

SPERRY-SUN DRILLING SERVICES

CERTIFIED SURVEY WORK SHEET

OPERATOR:	Anadarko Petroleum Corp
WELL:	Gee 2C-12HZ
FIELD:	Wattenberg
RIG:	Xtreme 22
LEGALS:	Sec 24-T2N-R67W
COUNTY:	Weld
STATE:	Colorado
CAL. METHOD:	Minimum Curvature
MAG. DECL. APPLIED:	8.51
VERTICAL SEC. DIR. :	359.960

SSDS Job Number :	901850478
Start Date of Job :	18-Dec-14
End Date of Job :	12-Feb-15
Lead Directional Driller:	Bryan Seghetti
Other SSDS DD's :	Roland Hall
	Patrick Lane
SSDS MWD Engineers :	Clay Wass
	Drew MacBeth
	JP Parrish

	Main Hole =====>	1st Side Track =====>	2nd Side Track =====>	3rd Side Track =====>	4th Side Track =====>
		Tie On	Tie On	Tie On	Tie On
Tie On Point	995 979.00 Gyro				
First Survey	1106.00 MWD				
KOP Depth	6634.00 KOP	KOP-ST1	KOP-ST2	KOP-ST3	KOP-ST4
Last Survey Depth	17622.00 MWD	MWD	MWD	MWD	MWD
Bit Extrapolation to TD	17665.00 Projection	T.D.	T.D.	T.D.	T.D.

The following personnel listed below, certify the above survey information to be accurate to the their knowledge. :

Print Name : Bryan Seghetti

Print Name : Patrick Lane

Print Name :

Sign Name :

Sign Name :

Sign Name :

Print Name : Clay Wass

Print Name : Drew MacBeth

Print Name :

Sign Name :

Sign Name :

Sign Name :

Examples of
Survey Types:

TieOn
MWD
ESS
Gyro
SS

Tie On to Surface Casing (Assumed Vertical), Tie On to existing MWD Survey (prior drilled hole)
Sperry Sun Drilling Services (SSDS) Measurement While Drilling (MWD) Survey's
Sperry Sun Drilling Services (SSDS) Electronic Survey System (ESS) Survey's
Gyro Survey's ; Provided by third party vendor, or by Sperry Sun Drilling Services (SSDS)
Single Shot (SS) Survey's ; Provided by Sperry Sun Drilling Services (SSDS) or third party vendor.

Project: Weld County, CO (NAD 83)
 Site: Sec. 24-T2N-R67W
 Well: Gee 2C-12HZ
 Wellbore: Plan B
 Design: Actual Surveys



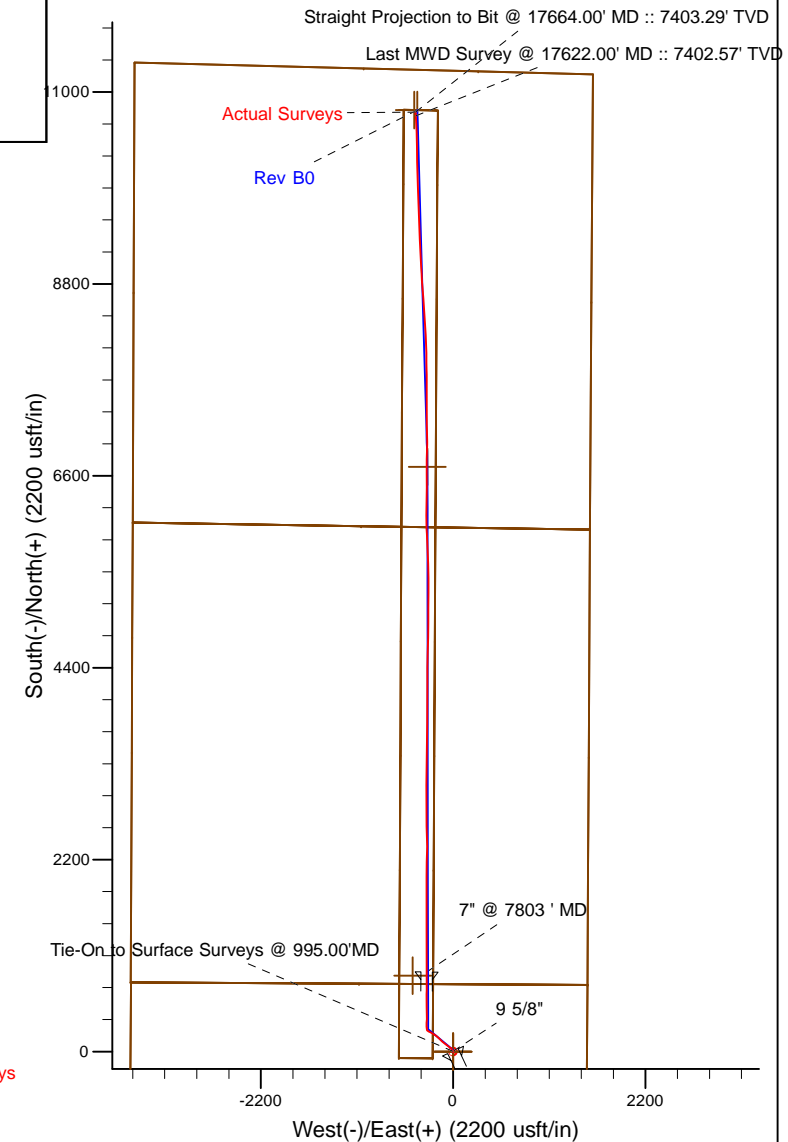
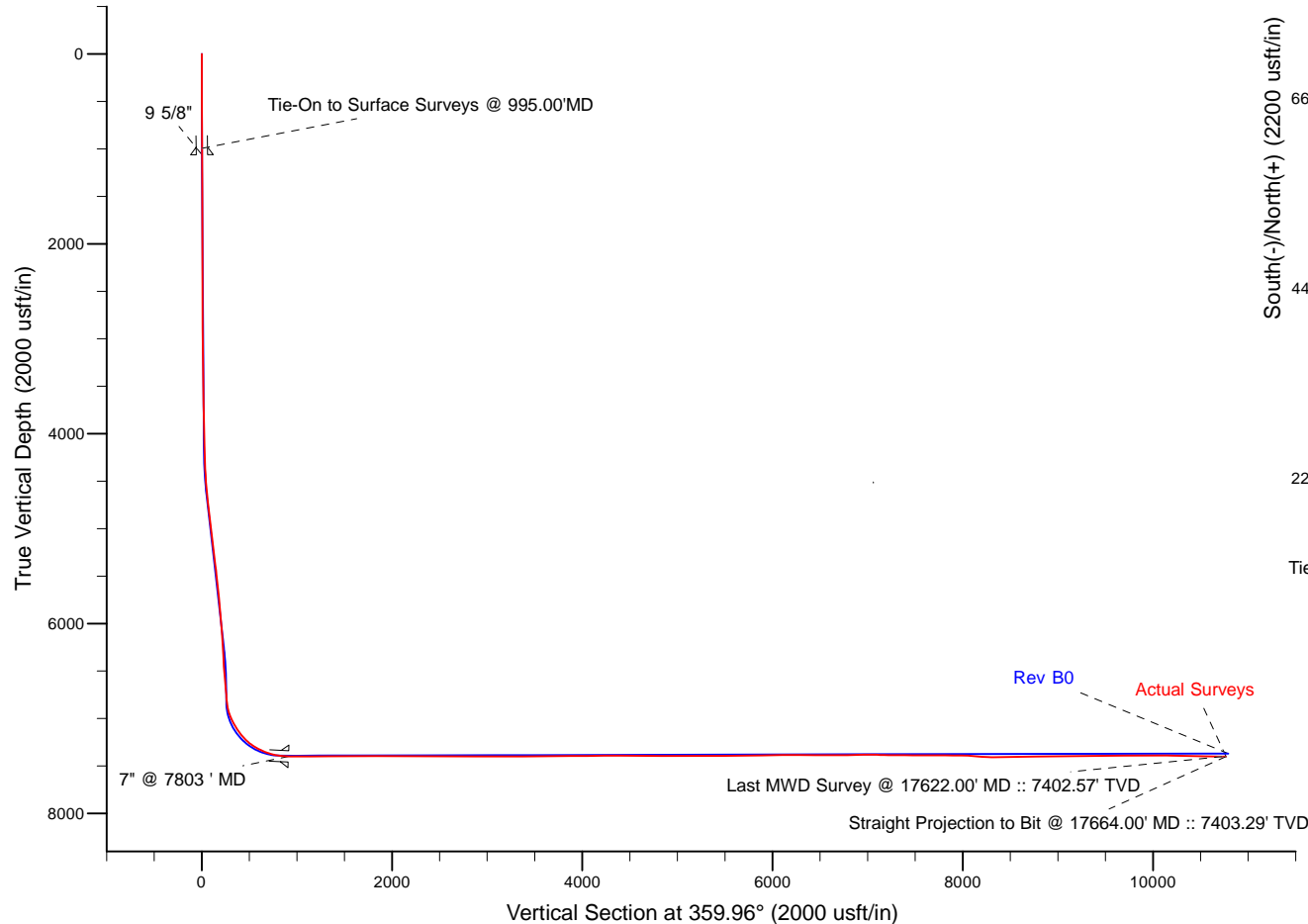
Platted SHL: 771' FNL, 1533' FWL
 Platted Lat/Long: 40.128604 N, 104.835411 W
 Location: Sec. 24-T2N-R67W

~ 7" Casing: 139.02' FSL, 1840.99' FEL
 Lat/Long: 40.131107N, 104.836494W
 State Planes - CO Northern: 1291300.20N, 3185524.50E
 Location: Sec. 13-T2N-R67W

~ BHL: 485.56' FNL, 2023.90' FEL
 Lat/Long: 40.158164N, 104.836946W
 State Planes - CO Northern: 1301155.18N, 3185324.46E
 Location: Sec. 12-T2N-R67W

LEGEND

- Gee 2C-12HZ, Plan B, Rev B0 V0
- Actual Surveys



WELL DETAILS: Gee 2C-12HZ	
Ground Level:	4859.00
RKB = 16" @ 4875.00usft (Xtreme 22)	
Created By:	Gordy Roth
Created On:	2/25/15

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 24-T2N-R67W

Gee 2C-12HZ

Plan B

Design: Actual Surveys

Sperry Drilling Services

Standard Report

26 February, 2015

Well Coordinates: 1,290,390.61 N, 3,185,834.15 E (40° 07' 42.97" N, 104° 50' 07.48" W)

Ground Level: 4,859.00 usft

Local Coordinate Origin:

Centered on Well Gee 2C-12HZ

Viewing Datum:

RKB = 16' @ 4875.00usft (Xtreme 22)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 5000.1 Build: 73

HALLIBURTON

Design Report for Gee 2C-12HZ - Actual 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
116.00	0.33	288.20	116.00	0.10	-0.31	0.10	0.28
216.00	0.32	272.35	216.00	0.20	-0.87	0.20	0.09
316.00	0.23	73.39	316.00	0.27	-0.96	0.27	0.54
416.00	0.23	188.95	416.00	0.13	-0.80	0.13	0.38
516.00	0.35	353.75	516.00	0.24	-0.86	0.24	0.57
616.00	0.10	359.94	616.00	0.64	-0.90	0.64	0.25
716.00	0.24	7.85	716.00	0.94	-0.87	0.94	0.14
816.00	0.22	359.80	815.99	1.34	-0.84	1.34	0.04
916.00	0.28	21.60	915.99	1.76	-0.75	1.76	0.12
995.00	0.44	334.59	994.99	2.21	-0.81	2.21	0.40
Tie-On to Surface Surveys @ 995.00'MD							
1,106.00	1.15	335.33	1,105.98	3.61	-1.45	3.61	0.64
1,295.00	0.60	319.12	1,294.96	6.08	-2.89	6.08	0.32
1,487.00	0.90	282.41	1,486.94	7.16	-5.02	7.17	0.29
1,579.00	0.89	106.61	1,578.94	7.11	-5.04	7.12	1.94
1,761.00	0.33	11.71	1,760.93	7.22	-3.58	7.23	0.54
1,944.00	0.07	204.73	1,943.93	7.64	-3.52	7.64	0.22
2,127.00	0.39	356.07	2,126.93	8.16	-3.61	8.16	0.25
2,310.00	0.70	255.07	2,309.92	8.49	-4.73	8.49	0.47
2,494.00	1.23	271.94	2,493.90	8.27	-7.79	8.27	0.32
2,677.00	0.31	305.26	2,676.88	8.62	-10.16	8.63	0.54
2,860.00	0.44	320.47	2,859.87	9.45	-11.01	9.46	0.09
3,044.00	0.45	297.24	3,043.87	10.32	-12.10	10.33	0.10
3,227.00	0.56	0.34	3,226.86	11.55	-12.74	11.56	0.29
3,404.00	0.96	345.29	3,403.85	13.85	-13.11	13.86	0.25
3,575.00	1.25	350.43	3,574.82	17.07	-13.78	17.08	0.18
3,746.00	0.95	350.87	3,745.78	20.31	-14.32	20.32	0.18
3,917.00	1.30	337.93	3,916.75	23.51	-15.27	23.52	0.25
4,089.00	2.00	326.84	4,088.68	27.83	-17.65	27.84	0.45
4,260.00	2.79	316.46	4,259.53	33.34	-22.15	33.36	0.53
4,431.00	5.15	304.81	4,430.11	40.74	-31.32	40.76	1.45
4,601.00	8.50	308.21	4,598.88	52.87	-47.46	52.91	1.98
4,772.00	9.84	308.63	4,767.69	69.81	-68.80	69.86	0.78
4,943.00	10.59	308.94	4,935.98	88.81	-92.44	88.87	0.44
5,114.00	11.22	310.98	5,103.89	109.60	-117.22	109.68	0.43
5,285.00	9.08	312.82	5,272.21	129.68	-139.68	129.78	1.27
5,456.00	11.16	313.69	5,440.54	150.28	-161.55	150.40	1.22
5,627.00	8.12	312.75	5,609.10	169.92	-182.38	170.04	1.78
5,798.00	7.98	305.84	5,778.42	185.07	-200.88	185.21	0.57
5,970.00	9.58	302.74	5,948.40	199.80	-222.59	199.95	0.97
6,141.00	10.26	297.20	6,116.85	214.45	-248.11	214.63	0.68
6,310.00	6.53	292.35	6,284.01	224.99	-270.39	225.18	2.24
6,480.00	6.16	303.70	6,452.97	233.73	-286.92	233.93	0.77
6,651.00	6.23	333.52	6,623.02	247.13	-298.69	247.34	1.86
6,737.00	4.79	1.99	6,708.64	254.90	-300.65	255.11	3.54
6,780.00	4.34	3.44	6,751.50	258.31	-300.49	258.52	1.08
6,823.00	3.98	357.79	6,794.39	261.43	-300.45	261.64	1.27
6,866.00	7.29	350.39	6,837.17	265.61	-300.96	265.82	7.87
6,908.00	10.55	350.80	6,878.66	272.04	-302.02	272.25	7.76

Design Report for Gee 2C-12HZ - Actual Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
6,951.00	14.66	355.48	6,920.62	281.35	-303.08	281.56	9.84
6,993.00	19.91	357.04	6,960.70	293.80	-303.87	294.01	12.55
7,036.00	24.00	359.89	7,000.58	309.86	-304.26	310.08	9.83
7,078.00	28.19	3.34	7,038.29	328.32	-303.70	328.53	10.61
7,121.00	30.37	5.33	7,075.80	349.28	-302.10	349.49	5.55
7,164.00	32.49	2.51	7,112.49	371.65	-300.59	371.86	6.00
7,207.00	35.91	0.55	7,148.05	395.80	-299.96	396.01	8.36
7,249.00	40.39	358.84	7,181.07	421.74	-300.12	421.95	10.96
7,292.00	44.10	358.25	7,212.90	450.63	-300.86	450.84	8.68
7,334.00	47.18	358.59	7,242.26	480.64	-301.68	480.86	7.36
7,376.00	52.63	358.46	7,269.30	512.75	-302.51	512.96	12.98
7,418.00	57.59	359.30	7,293.31	547.18	-303.17	547.40	11.92
7,460.00	61.48	359.39	7,314.60	583.38	-303.59	583.59	9.26
7,502.00	64.94	0.56	7,333.53	620.86	-303.60	621.07	8.61
7,544.00	68.29	0.96	7,350.20	659.40	-303.09	659.61	8.02
7,586.00	70.82	0.06	7,364.87	698.75	-302.74	698.96	6.35
7,629.00	73.96	359.27	7,377.88	739.73	-302.98	739.94	7.51
7,671.00	79.94	359.93	7,387.36	780.63	-303.26	780.84	14.32
7,714.00	84.32	359.87	7,393.24	823.21	-303.34	823.42	10.19
7,753.00	84.91	0.49	7,396.90	862.04	-303.21	862.25	2.19
7,872.00	90.52	0.22	7,401.65	980.89	-302.48	981.10	4.72
8,044.00	90.46	359.98	7,400.18	1,152.89	-302.18	1,153.10	0.14
8,215.00	90.49	358.79	7,398.76	1,323.87	-304.01	1,324.08	0.70
8,386.00	90.83	0.57	7,396.79	1,494.85	-304.97	1,495.06	1.06
8,557.00	89.97	0.32	7,395.59	1,665.84	-303.64	1,666.05	0.52
8,728.00	89.11	359.43	7,396.97	1,836.83	-304.01	1,837.04	0.72
8,899.00	89.63	0.20	7,398.85	2,007.81	-304.57	2,008.03	0.54
9,068.00	90.15	1.84	7,399.17	2,176.78	-301.56	2,176.99	1.02
9,239.00	90.56	0.44	7,398.11	2,347.74	-298.16	2,347.95	0.85
9,411.00	90.06	357.67	7,397.18	2,519.69	-300.99	2,519.90	1.64
9,581.00	89.17	359.25	7,398.32	2,689.62	-305.56	2,689.83	1.07
9,752.00	89.17	0.02	7,400.80	2,860.60	-306.65	2,860.81	0.45
9,923.00	90.49	0.21	7,401.31	3,031.59	-306.31	3,031.81	0.78
10,095.00	90.03	0.80	7,400.53	3,203.58	-304.79	3,203.80	0.43
10,266.00	90.15	0.82	7,400.26	3,374.57	-302.37	3,374.78	0.07
10,437.00	90.55	1.06	7,399.21	3,545.54	-299.57	3,545.75	0.27
10,608.00	90.68	0.32	7,397.38	3,716.52	-297.51	3,716.72	0.44
10,779.00	90.71	359.82	7,395.30	3,887.50	-297.30	3,887.71	0.29
10,950.00	90.06	0.60	7,394.16	4,058.50	-296.67	4,058.70	0.59
11,120.00	90.52	0.02	7,393.30	4,228.49	-295.75	4,228.70	0.44
11,292.00	89.85	0.46	7,392.74	4,400.49	-295.03	4,400.69	0.47
11,463.00	89.32	1.79	7,393.98	4,571.45	-291.68	4,571.65	0.84
11,634.00	90.19	1.02	7,394.71	4,742.39	-287.48	4,742.59	0.68
11,805.00	90.25	0.44	7,394.05	4,913.37	-285.30	4,913.57	0.34
11,975.00	89.17	0.39	7,394.91	5,083.36	-284.07	5,083.56	0.64
12,147.00	90.56	0.49	7,395.32	5,255.35	-282.75	5,255.55	0.81
12,318.00	89.97	359.24	7,394.53	5,426.35	-283.16	5,426.54	0.81
12,488.00	90.68	358.68	7,393.56	5,596.32	-286.24	5,596.51	0.53
12,658.00	90.22	357.29	7,392.23	5,766.20	-292.22	5,766.40	0.86
12,828.00	91.66	356.95	7,389.44	5,935.96	-300.76	5,936.17	0.87
12,999.00	90.86	359.37	7,385.68	6,106.81	-306.25	6,107.03	1.49

Design Report for Gee 2C-12HZ - Actual Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
13,170.00	89.42	1.62	7,385.26	6,277.79	-304.77	6,278.00	1.56
13,339.00	89.54	0.27	7,386.79	6,446.76	-301.98	6,446.97	0.80
13,510.00	89.69	359.48	7,387.94	6,617.75	-302.35	6,617.96	0.47
13,681.00	90.74	1.25	7,387.30	6,788.74	-301.27	6,788.95	1.20
13,852.00	91.73	0.64	7,383.62	6,959.67	-298.45	6,959.88	0.68
14,024.00	87.81	358.65	7,384.31	7,131.63	-299.51	7,131.83	2.56
14,195.00	90.31	0.39	7,387.11	7,302.58	-300.94	7,302.79	1.78
14,366.00	88.74	359.57	7,388.53	7,473.56	-301.00	7,473.77	1.04
14,534.00	91.05	0.06	7,388.84	7,641.55	-301.54	7,641.76	1.41
14,706.00	88.55	358.49	7,389.44	7,813.52	-303.72	7,813.73	1.72
14,877.00	90.00	359.72	7,391.60	7,984.48	-306.39	7,984.69	1.11
15,047.00	84.26	356.70	7,400.11	8,154.09	-311.68	8,154.30	3.81
15,219.00	90.12	356.83	7,408.54	8,325.53	-321.37	8,325.76	3.41
15,389.00	90.86	356.31	7,407.09	8,495.22	-331.54	8,495.45	0.53
15,560.00	91.66	355.13	7,403.33	8,665.70	-344.30	8,665.94	0.83
15,731.00	90.09	356.65	7,400.71	8,836.23	-356.55	8,836.48	1.28
15,902.00	90.89	357.74	7,399.25	9,007.01	-364.92	9,007.27	0.79
16,073.00	91.02	355.85	7,396.40	9,177.71	-374.48	9,177.97	1.11
16,243.00	90.40	357.81	7,394.30	9,347.43	-383.88	9,347.70	1.21
16,415.00	90.18	358.21	7,393.42	9,519.33	-389.85	9,519.60	0.27
16,586.00	90.28	357.69	7,392.74	9,690.21	-395.97	9,690.49	0.31
16,757.00	90.09	358.75	7,392.19	9,861.13	-401.28	9,861.41	0.63
16,927.00	90.71	357.56	7,391.00	10,031.03	-406.75	10,031.31	0.79
17,099.00	88.58	359.02	7,392.07	10,202.94	-411.88	10,203.22	1.50
17,269.00	88.98	358.99	7,395.68	10,372.87	-414.83	10,373.16	0.24
17,439.00	88.77	358.03	7,399.02	10,542.78	-419.25	10,543.07	0.58
17,622.00	89.01	357.18	7,402.57	10,725.59	-426.90	10,725.88	0.48
Last MWD Survey @ 17622.00' MD :: 7402.57' TVD							
17,665.00	89.01	357.18	7,403.31	10,768.53	-429.02	10,768.82	0.00
Straight Projection to Bit @ 17665.00' MD :: 7403.31' TVD							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
995.00	994.99	2.21	-0.81	Tie-On to Surface Surveys @ 995.00'MD
17,622.00	7,402.57	10,725.59	-426.90	Last MWD Survey @ 17622.00' MD :: 7402.57' TVD
17,665.00	7,403.31	10,768.53	-429.02	Straight Projection to Bit @ 17665.00' MD :: 7403.31' TVD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	359.96	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
116.00	995.00	VES Gyro Surface Surveys	NS-GYRO-MS
1,106.00	7,753.00	MWD Vertical/Build Surveys	MWD+IFR1+SC
7,872.00	17,665.00	MWD Lateral Surveys	MWD+IFR1+SC

Design Report for Gee 2C-12HZ - Actual Surveys

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,064.00	1,063.99	9 5/8"	9-5/8	13-3/4
7,803.00	7,400.31	7" @ 7803 ' MD	7	8-3/4

Design Report for Gee 2C-12HZ - Actual Surveys**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
GEE 2C-12HZ_SEC	0.00	0.00	0.00	0.00	0.00	1,290,390.62	3,185,834.15	40.128604	-104.835411
- actual wellpath hits target center									
- Polygon									
Point 1				0.00	6,064.35	-3,666.66	1,296,427.07	3,182,122.29	
Point 2				0.00	8,702.08	-3,657.71	1,299,064.69	3,182,111.48	
Point 3				0.00	11,338.28	-3,645.13	1,301,700.80	3,182,104.30	
Point 4				0.00	11,269.79	-1,023.50	1,301,651.96	3,184,726.26	
Point 5				0.00	11,235.60	287.25	1,301,627.60	3,186,037.18	
Point 6				0.00	11,201.23	1,598.07	1,301,603.05	3,187,348.16	
Point 7				0.00	8,592.13	1,581.51	1,298,994.01	3,187,351.16	
Point 8				0.00	5,983.60	1,565.33	1,296,385.54	3,187,354.53	
Point 9				0.00	6,023.22	-1,052.02	1,296,405.54	3,184,737.06	
Point 10				0.00	6,064.35	-3,666.66	1,296,427.07	3,182,122.29	
Point 11				0.00	6,023.22	-1,052.02	1,296,405.54	3,184,737.06	
Point 12				0.00	5,983.60	1,565.33	1,296,385.54	3,187,354.53	
Point 13				0.00	5,983.60	1,565.40	1,296,385.54	3,187,354.60	
Point 14				0.00	3,372.93	1,551.63	1,293,774.94	3,187,360.39	
Point 15				0.00	2,067.65	1,544.33	1,292,469.70	3,187,362.88	
Point 16				0.00	762.89	1,537.06	1,291,164.97	3,187,365.39	
Point 17				0.00	777.15	-1,076.26	1,291,159.65	3,184,752.14	
Point 18				0.00	792.49	-3,689.05	1,291,155.41	3,182,139.41	
Point 19				0.00	777.15	-1,076.26	1,291,159.65	3,184,752.14	
Point 20				0.00	762.89	1,537.06	1,291,164.97	3,187,365.39	
Point 21				0.00	-1,195.10	1,525.92	1,289,207.04	3,187,368.92	
Point 22				0.00	-1,847.76	1,522.17	1,288,554.39	3,187,370.06	
Point 23				0.00	-4,458.53	1,507.15	1,285,943.69	3,187,374.61	
Point 24				0.00	-4,470.29	-1,103.46	1,285,912.37	3,184,764.27	
Point 25				0.00	-4,469.46	-3,712.96	1,285,893.64	3,182,154.94	
Point 26				0.00	-4,470.29	-1,103.46	1,285,912.37	3,184,764.27	
Point 27				0.00	-4,458.53	1,507.15	1,285,943.69	3,187,374.61	
Point 28				0.00	-9,762.24	1,518.20	1,280,640.43	3,187,425.41	
Point 29				0.00	-9,747.10	201.54	1,280,645.70	3,186,108.72	
Point 30				0.00	-9,732.10	-1,115.36	1,280,650.83	3,184,791.80	
Point 31				0.00	-9,716.53	-2,438.04	1,280,656.49	3,183,469.10	
Point 32				0.00	-9,700.68	-3,760.70	1,280,662.42	3,182,146.41	
Point 33				0.00	-8,381.46	-3,747.41	1,281,981.65	3,182,149.81	
Point 34				0.00	-7,062.40	-3,734.00	1,283,300.72	3,182,153.33	
Point 35				0.00	-4,469.46	-3,712.96	1,285,893.64	3,182,154.94	
Point 36				0.00	-4,469.46	-3,712.96	1,285,893.64	3,182,154.94	
Point 37				0.00	-3,155.49	-3,706.78	1,287,207.57	3,182,151.27	
Point 38				0.00	-1,842.01	-3,700.64	1,288,521.00	3,182,147.57	
Point 39				0.00	792.46	-3,685.17	1,291,155.41	3,182,143.29	
Point 40				0.00	792.49	-3,689.05	1,291,155.41	3,182,139.41	
Point 41				0.00	3,429.04	-3,677.78	1,293,791.86	3,182,130.92	
Point 42				0.00	4,087.78	-3,675.13	1,294,450.57	3,182,128.64	
Point 43				0.00	4,746.63	-3,672.27	1,295,109.40	3,182,126.56	
Point 44				0.00	6,064.35	-3,666.66	1,296,427.07	3,182,122.29	
GEE 2C-12HZ_SHL	0.00	0.00	0.00	0.00	0.00	1,290,390.62	3,185,834.15	40.128604	-104.835411
- actual wellpath hits target center									
- Point									
GEE 2C-12HZ_LD	0.00	0.00	0.00	0.00	0.00	1,290,390.62	3,185,834.15	40.128604	-104.835411
- actual wellpath hits target center									
- Polygon									
Point 1				0.00	6,016.25	-592.03	1,296,402.02	3,185,197.07	
Point 2				0.00	7,326.84	-584.89	1,297,712.57	3,185,194.39	
Point 3				0.00	8,637.31	-577.75	1,299,023.00	3,185,191.71	
Point 4				0.00	9,947.55	-570.60	1,300,333.21	3,185,189.04	
Point 5				0.00	10,797.67	-565.97	1,301,183.30	3,185,187.30	
Point 6				0.00	10,787.47	-175.39	1,301,176.03	3,185,577.93	
Point 7				0.00	9,938.37	-180.40	1,300,326.95	3,185,579.28	
Point 8				0.00	8,629.12	-188.11	1,299,017.73	3,185,581.38	
Point 9				0.00	7,319.81	-195.71	1,297,708.46	3,185,583.60	
Point 10				0.00	6,010.37	-203.30	1,296,399.05	3,185,585.82	

Design Report for Gee 2C-12HZ - Actual Surveys

Point 11	0.00	4,701.13	-209.78	1,295,089.85	3,185,589.15		
Point 12	0.00	3,391.88	-216.26	1,293,780.64	3,185,592.48		
Point 13	0.00	2,080.83	-222.95	1,292,469.63	3,185,595.62		
Point 14	0.00	772.54	-229.62	1,291,161.38	3,185,598.76		
Point 15	0.00	-76.87	-234.31	1,290,312.00	3,185,600.43		
Point 16	0.00	-75.66	-620.90	1,290,310.31	3,185,213.86		
Point 17	0.00	774.64	-616.25	1,291,160.59	3,185,212.14		
Point 18	0.00	2,085.20	-610.13	1,292,471.10	3,185,208.43		
Point 19	0.00	3,396.04	-604.15	1,293,781.90	3,185,204.59		
Point 20	0.00	4,706.14	-598.09	1,295,091.95	3,185,200.83		
GEE 2C-12HZ_HEEL	0.00	0.00	0.00	871.00	-462.00	1,291,258.10	3,185,365.65
- actual wellpath misses target center by 985.95usft at 2.03usft MD (2.03 TVD, 0.00 N, 0.00 E)							
- Point							
GEE 2C-12HZ_BHL	0.00	0.00	7,370.00	10,793.35	-445.00	1,301,179.88	3,185,308.29
- actual wellpath misses target center by 44.51usft at 17665.00usft MD (7403.31 TVD, 10768.53 N, -429.02 E)							
- Point							
GEE 2C-12HZ_PBHL	0.00	0.00	7,370.00	10,793.34	-410.00	1,301,180.14	3,185,343.29
- actual wellpath misses target center by 45.68usft at 17665.00usft MD (7403.31 TVD, 10768.53 N, -429.02 E)							
- Point							
GEE 2C-12HZ_T1	0.00	0.00	7,378.23	6,703.42	-294.32	1,297,091.37	3,185,489.61
- actual wellpath misses target center by 12.73usft at 13595.76usft MD (7388.01 TVD, 6703.51 N, -302.47 E)							
- Point							

Directional Difficulty Index

Average Dogleg over Survey:	1.28 °/100usft	Maximum Dogleg over Survey:	14.32 °/100usft at 7,671.00 usft
Net Tortosity applicable to Plans:	0.50 °/100usft	Directional Difficulty Index:	6.769

Audit Info

North Reference Sheet for Sec. 24-T2N-R67W - Gee 2C-12HZ - 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 = 16' @ 4875.00usft (Xtreme 22). Northing and Easting are relative to Gee 2C-12HZ

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: 0.99995911

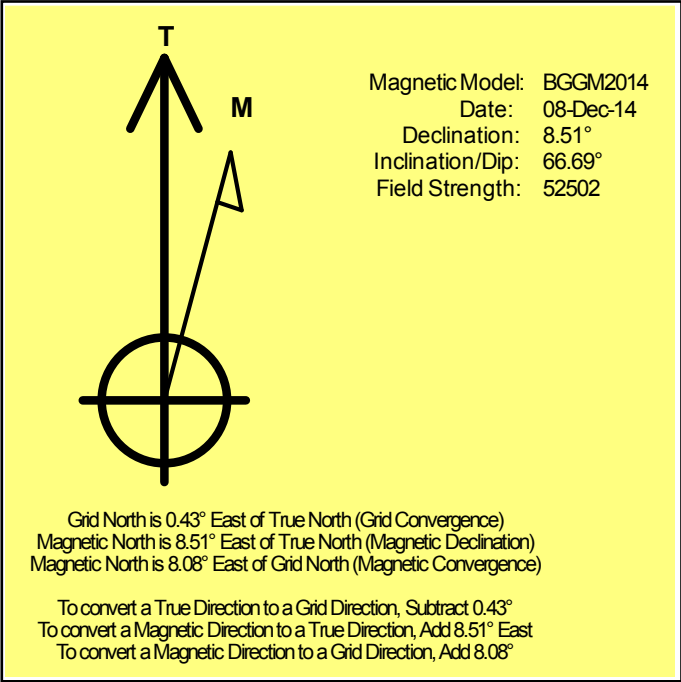
Grid Coordinates of Well: 1,290,390.61 usft N, 3,185,834.15 usft E

Geographical Coordinates of Well: 40° 07' 42.97" N, 104° 50' 07.48" W

Grid Convergence at Surface is: 0.43°

Based upon Minimum Curvature type calculations, at a Measured Depth of 17,665.00usft
the Bottom Hole Displacement is 10,777.07usft in the Direction of 357.72° (True).

Magnetic Convergence at surface is: -8.08° (8 December 2014, , BGGM2014)



Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 24-T2N-R67W

Gee 2C-12HZ

Plan B

Design: Actual Surveys

Sperry Drilling Services

Geodetic Report

25 February, 2015

Well Coordinates: 1,290,390.61 N, 3,185,834.15 E (40° 07' 42.97" N, 104° 50' 07.48" W)

Ground Level: 4,859.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 73

Centered on Well Gee 2C-12HZ

RKB = 16' @ 4875.00usft (Xtreme 22)

N

True

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Design Report for Gee 2C-12HZ - Actual 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	40.128604	-104.835411	1,290,390.61	3,185,834.15
116.00	0.33	288.20	116.00	0.10	-0.31	40.128604	-104.835412	1,290,390.71	3,185,833.83
216.00	0.32	272.35	216.00	0.20	-0.87	40.128605	-104.835414	1,290,390.81	3,185,833.28
316.00	0.23	73.39	316.00	0.27	-0.96	40.128605	-104.835415	1,290,390.88	3,185,833.19
416.00	0.23	188.95	416.00	0.13	-0.80	40.128604	-104.835414	1,290,390.74	3,185,833.35
516.00	0.35	353.75	516.00	0.24	-0.86	40.128605	-104.835414	1,290,390.85	3,185,833.28
616.00	0.10	359.94	616.00	0.64	-0.90	40.128606	-104.835414	1,290,391.24	3,185,833.25
716.00	0.24	7.85	716.00	0.94	-0.87	40.128607	-104.835414	1,290,391.55	3,185,833.27
816.00	0.22	359.80	815.99	1.34	-0.84	40.128608	-104.835414	1,290,391.95	3,185,833.30
916.00	0.28	21.60	915.99	1.76	-0.75	40.128609	-104.835414	1,290,392.37	3,185,833.39
995.00	0.44	334.59	994.99	2.21	-0.81	40.128610	-104.835414	1,290,392.82	3,185,833.33
1,106.00	1.15	335.33	1,105.98	3.61	-1.45	40.128614	-104.835416	1,290,394.21	3,185,832.67
1,295.00	0.60	319.12	1,294.96	6.08	-2.89	40.128621	-104.835422	1,290,396.67	3,185,831.21
1,487.00	0.90	282.41	1,486.94	7.16	-5.02	40.128624	-104.835429	1,290,397.74	3,185,829.07
1,579.00	0.89	106.61	1,578.94	7.11	-5.04	40.128624	-104.835429	1,290,397.69	3,185,829.05
1,761.00	0.33	11.71	1,760.93	7.22	-3.58	40.128624	-104.835424	1,290,397.81	3,185,830.51
1,944.00	0.07	204.73	1,943.93	7.64	-3.52	40.128625	-104.835424	1,290,398.22	3,185,830.57
2,127.00	0.39	356.07	2,126.93	8.16	-3.61	40.128626	-104.835424	1,290,398.74	3,185,830.48
2,310.00	0.70	255.07	2,309.92	8.49	-4.73	40.128627	-104.835428	1,290,399.07	3,185,829.35
2,494.00	1.23	271.94	2,493.90	8.27	-7.79	40.128627	-104.835439	1,290,398.82	3,185,826.29
2,677.00	0.31	305.26	2,676.88	8.62	-10.16	40.128628	-104.835448	1,290,399.16	3,185,823.92
2,860.00	0.44	320.47	2,859.87	9.45	-11.01	40.128630	-104.835451	1,290,399.98	3,185,823.07
3,044.00	0.45	297.24	3,043.87	10.32	-12.10	40.128632	-104.835455	1,290,400.85	3,185,821.97
3,227.00	0.56	0.34	3,226.86	11.55	-12.74	40.128636	-104.835457	1,290,402.06	3,185,821.33
3,404.00	0.96	345.29	3,403.85	13.85	-13.11	40.128642	-104.835458	1,290,404.36	3,185,820.94
3,575.00	1.25	350.43	3,574.82	17.07	-13.78	40.128651	-104.835461	1,290,407.58	3,185,820.24
3,746.00	0.95	350.87	3,745.78	20.31	-14.32	40.128660	-104.835462	1,290,410.81	3,185,819.68
3,917.00	1.30	337.93	3,916.75	23.51	-15.27	40.128669	-104.835466	1,290,414.00	3,185,818.70
4,089.00	2.00	326.84	4,088.68	27.83	-17.65	40.128680	-104.835474	1,290,418.31	3,185,816.30
4,260.00	2.79	316.46	4,259.53	33.34	-22.15	40.128696	-104.835490	1,290,423.79	3,185,811.75
4,431.00	5.15	304.81	4,430.11	40.74	-31.32	40.128716	-104.835523	1,290,431.12	3,185,802.53
4,601.00	8.50	308.21	4,598.88	52.87	-47.46	40.128749	-104.835581	1,290,443.13	3,185,786.30
4,772.00	9.84	308.63	4,767.69	69.81	-68.80	40.128796	-104.835657	1,290,459.91	3,185,764.83
4,943.00	10.59	308.94	4,935.98	88.81	-92.44	40.128848	-104.835742	1,290,478.72	3,185,741.05
5,114.00	11.22	310.98	5,103.89	109.60	-117.22	40.128905	-104.835830	1,290,499.32	3,185,716.12
5,285.00	9.08	312.82	5,272.21	129.68	-139.68	40.128960	-104.835911	1,290,519.24	3,185,693.51
5,456.00	11.16	313.69	5,440.54	150.28	-161.55	40.129017	-104.835989	1,290,539.68	3,185,671.49
5,627.00	8.12	312.75	5,609.10	169.92	-182.38	40.129070	-104.836063	1,290,559.15	3,185,650.50
5,798.00	7.98	305.84	5,778.42	185.07	-200.88	40.129112	-104.836130	1,290,574.16	3,185,631.90
5,970.00	9.58	302.74	5,948.40	199.80	-222.59	40.129153	-104.836207	1,290,588.73	3,185,610.07
6,141.00	10.26	297.20	6,116.85	214.45	-248.11	40.129193	-104.836299	1,290,603.19	3,185,584.45
6,310.00	6.53	292.35	6,284.01	224.99	-270.39	40.129222	-104.836378	1,290,613.56	3,185,562.09

Design Report for Gee 2C-12HZ - Actual 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)
6,480.00	6.16	303.70	6,452.97	233.73	-286.92	40.129246	-104.836437	1,290,622.18	3,185,545.50
6,651.00	6.23	333.52	6,623.02	247.13	-298.69	40.129282	-104.836479	1,290,635.49	3,185,533.62
6,737.00	4.79	1.99	6,708.64	254.90	-300.65	40.129304	-104.836486	1,290,643.24	3,185,531.61
6,780.00	4.34	3.44	6,751.50	258.31	-300.49	40.129313	-104.836486	1,290,646.66	3,185,531.74
6,823.00	3.98	357.79	6,794.39	261.43	-300.45	40.129322	-104.836486	1,290,649.77	3,185,531.76
6,866.00	7.29	350.39	6,837.17	265.61	-300.96	40.129333	-104.836488	1,290,653.95	3,185,531.22
6,908.00	10.55	350.80	6,878.66	272.04	-302.02	40.129351	-104.836491	1,290,660.37	3,185,530.11
6,951.00	14.66	355.48	6,920.62	281.35	-303.08	40.129376	-104.836495	1,290,669.67	3,185,528.98
6,993.00	19.91	357.04	6,960.70	293.80	-303.87	40.129411	-104.836498	1,290,682.12	3,185,528.10
7,036.00	24.00	359.89	7,000.58	309.86	-304.26	40.129455	-104.836499	1,290,698.18	3,185,527.58
7,078.00	28.19	3.34	7,038.29	328.32	-303.70	40.129505	-104.836497	1,290,716.63	3,185,528.01
7,121.00	30.37	5.33	7,075.80	349.28	-302.10	40.129563	-104.836492	1,290,737.61	3,185,529.45
7,164.00	32.49	2.51	7,112.49	371.65	-300.59	40.129624	-104.836486	1,290,759.98	3,185,530.80
7,207.00	35.91	0.55	7,148.05	395.80	-299.96	40.129691	-104.836484	1,290,784.14	3,185,531.25
7,249.00	40.39	358.84	7,181.07	421.74	-300.12	40.129762	-104.836485	1,290,810.07	3,185,530.89
7,292.00	44.10	358.25	7,212.90	450.63	-300.86	40.129841	-104.836487	1,290,838.96	3,185,529.94
7,334.00	47.18	358.59	7,242.26	480.64	-301.68	40.129923	-104.836490	1,290,868.96	3,185,528.89
7,376.00	52.63	358.46	7,269.30	512.75	-302.51	40.130012	-104.836493	1,290,901.06	3,185,527.82
7,418.00	57.59	359.30	7,293.31	547.18	-303.17	40.130106	-104.836495	1,290,935.49	3,185,526.90
7,460.00	61.48	359.39	7,314.60	583.38	-303.59	40.130205	-104.836497	1,290,971.67	3,185,526.21
7,502.00	64.94	0.56	7,333.53	620.86	-303.60	40.130308	-104.836497	1,291,009.16	3,185,525.92
7,544.00	68.29	0.96	7,350.20	659.40	-303.09	40.130414	-104.836495	1,291,047.70	3,185,526.14
7,586.00	70.82	0.06	7,364.87	698.75	-302.74	40.130522	-104.836494	1,291,087.05	3,185,526.20
7,629.00	73.96	359.27	7,377.88	739.73	-302.98	40.130635	-104.836495	1,291,128.02	3,185,525.65
7,671.00	79.94	359.93	7,387.36	780.63	-303.26	40.130747	-104.836496	1,291,168.91	3,185,525.06
7,714.00	84.32	359.87	7,393.24	823.21	-303.34	40.130864	-104.836496	1,291,211.49	3,185,524.66
7,753.00	84.91	0.49	7,396.90	862.04	-303.21	40.130970	-104.836496	1,291,250.32	3,185,524.50
7,872.00	90.52	0.22	7,401.65	980.89	-302.48	40.131297	-104.836493	1,291,369.17	3,185,524.34
8,044.00	90.46	359.98	7,400.18	1,152.89	-302.18	40.131769	-104.836492	1,291,541.16	3,185,523.35
8,215.00	90.49	358.79	7,398.76	1,323.87	-304.01	40.132238	-104.836498	1,291,712.11	3,185,520.24
8,386.00	90.83	0.57	7,396.79	1,494.85	-304.97	40.132707	-104.836502	1,291,883.07	3,185,518.00
8,557.00	89.97	0.32	7,395.59	1,665.84	-303.64	40.133177	-104.836497	1,292,054.06	3,185,518.05
8,728.00	89.11	359.43	7,396.97	1,836.83	-304.01	40.133646	-104.836499	1,292,225.03	3,185,516.39
8,899.00	89.63	0.20	7,398.85	2,007.81	-304.57	40.134116	-104.836501	1,292,396.01	3,185,514.56
9,068.00	90.15	1.84	7,399.17	2,176.78	-301.56	40.134579	-104.836490	1,292,564.98	3,185,516.30
9,239.00	90.56	0.44	7,398.11	2,347.74	-298.16	40.135049	-104.836478	1,292,735.96	3,185,518.42
9,411.00	90.06	357.67	7,397.18	2,519.69	-300.99	40.135521	-104.836488	1,292,907.88	3,185,514.30
9,581.00	89.17	359.25	7,398.32	2,689.62	-305.56	40.135987	-104.836504	1,293,077.76	3,185,508.45
9,752.00	89.17	0.02	7,400.80	2,860.60	-306.65	40.136456	-104.836508	1,293,248.72	3,185,506.08
9,923.00	90.49	0.21	7,401.31	3,031.59	-306.31	40.136926	-104.836507	1,293,419.70	3,185,505.14
10,095.00	90.03	0.80	7,400.53	3,203.58	-304.79	40.137398	-104.836501	1,293,591.69	3,185,505.37
10,266.00	90.15	0.82	7,400.26	3,374.57	-302.37	40.137867	-104.836493	1,293,762.68	3,185,506.51

Design Report for Gee 2C-12HZ - Actual 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)
10,437.00	90.55	1.06	7,399.21	3,545.54	-299.57	40.138337	-104.836483	1,293,933.67	3,185,508.03
10,608.00	90.68	0.32	7,397.38	3,716.52	-297.51	40.138806	-104.836475	1,294,104.65	3,185,508.81
10,779.00	90.71	359.82	7,395.30	3,887.50	-297.30	40.139275	-104.836475	1,294,275.62	3,185,507.74
10,950.00	90.06	0.60	7,394.16	4,058.50	-296.67	40.139745	-104.836472	1,294,446.61	3,185,507.08
11,120.00	90.52	0.02	7,393.30	4,228.49	-295.75	40.140211	-104.836469	1,294,616.60	3,185,506.73
11,292.00	89.85	0.46	7,392.74	4,400.49	-295.03	40.140684	-104.836467	1,294,788.59	3,185,506.16
11,463.00	89.32	1.79	7,393.98	4,571.45	-291.68	40.141153	-104.836455	1,294,959.56	3,185,508.23
11,634.00	90.19	1.02	7,394.71	4,742.39	-287.48	40.141622	-104.836440	1,295,130.52	3,185,511.15
11,805.00	90.25	0.44	7,394.05	4,913.37	-285.30	40.142091	-104.836432	1,295,301.51	3,185,512.04
11,975.00	89.17	0.39	7,394.91	5,083.36	-284.07	40.142558	-104.836427	1,295,471.50	3,185,512.00
12,147.00	90.56	0.49	7,395.32	5,255.35	-282.75	40.143030	-104.836423	1,295,643.49	3,185,512.03
12,318.00	89.97	359.24	7,394.53	5,426.35	-283.16	40.143500	-104.836424	1,295,814.47	3,185,510.35
12,488.00	90.68	358.68	7,393.56	5,596.32	-286.24	40.143966	-104.836435	1,295,984.40	3,185,505.99
12,658.00	90.22	357.29	7,392.23	5,766.20	-292.22	40.144432	-104.836456	1,296,154.23	3,185,498.74
12,828.00	91.66	356.95	7,389.44	5,935.96	-300.76	40.144898	-104.836487	1,296,323.91	3,185,488.93
12,999.00	90.86	359.37	7,385.68	6,106.81	-306.25	40.145367	-104.836507	1,296,494.71	3,185,482.16
13,170.00	89.42	1.62	7,385.26	6,277.79	-304.77	40.145837	-104.836501	1,296,665.69	3,185,482.35
13,339.00	89.54	0.27	7,386.79	6,446.76	-301.98	40.146301	-104.836491	1,296,834.66	3,185,483.87
13,510.00	89.69	359.48	7,387.94	6,617.75	-302.35	40.146770	-104.836493	1,297,005.64	3,185,482.22
13,681.00	90.74	1.25	7,387.30	6,788.74	-301.27	40.147239	-104.836489	1,297,176.63	3,185,482.03
13,852.00	91.73	0.64	7,383.62	6,959.67	-298.45	40.147709	-104.836479	1,297,347.57	3,185,483.57
14,024.00	87.81	358.65	7,384.31	7,131.63	-299.51	40.148181	-104.836483	1,297,519.50	3,185,481.21
14,195.00	90.31	0.39	7,387.11	7,302.58	-300.94	40.148650	-104.836488	1,297,690.43	3,185,478.50
14,366.00	88.74	359.57	7,388.53	7,473.56	-301.00	40.149119	-104.836488	1,297,861.41	3,185,477.16
14,534.00	91.05	0.06	7,388.84	7,641.55	-301.54	40.149580	-104.836490	1,298,029.38	3,185,475.36
14,706.00	88.55	358.49	7,389.44	7,813.52	-303.72	40.150052	-104.836498	1,298,201.32	3,185,471.89
14,877.00	90.00	359.72	7,391.60	7,984.48	-306.39	40.150522	-104.836507	1,298,372.24	3,185,467.94
15,047.00	84.26	356.70	7,400.11	8,154.09	-311.68	40.150987	-104.836526	1,298,541.80	3,185,461.38
15,219.00	90.12	356.83	7,408.54	8,325.53	-321.37	40.151458	-104.836561	1,298,713.16	3,185,450.41
15,389.00	90.86	356.31	7,407.09	8,495.22	-331.54	40.151924	-104.836597	1,298,882.76	3,185,438.97
15,560.00	91.66	355.13	7,403.33	8,665.70	-344.30	40.152392	-104.836643	1,299,053.13	3,185,424.93
15,731.00	90.09	356.65	7,400.71	8,836.23	-356.55	40.152860	-104.836687	1,299,223.56	3,185,411.40
15,902.00	90.89	357.74	7,399.25	9,007.01	-364.92	40.153329	-104.836717	1,299,394.27	3,185,401.75
16,073.00	91.02	355.85	7,396.40	9,177.71	-374.48	40.153797	-104.836751	1,299,564.89	3,185,390.92
16,243.00	90.40	357.81	7,394.30	9,347.43	-383.88	40.154263	-104.836785	1,299,734.52	3,185,380.25
16,415.00	90.18	358.21	7,393.42	9,519.33	-389.85	40.154735	-104.836806	1,299,906.36	3,185,372.99
16,586.00	90.28	357.69	7,392.74	9,690.21	-395.97	40.155204	-104.836828	1,300,077.19	3,185,365.59
16,757.00	90.09	358.75	7,392.19	9,861.13	-401.28	40.155673	-104.836847	1,300,248.05	3,185,359.00
16,927.00	90.71	357.56	7,391.00	10,031.03	-406.75	40.156140	-104.836866	1,300,417.91	3,185,352.25
17,099.00	88.58	359.02	7,392.07	10,202.94	-411.88	40.156611	-104.836885	1,300,589.76	3,185,345.83
17,269.00	88.98	358.99	7,395.68	10,372.87	-414.83	40.157078	-104.836895	1,300,759.66	3,185,341.61
17,439.00	88.77	358.03	7,399.02	10,542.78	-419.25	40.157544	-104.836911	1,300,929.53	3,185,335.91

Design Report for Gee 2C-12HZ - Actual Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Geographic Coordinates Latitude (usft)	Geographic Coordinates Longitude (usft)	UTM Coordinates Northing (usft)	UTM Coordinates Easting (usft)
17,622.00	89.01	357.18	7,402.57	10,725.59	-426.90	40.158046	-104.836939	1,301,112.26	3,185,326.90
17,664.00	89.01	357.18	7,403.29	10,767.53	-428.97	40.158161	-104.836946	1,301,154.18	3,185,324.52
17,665.00	89.01	357.18	7,403.31	10,768.53	-429.02	40.158164	-104.836946	1,301,155.18	3,185,324.46

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
995.00	994.99	2.21	-0.81	Tie-On to Surface Surveys @ 995.00' MD
17,622.00	7,402.57	10,725.59	-426.90	Last MWD Survey @ 17622.00' MD :: 7402.57' TVD
17,664.00	7,403.29	10,767.53	-428.97	Straight Projection to Bit @ 17664.00' MD :: 7403.29' TVD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	359.96	Slot	0.00	0.00	16.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
116.00	995.00	VES Gyro Surface Surveys	NS-GYRO-MS
1,106.00	7,753.00	MWD Vertical/Build Surveys	MWD+IFR1+SC
7,872.00	17,665.00	MWD Lateral Surveys	MWD+IFR1+SC

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,064.00	1,063.99	9 5/8"	9-5/8	13-3/4
7,803.00	7,400.31	7" @ 7803 ' MD	7	8-3/4

Design Report for Gee 2C-12HZ - Actual Surveys

Design Targets

Shape	Target Name	TVD ()	Northing ()	Easting ()	+N/-S	+E/-W	Created	Updated
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Directional Difficulty Index

Average Dogleg over Survey:	1.28 °/100usft	Maximum Dogleg over Survey:	14.32 °/100usft at 7,671.00 usft
Net Tortosity applicable to Plans:	0.50 °/100usft	Directional Difficulty Index:	6.769

Audit Info

North Reference Sheet for Sec. 24-T2N-R67W - Gee 2C-12HZ - 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 = 16' @ 4875.00usft (Xtreme 22). Northing and Easting are relative to Gee 2C-12HZ

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: 0.99995911

Grid Coordinates of Well: 1,290,390.61 usft N, 3,185,834.15 usft E

Geographical Coordinates of Well: 40° 07' 42.97" N, 104° 50' 07.48" W

Grid Convergence at Surface is: 0.43°

Based upon Minimum Curvature type calculations, at a Measured Depth of 17,665.00usft

the Bottom Hole Displacement is 10,777.07usft in the Direction of 357.72° (True).

Magnetic Convergence at surface is: -8.08° (8 December 2014, , BGGM2014)

