	40.160988	-104.849801	1,302,157.35	3,181,724.14
3,456.00	0.47	285.98	3,455.86	-7.83	-12.10	40.160987	-104.849803	1,302,156.76	3,181,723.60
3,551.00	1.25	45.31	3,550.86	-6.99	-11.74	40.160989	-104.849801	1,302,157.60	3,181,723.95
3,645.00	1.52	128.68	3,644.84	-7.05	-10.03	40.160989	-104.849795	1,302,157.55	3,181,725.66
3,740.00	3.26	142.27	3,739.75	-9.97	-7.40	40.160981	-104.849786	1,302,154.65	3,181,728.31
3,834.00	3.81	147.25	3,833.57	-14.72	-4.07	40.160968	-104.849774	1,302,149.93	3,181,731.67
3,929.00	4.41	165.94	3,928.33	-20.91	-1.48	40.160951	-104.849765	1,302,143.75	3,181,734.31
4,023.00	5.62	168.53	4,021.97	-28.93	0.32	40.160929	-104.849758	1,302,135.75	3,181,736.17
4,118.00	5.62	148.78	4,116.52	-37.47	3.65	40.160905	-104.849746	1,302,127.24	3,181,739.57
4,212.00	6.29	146.31	4,210.02	-45.69	8.89	40.160883	-104.849727	1,302,119.05	3,181,744.87
4,306.00	7.21	140.81	4,303.36	-54.55	15.48	40.160858	-104.849704	1,302,110.25	3,181,751.52
4,400.00	8.06	142.09	4,396.53	-64.32	23.25	40.160831	-104.849676	1,302,100.53	3,181,759.36
4,495.00	9.49	150.45	4,490.42	-76.39	31.21	40.160798	-104.849648	1,302,088.52	3,181,767.41
4,590.00	11.21	157.18	4,583.87	-91.71	38.65	40.160756	-104.849621	1,302,073.25	3,181,774.96
4,684.00	12.14	157.60	4,675.93	-109.27	45.96	40.160708	-104.849595	1,302,055.75	3,181,782.40
4,778.00	11.05	153.62	4,768.01	-126.48	53.73	40.160661	-104.849567	1,302,038.60	3,181,790.30
4,873.00	9.88	154.02	4,861.43	-141.96	61.35	40.160618	-104.849540	1,302,023.17	3,181,798.03
4,968.00	12.13	153.93	4,954.68	-158.26	69.31	40.160574	-104.849511	1,302,006.93	3,181,806.10
5,062.00	10.86	153.77	5,046.79	-175.07	77.56	40.160527	-104.849482	1,301,990.18	3,181,814.48
5,157.00	8.65	153.19	5,140.41	-189.48	84.74	40.160488	-104.849456	1,301,975.83	3,181,821.76
5,251.00	9.49	155.76	5,233.23	-202.86	91.11	40.160451	-104.849433	1,301,962.50	3,181,828.23
5,346.00	10.24	154.40	5,326.83	-217.61	97.97	40.160411	-104.849409	1,301,947.80	3,181,835.20
5,440.00	9.57	158.76	5,419.43	-232.43	104.42	40.160370	-104.849386	1,301,933.03	3,181,841.75

Design Report for Cline 26C-2HZ - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Geographic Coordinates		UTM Coordinates	
				+N/-S (usft)	+E/-W (usft)	Latitude (usft)	Longitude (usft)	Northing (usft)	Easting (usft)
5,535.00	9.36	162.69	5,513.13	-247.17	109.58	40.160330	-104.849367	1,301,918.33	3,181,847.02
5,629.00	9.51	160.40	5,605.86	-261.78	114.45	40.160289	-104.849350	1,301,903.75	3,181,852.00
5,724.00	9.62	154.76	5,699.54	-276.35	120.47	40.160249	-104.849328	1,301,889.22	3,181,858.13
5,818.00	9.29	154.24	5,792.27	-290.29	127.12	40.160211	-104.849304	1,301,875.34	3,181,864.88
5,913.00	9.85	149.68	5,885.95	-304.21	134.55	40.160173	-104.849278	1,301,861.47	3,181,872.41
6,008.00	8.61	147.25	5,979.72	-317.21	142.50	40.160137	-104.849249	1,301,848.53	3,181,880.46
6,102.00	9.55	156.52	6,072.54	-330.28	149.42	40.160101	-104.849225	1,301,835.51	3,181,887.47
6,197.00	10.79	161.08	6,166.05	-345.92	155.44	40.160058	-104.849203	1,301,819.92	3,181,893.60
6,291.00	10.48	166.98	6,258.44	-362.57	160.22	40.160013	-104.849186	1,301,803.30	3,181,898.51
6,386.00	8.70	172.16	6,352.11	-378.11	163.15	40.159970	-104.849176	1,301,787.79	3,181,901.55
6,480.00	6.62	175.76	6,445.26	-390.56	164.52	40.159936	-104.849171	1,301,775.35	3,181,903.01
6,575.00	4.61	180.50	6,539.80	-399.84	164.89	40.159910	-104.849169	1,301,766.07	3,181,903.45
6,669.00	1.68	206.99	6,633.66	-404.84	164.23	40.159897	-104.849172	1,301,761.06	3,181,902.83
6,764.00	1.39	201.28	6,728.62	-407.16	163.18	40.159890	-104.849175	1,301,758.74	3,181,901.79
6,811.00	1.40	336.25	6,775.62	-407.16	162.74	40.159890	-104.849177	1,301,758.73	3,181,901.35
6,858.00	4.95	353.30	6,822.54	-404.62	162.27	40.159897	-104.849179	1,301,761.27	3,181,900.87
6,905.00	7.95	16.85	6,869.24	-399.50	162.98	40.159911	-104.849176	1,301,766.40	3,181,901.54
6,953.00	10.76	17.31	6,916.60	-392.04	165.28	40.159932	-104.849168	1,301,773.87	3,181,903.78
7,000.00	15.14	11.94	6,962.39	-381.84	167.85	40.159960	-104.849159	1,301,784.09	3,181,906.28
7,048.00	17.71	5.87	7,008.43	-368.44	169.90	40.159997	-104.849151	1,301,797.50	3,181,908.22
7,095.00	23.25	0.53	7,052.45	-352.04	170.71	40.160042	-104.849149	1,301,813.91	3,181,908.92
7,142.00	27.91	357.05	7,094.83	-331.77	170.23	40.160097	-104.849150	1,301,834.18	3,181,908.29
7,189.00	34.19	356.31	7,135.08	-307.58	168.82	40.160164	-104.849155	1,301,858.35	3,181,906.70
7,237.00	39.59	356.89	7,173.46	-278.83	167.12	40.160243	-104.849161	1,301,887.09	3,181,904.79
7,284.00	39.32	353.47	7,209.75	-249.08	164.61	40.160324	-104.849170	1,301,916.82	3,181,902.06
7,331.00	44.51	354.95	7,244.71	-217.85	161.46	40.160410	-104.849182	1,301,948.02	3,181,898.69
7,378.00	50.54	354.32	7,276.44	-183.35	158.22	40.160505	-104.849193	1,301,982.50	3,181,895.19
7,426.00	56.77	357.77	7,304.87	-144.81	155.60	40.160611	-104.849203	1,302,021.02	3,181,892.29
7,473.00	61.41	356.43	7,329.01	-104.55	153.55	40.160721	-104.849210	1,302,061.26	3,181,889.94
7,521.00	67.52	357.70	7,349.69	-61.31	151.34	40.160840	-104.849218	1,302,104.47	3,181,887.42
7,568.00	73.87	359.20	7,365.22	-17.00	150.15	40.160961	-104.849222	1,302,148.78	3,181,885.91
7,615.00	78.59	1.14	7,376.41	28.64	150.30	40.161087	-104.849222	1,302,194.41	3,181,885.72
7,662.00	82.43	1.66	7,384.16	74.97	151.43	40.161214	-104.849217	1,302,240.75	3,181,886.51
7,684.00	84.57	1.41	7,386.65	96.82	152.02	40.161274	-104.849215	1,302,262.60	3,181,886.93
7,732.00	87.25	1.27	7,390.07	144.68	153.14	40.161405	-104.849211	1,302,310.47	3,181,887.70
7,794.00	90.71	1.10	7,391.18	206.65	154.42	40.161575	-104.849207	1,302,372.44	3,181,888.53
7,889.00	90.99	0.20	7,389.77	301.63	155.50	40.161836	-104.849203	1,302,467.42	3,181,888.92
7,983.00	91.66	359.84	7,387.59	395.60	155.53	40.162094	-104.849203	1,302,561.39	3,181,888.26
8,078.00	90.22	0.51	7,386.03	490.59	155.82	40.162355	-104.849202	1,302,656.37	3,181,887.85
8,172.00	89.85	0.67	7,385.98	584.58	156.79	40.162613	-104.849198	1,302,750.37	3,181,888.13
8,267.00	90.34	1.25	7,385.82	679.57	158.38	40.162873	-104.849193	1,302,845.36	3,181,889.03
8,362.00	90.03	0.89	7,385.51	774.55	160.16	40.163134	-104.849186	1,302,940.35	3,181,890.10

Design Report for Cline 26C-2HZ - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Geographic Coordinates		UTM Coordinates	
				+N/-S (usft)	+E/-W (usft)	Latitude (usft)	Longitude (usft)	Northing (usft)	Easting (usft)
8,456.00	90.00	0.67	7,385.49	868.54	161.44	40.163392	-104.849182	1,303,034.34	3,181,890.69
8,551.00	89.66	1.02	7,385.77	963.53	162.84	40.163653	-104.849177	1,303,129.33	3,181,891.40
8,645.00	90.52	1.48	7,385.62	1,057.51	164.89	40.163911	-104.849169	1,303,223.32	3,181,892.76
8,740.00	90.28	1.42	7,384.96	1,152.48	167.29	40.164172	-104.849161	1,303,318.30	3,181,894.47
8,834.00	89.63	1.20	7,385.03	1,246.45	169.44	40.164430	-104.849153	1,303,412.28	3,181,895.93
8,929.00	89.97	0.93	7,385.36	1,341.43	171.21	40.164690	-104.849147	1,303,507.27	3,181,897.00
9,023.00	90.77	1.71	7,384.76	1,435.40	173.37	40.164948	-104.849139	1,303,601.25	3,181,898.47
9,118.00	90.46	1.32	7,383.74	1,530.37	175.88	40.165209	-104.849130	1,303,696.22	3,181,900.29
9,212.00	89.44	1.28	7,383.82	1,624.34	178.02	40.165467	-104.849122	1,303,790.21	3,181,901.73
9,306.00	90.19	0.66	7,384.12	1,718.33	179.61	40.165725	-104.849117	1,303,884.20	3,181,902.63
9,401.00	90.03	1.14	7,383.94	1,813.31	181.10	40.165986	-104.849111	1,303,979.19	3,181,903.43
9,495.00	89.32	0.86	7,384.47	1,907.30	182.74	40.166244	-104.849105	1,304,073.18	3,181,904.38
9,590.00	89.23	1.03	7,385.68	2,002.28	184.31	40.166504	-104.849100	1,304,168.16	3,181,905.25
9,684.00	90.59	0.89	7,385.82	2,096.26	185.88	40.166762	-104.849094	1,304,262.15	3,181,906.14
9,779.00	90.68	0.72	7,384.77	2,191.25	187.22	40.167023	-104.849089	1,304,357.14	3,181,906.77
9,874.00	90.12	0.79	7,384.11	2,286.23	188.47	40.167284	-104.849085	1,304,452.13	3,181,907.33
9,968.00	89.94	0.96	7,384.06	2,380.22	189.90	40.167542	-104.849080	1,304,546.13	3,181,908.08
10,063.00	89.85	0.98	7,384.23	2,475.21	191.51	40.167803	-104.849074	1,304,641.12	3,181,908.99
10,157.00	88.86	359.70	7,385.29	2,569.20	192.07	40.168061	-104.849072	1,304,735.10	3,181,908.86
10,252.00	89.26	357.54	7,386.85	2,664.15	189.78	40.168321	-104.849080	1,304,830.03	3,181,905.87
10,346.00	89.54	358.90	7,387.83	2,758.10	186.86	40.168579	-104.849091	1,304,923.95	3,181,902.26
10,441.00	89.23	359.04	7,388.85	2,853.08	185.15	40.168840	-104.849097	1,305,018.91	3,181,899.86
10,535.00	89.23	358.83	7,390.12	2,947.05	183.41	40.169098	-104.849103	1,305,112.87	3,181,897.42
10,630.00	89.29	358.92	7,391.34	3,042.03	181.54	40.169358	-104.849110	1,305,207.82	3,181,894.86
10,724.00	89.29	359.61	7,392.51	3,136.01	180.34	40.169616	-104.849114	1,305,301.79	3,181,892.97
10,819.00	90.77	0.53	7,392.46	3,231.01	180.45	40.169877	-104.849114	1,305,396.78	3,181,892.39
10,913.00	90.59	0.89	7,391.34	3,324.99	181.62	40.170135	-104.849109	1,305,490.77	3,181,892.86
11,008.00	91.11	0.83	7,389.93	3,419.97	183.04	40.170396	-104.849104	1,305,585.75	3,181,893.59
11,102.00	90.99	1.65	7,388.21	3,513.93	185.08	40.170654	-104.849097	1,305,679.72	3,181,894.94
11,197.00	90.95	1.05	7,386.60	3,608.89	187.31	40.170914	-104.849089	1,305,774.69	3,181,896.48
11,292.00	90.49	1.65	7,385.41	3,703.86	189.55	40.171175	-104.849081	1,305,869.67	3,181,898.02
11,386.00	91.08	0.51	7,384.12	3,797.83	191.32	40.171433	-104.849075	1,305,963.65	3,181,899.10
11,480.00	91.26	0.19	7,382.20	3,891.81	191.90	40.171691	-104.849073	1,306,057.62	3,181,898.99
11,575.00	92.07	0.61	7,379.44	3,986.77	192.56	40.171952	-104.849070	1,306,152.58	3,181,898.95
11,669.00	89.35	359.10	7,378.28	4,080.75	192.32	40.172210	-104.849071	1,306,246.55	3,181,898.03
11,764.00	89.11	359.22	7,379.55	4,175.73	190.93	40.172470	-104.849076	1,306,341.52	3,181,895.94
11,858.00	88.95	358.66	7,381.14	4,269.70	189.19	40.172728	-104.849082	1,306,435.47	3,181,893.51
11,873.00	89.04	358.32	7,381.41	4,284.69	188.80	40.172770	-104.849084	1,306,450.46	3,181,893.00
11,924.00	89.04	358.32	7,382.26	4,335.66	187.30	40.172909	-104.849089	1,306,501.41	3,181,891.14

Design Report for Cline 26C-2HZ - Actual Field Surveys

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
25.00	25.00	0.00	0.00	First Gyro Survey @ 25.00'
965.00	964.99	0.55	0.66	Last Gyro Survey @ 965.00'
1,110.00	1,109.99	1.16	1.03	First MWD Survey @ 1110.00'
11,873.00	7,381.41	4,284.69	188.80	Last MWD Survey @ 11873.00'
11,924.00	7,382.26	4,335.66	187.30	St. Line Projection to Bit @ 11924' MD:: 7382' TVD

Vertical Section Information

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

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
25.00	965.00	MS Energy Gyros	NS-GYRO-MS
1,110.00	8,929.00	MWD Surveys-Vertical & Build	MWD+IFR1+SC
9,023.00	11,873.00	MWD Surveys- Lateral	MWD+IFR1+SC

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,070.70	1,070.69	9 5/8"	9-5/8	12-3/4
7,732.00	7,390.07	7"	7	8-3/4

Design Report for Cline 26C-2HZ - Actual Field Surveys

Design Targets

Shape	Target Name	TVD (usft)	Northing (usft)	Easting (usft)	+N/-S usft	+E/-W usft	Created	Updated
Polygon	Cline 26C-2HZ_SEC	0.00	1,302,164.69	3,181,735.64	0.01	0.00	10/16/2013	10/16/2013
Polygon	Cline 26C-2HZ_LD	0.00	1,302,164.69	3,181,735.64	0.01	0.00	10/24/2013	10/24/2013

Directional Difficulty Index

Average Dogleg over Survey:	1.57 °/100usft	Maximum Dogleg over Survey:	14.21 °/100usft at 7,426.00 usft
Net Tortousity applicable to Plans:	0.61 °/100usft	Directional Difficulty Index:	6.198

Audit Info

North Reference Sheet for Sec. 2-T2N-R67W - Cline 26C-2HZ - Plan A

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' @ 4878.00usft (H&P 308). Northing and Easting are relative to Cline 26C-2HZ

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 -105.500000°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995807

Grid Coordinates of Well: 1,302,164.67 usft N, 3,181,735.64 usft E

Geographical Coordinates of Well: 40° 09' 39.63" N, 104° 50' 59.13" W

Grid Convergence at Surface is: 0.42°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,924.00usft

the Bottom Hole Displacement is 4,339.71usft in the Direction of 2.47° (True).

Magnetic Convergence at surface is: -8.19° (16 October 2013, , BGGM2013)

