





OPERATOR:	ConocoPhillips
WELL:	Property Reserve 4-65 3-4 1H
FIELD:	Niobrara
RIG:	H&P 280
LEGALS:	Sec. 3-T4S-R65W
COUNTY:	Arapahoe
STATE:	CO.
CAL. METHOD:	Min Curvature
MAG. DECL. APPLIED:	8.3869
VERTICAL SEC. DIR. :	271.380

SSDS Job Number :	901802439
Start Date of Job :	11/10/2014
End Date of Job :	11/23/2014
Lead Directional Driller:	Roland Hall
Other SSDS DD's :	Lual Qubain
SSDS MWD Engineers :	Ryan Rogge
	Kyle Wass
	Aleksey Treskov

	Main Hole >>>>>>>	1st Side Track >>>>>>>	2nd Side Track >>>>>>>	3rd Side Track >>>>>>>	4th Side Track >>>>>>>
	2220.00	Tie On			
First Survey Depth	2307.00				
Last Survey Depth	7249.00				
KOP Depth/Sidetrack MD	7307.00	KOP	KOP-ST1	KOP-ST2	KOP-ST3
First Survey Depth	7280.00	MWD	MWD	MWD	MWD
Last Survey Depth	16922.00	MWD	MWD	MWD	MWD
Bit Extrapolation to TD	16985.00	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 :	Roland Hall	Print Name :	Aleksey Treskov	Print Name :
Sign Name :		Sign Name :		Sign Name :
Print Name :	Lual Qubain	Print Name :	Kyle Wass	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.

Conoco Phillips Company

Arapahoe County, Colorado

Sec. 3-T4S-R65W

Property Reserve 4-65 3-4 1H

Plan C

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

09 December, 2014

Well Coordinates: 1,690,749.69 N, 3,240,888.30 E (39° 43' 36.46" N, 104° 38' 36.86" W)

Ground Level: 5,688.30 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 Property Reserve 4-65 3-4 1H

KB 24 ft @ 5712.30usft (H&P 280)

N

True

API - US Survey Feet - Custom

HALLIBURTON

Design Report for Property Reserve 4-65 3-4 1H - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
2,220.00	0.34	203.36	2,219.97	-7.54	-6.12	5.94	0.02
Tie-On to Gyro Surveys @ 2220.00 ft							
2,307.00	0.26	239.47	2,306.97	-7.88	-6.40	6.20	0.23
First Sperry MWD Survey @ 2307.00 ft							
2,401.00	1.36	352.41	2,400.96	-6.88	-6.73	6.56	1.58
2,495.00	3.22	3.02	2,494.88	-3.14	-6.74	6.66	2.02
2,590.00	3.64	7.06	2,589.71	2.52	-6.22	6.28	0.51
2,684.00	3.92	6.09	2,683.51	8.68	-5.52	5.72	0.31
2,779.00	4.10	8.45	2,778.28	15.26	-4.67	5.04	0.26
2,874.00	3.38	6.42	2,873.07	21.41	-3.86	4.38	0.77
2,968.00	3.35	6.42	2,966.91	26.89	-3.24	3.89	0.03
3,062.00	3.47	4.96	3,060.75	32.45	-2.69	3.47	0.16
3,157.00	3.69	5.30	3,155.56	38.36	-2.16	3.08	0.23
3,251.00	3.53	8.10	3,249.37	44.24	-1.47	2.54	0.25
3,346.00	3.44	5.14	3,344.20	49.97	-0.81	2.01	0.21
3,440.00	3.41	348.51	3,438.03	55.52	-1.11	2.45	1.05
3,535.00	3.37	348.00	3,532.87	61.02	-2.25	3.72	0.05
3,629.00	3.33	349.40	3,626.71	66.41	-3.33	4.93	0.10
3,723.00	2.96	3.85	3,720.56	71.51	-3.67	5.39	0.93
3,818.00	2.94	6.73	3,815.44	76.38	-3.22	5.06	0.16
3,912.00	3.16	6.52	3,909.31	81.35	-2.64	4.60	0.23
4,007.00	3.18	8.21	4,004.16	86.56	-1.97	4.05	0.10
4,101.00	3.00	11.13	4,098.02	91.55	-1.12	3.33	0.25
4,196.00	3.19	358.18	4,192.89	96.63	-0.73	3.06	0.76
4,290.00	3.40	357.37	4,286.73	102.03	-0.94	3.40	0.23
4,385.00	3.19	357.14	4,381.57	107.48	-1.20	3.79	0.22
4,479.00	2.75	355.44	4,475.45	112.34	-1.51	4.22	0.48
4,574.00	3.20	359.40	4,570.32	117.27	-1.72	4.54	0.52
4,668.00	2.96	7.21	4,664.18	122.30	-1.44	4.39	0.51
4,762.00	2.63	5.48	4,758.07	126.85	-0.93	3.99	0.36
4,857.00	3.54	8.67	4,852.93	131.92	-0.28	3.46	0.97
4,951.00	3.41	10.64	4,946.76	137.54	0.68	2.64	0.19
5,046.00	2.81	14.42	5,041.62	142.57	1.78	1.66	0.67
5,140.00	3.04	352.03	5,135.50	147.27	2.01	1.55	1.23
5,234.00	3.28	345.19	5,229.36	152.34	0.97	2.70	0.48
5,328.00	2.53	345.44	5,323.24	156.95	-0.24	4.02	0.80
5,423.00	2.38	349.12	5,418.15	160.91	-1.14	5.02	0.23
5,517.00	3.90	2.43	5,512.01	166.02	-1.37	5.37	1.78
5,612.00	4.35	3.10	5,606.76	172.85	-1.04	5.20	0.48
5,706.00	3.33	0.51	5,700.55	179.14	-0.82	5.14	1.10
5,800.00	2.97	357.26	5,794.41	184.30	-0.91	5.36	0.43
5,895.00	2.51	348.90	5,889.30	188.80	-1.43	5.98	0.64
5,989.00	2.99	350.28	5,983.19	193.24	-2.24	6.90	0.52
6,084.00	2.61	335.58	6,078.08	197.65	-3.55	8.32	0.85
6,178.00	3.49	350.06	6,171.94	202.42	-4.93	9.81	1.24
6,272.00	3.37	349.80	6,265.78	207.95	-5.92	10.93	0.13
6,367.00	2.72	336.47	6,360.64	212.77	-7.31	12.44	1.01
6,461.00	3.09	343.65	6,454.52	217.24	-8.91	14.15	0.55
6,556.00	3.57	3.36	6,549.36	222.65	-9.46	14.83	1.30

Design Report for Property Reserve 4-65 3-4 1H - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
6,650.00	2.91	10.16	6,643.21	227.92	-8.87	14.36	0.81
6,745.00	1.00	12.62	6,738.15	231.11	-8.26	13.83	2.01
6,839.00	0.57	20.04	6,832.14	232.35	-7.92	13.52	0.47
6,933.00	0.77	49.76	6,926.14	233.19	-7.28	12.90	0.42
7,028.00	0.75	45.65	7,021.13	234.04	-6.35	11.99	0.06
7,122.00	0.65	58.02	7,115.12	234.75	-5.46	11.11	0.19
7,217.00	0.45	61.29	7,210.12	235.22	-4.67	10.34	0.21
7,249.00	0.44	45.57	7,242.12	235.37	-4.47	10.15	0.38
7,280.00	0.93	284.62	7,273.12	235.51	-4.63	10.31	3.92
7,312.00	2.92	274.63	7,305.10	235.64	-5.70	11.38	6.28
7,343.00	5.02	271.56	7,336.02	235.74	-7.84	13.52	6.81
7,375.00	7.14	269.60	7,367.84	235.77	-11.23	16.91	6.66
7,406.00	9.33	268.44	7,398.52	235.69	-15.67	21.34	7.08
7,438.00	11.78	267.35	7,429.97	235.46	-21.52	27.19	7.68
7,469.00	13.96	268.06	7,460.19	235.19	-28.42	34.08	7.05
7,501.00	15.98	270.16	7,491.11	235.07	-36.69	42.34	6.54
7,532.00	18.46	271.06	7,520.71	235.18	-45.86	51.52	8.05
7,564.00	20.83	270.75	7,550.85	235.34	-56.62	62.28	7.41
7,596.00	23.37	271.33	7,580.50	235.57	-68.65	74.31	7.97
7,627.00	25.43	271.76	7,608.73	235.91	-81.45	87.12	6.67
7,659.00	27.96	270.65	7,637.31	236.21	-95.83	101.49	8.06
7,690.00	31.00	269.11	7,664.30	236.17	-111.08	116.74	10.11
7,722.00	34.08	267.43	7,691.27	235.64	-128.28	133.92	10.03
7,753.00	37.46	266.49	7,716.42	234.67	-146.37	151.99	11.05
7,785.00	40.70	265.99	7,741.26	233.35	-166.50	172.07	10.17
7,816.00	43.14	266.35	7,764.32	231.96	-187.16	192.70	7.91
7,848.00	46.64	266.99	7,786.99	230.66	-209.70	215.20	11.03
7,879.00	51.06	266.73	7,807.38	229.38	-233.00	238.47	14.27
7,911.00	56.08	267.09	7,826.38	227.99	-258.70	264.13	15.71
7,943.00	60.44	267.77	7,843.21	226.77	-285.88	291.27	13.74
7,974.00	62.61	268.13	7,857.99	225.80	-313.12	318.47	7.07
8,006.00	64.73	269.20	7,872.18	225.14	-341.79	347.11	7.27
8,037.00	68.70	269.87	7,884.43	224.91	-370.25	375.57	12.96
8,069.00	73.17	270.06	7,894.88	224.89	-400.49	405.80	13.98
8,100.00	78.25	270.34	7,902.53	224.99	-430.52	435.82	16.41
8,131.00	82.26	270.00	7,907.78	225.08	-461.07	466.36	12.98
8,163.00	86.05	269.60	7,911.04	224.97	-492.90	498.18	11.91
8,194.00	88.09	269.34	7,912.62	224.69	-523.85	529.12	6.63
8,226.00	88.40	269.25	7,913.60	224.29	-555.83	561.08	1.01
8,284.00	91.05	267.72	7,913.88	222.76	-613.81	619.00	5.28
8,378.00	91.11	268.48	7,912.11	219.64	-707.74	712.83	0.81
8,471.00	89.32	269.03	7,911.76	217.62	-800.71	805.73	2.01
8,563.00	88.83	269.16	7,913.24	216.17	-892.69	897.64	0.55
8,656.00	88.83	270.46	7,915.14	215.86	-985.67	990.58	1.40
8,751.00	89.26	271.19	7,916.73	217.23	-1,080.64	1,085.57	0.89
8,845.00	88.46	271.27	7,918.60	219.25	-1,174.60	1,179.55	0.86
8,940.00	87.59	271.49	7,921.87	221.53	-1,269.52	1,274.49	0.94
9,034.00	88.15	271.52	7,925.36	224.00	-1,363.42	1,368.42	0.60
9,129.00	88.46	272.07	7,928.17	226.98	-1,458.33	1,463.38	0.66
9,223.00	89.81	272.91	7,929.59	231.06	-1,552.23	1,557.35	1.69
9,318.00	88.52	271.86	7,930.98	235.01	-1,647.13	1,652.32	1.75

Design Report for Property Reserve 4-65 3-4 1H - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
9,412.00	89.57	271.98	7,932.54	238.16	-1,741.06	1,746.30	1.12
9,507.00	88.27	270.95	7,934.34	240.59	-1,836.01	1,841.28	1.75
9,601.00	89.32	270.89	7,936.31	242.10	-1,929.98	1,935.25	1.12
9,696.00	87.71	269.29	7,938.77	242.25	-2,024.94	2,030.19	2.39
9,790.00	87.90	269.20	7,942.37	241.01	-2,118.86	2,124.06	0.22
9,885.00	90.00	270.30	7,944.12	240.60	-2,213.84	2,219.00	2.50
9,979.00	88.27	269.87	7,945.53	240.73	-2,307.82	2,312.96	1.90
10,074.00	87.84	269.94	7,948.76	240.58	-2,402.77	2,407.87	0.46
10,168.00	87.90	269.93	7,952.25	240.47	-2,496.70	2,501.78	0.06
10,263.00	88.39	270.15	7,955.33	240.54	-2,591.65	2,596.70	0.57
10,357.00	89.51	270.01	7,957.05	240.67	-2,685.64	2,690.66	1.20
10,452.00	87.90	269.20	7,959.20	240.01	-2,780.61	2,785.59	1.90
10,546.00	88.15	269.31	7,962.44	238.79	-2,874.54	2,879.46	0.29
10,640.00	88.45	269.47	7,965.23	237.79	-2,968.50	2,973.37	0.36
10,735.00	88.70	269.35	7,967.59	236.81	-3,063.46	3,068.28	0.29
10,829.00	87.65	268.96	7,970.58	235.43	-3,157.40	3,162.16	1.19
10,924.00	87.78	269.01	7,974.37	233.75	-3,252.31	3,257.00	0.15
11,018.00	87.84	268.88	7,977.96	232.02	-3,346.23	3,350.85	0.15
11,113.00	88.03	268.79	7,981.38	230.09	-3,441.15	3,445.69	0.22
11,207.00	89.32	270.00	7,983.56	229.10	-3,535.11	3,539.61	1.88
11,302.00	90.19	271.26	7,983.96	230.14	-3,630.10	3,634.60	1.61
11,396.00	90.12	271.69	7,983.71	232.56	-3,724.07	3,728.59	0.46
11,491.00	88.83	270.37	7,984.58	234.27	-3,819.05	3,823.59	1.94
11,585.00	89.07	270.48	7,986.30	234.96	-3,913.03	3,917.56	0.28
11,680.00	90.25	271.41	7,986.87	236.53	-4,008.01	4,012.55	1.58
11,774.00	89.32	271.61	7,987.22	239.01	-4,101.98	4,106.55	1.01
11,869.00	89.07	270.88	7,988.55	241.07	-4,196.94	4,201.54	0.81
11,963.00	88.83	269.84	7,990.28	241.66	-4,290.93	4,295.50	1.14
12,058.00	89.26	270.08	7,991.86	241.60	-4,385.91	4,390.46	0.52
12,152.00	89.51	269.50	7,992.87	241.25	-4,479.91	4,484.42	0.67
12,247.00	89.75	269.42	7,993.48	240.36	-4,574.90	4,579.36	0.27
12,341.00	90.49	269.73	7,993.29	239.66	-4,668.90	4,673.32	0.85
12,435.00	89.69	269.03	7,993.14	238.64	-4,762.89	4,767.26	1.13
12,530.00	89.14	268.89	7,994.11	236.92	-4,857.87	4,862.17	0.60
12,625.00	89.44	268.79	7,995.28	234.99	-4,952.84	4,957.07	0.33
12,719.00	90.12	268.90	7,995.65	233.10	-5,046.82	5,050.97	0.73
12,813.00	88.77	268.09	7,996.56	230.63	-5,140.78	5,144.85	1.67
12,908.00	88.95	267.82	7,998.45	227.24	-5,235.70	5,239.66	0.34
13,003.00	88.33	268.30	8,000.70	224.03	-5,330.62	5,334.47	0.83
13,097.00	89.20	268.34	8,002.73	221.27	-5,424.56	5,428.31	0.93
13,191.00	90.00	267.94	8,003.38	218.22	-5,518.50	5,522.16	0.95
13,286.00	89.51	268.73	8,003.79	215.46	-5,613.46	5,617.02	0.98
13,381.00	88.77	269.29	8,005.22	213.82	-5,708.44	5,711.93	0.98
13,476.00	89.38	269.58	8,006.75	212.88	-5,803.42	5,806.86	0.71
13,570.00	90.25	269.68	8,007.05	212.28	-5,897.41	5,900.82	0.93
13,665.00	88.02	269.83	8,008.49	211.87	-5,992.40	5,995.76	2.35
13,760.00	88.52	270.05	8,011.35	211.77	-6,087.35	6,090.69	0.57
13,854.00	89.81	270.56	8,012.72	212.27	-6,181.34	6,184.66	1.48
13,949.00	89.32	270.98	8,013.45	213.55	-6,276.33	6,279.65	0.68
14,044.00	90.43	271.76	8,013.65	215.82	-6,371.30	6,374.65	1.43
14,139.00	89.88	272.88	8,013.40	219.66	-6,466.22	6,469.63	1.31

Design Report for Property Reserve 4-65 3-4 1H - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
14,258.00	88.33	271.70	8,015.25	224.42	-6,585.10	6,588.60	1.64
14,352.00	88.21	272.00	8,018.09	227.45	-6,679.01	6,682.55	0.34
14,447.00	89.14	273.14	8,020.29	231.71	-6,773.89	6,777.50	1.55
14,542.00	88.83	272.72	8,021.97	236.57	-6,868.75	6,872.45	0.55
14,637.00	88.27	271.32	8,024.38	239.91	-6,963.66	6,967.42	1.59
14,731.00	88.39	271.46	8,027.12	242.19	-7,057.59	7,061.38	0.20
14,826.00	88.89	270.07	8,029.37	243.46	-7,152.55	7,156.34	1.55
14,921.00	90.31	269.92	8,030.03	243.45	-7,247.55	7,251.31	1.50
15,016.00	90.00	269.55	8,029.78	243.01	-7,342.54	7,346.27	0.51
15,110.00	88.64	269.03	8,030.89	241.85	-7,436.53	7,440.20	1.55
15,205.00	89.20	269.63	8,032.68	240.74	-7,531.50	7,535.12	0.86
15,300.00	89.07	269.69	8,034.12	240.17	-7,626.49	7,630.06	0.15
15,395.00	87.65	269.41	8,036.84	239.43	-7,721.45	7,724.97	1.52
15,490.00	87.65	269.80	8,040.73	238.77	-7,816.36	7,819.85	0.41
15,585.00	86.98	269.59	8,045.18	238.27	-7,911.26	7,914.70	0.74
15,680.00	87.53	269.86	8,049.73	237.81	-8,006.15	8,009.55	0.64
15,774.00	88.27	270.18	8,053.18	237.85	-8,100.08	8,103.46	0.86
15,869.00	88.83	270.03	8,055.58	238.02	-8,195.05	8,198.41	0.61
15,964.00	90.00	270.18	8,056.55	238.19	-8,290.05	8,293.38	1.24
16,059.00	89.14	268.99	8,057.26	237.51	-8,385.04	8,388.33	1.55
16,153.00	88.83	268.73	8,058.93	235.64	-8,479.00	8,482.22	0.43
16,249.00	89.20	268.29	8,060.58	233.14	-8,574.96	8,578.09	0.60
16,343.00	90.62	268.73	8,060.73	230.70	-8,668.92	8,671.96	1.58
16,438.00	90.68	269.37	8,059.65	229.12	-8,763.90	8,766.88	0.68
16,533.00	90.86	269.80	8,058.37	228.43	-8,858.89	8,861.82	0.49
16,627.00	90.49	269.82	8,057.26	228.12	-8,952.88	8,955.78	0.39
16,722.00	88.95	268.86	8,057.73	227.03	-9,047.87	9,050.72	1.91
16,817.00	89.01	269.28	8,059.42	225.49	-9,142.84	9,145.62	0.45
16,922.00	89.75	270.27	8,060.56	225.07	-9,247.84	9,250.57	1.18
Final Sperry MWD Survey @ 16922.00 ft							
16,985.00	89.75	270.27	8,060.83	225.37	-9,310.83	9,313.56	0.00
Straight Line Projection to TD @ 16985.00 ft							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,220.00	2,219.97	-7.54	-6.12	Tie-On to Gyro Surveys @ 2220.00 ft
2,307.00	2,306.97	-7.88	-6.40	First Sperry MWD Survey @ 2307.00 ft
16,922.00	8,060.56	225.07	-9,247.84	Final Sperry MWD Survey @ 16922.00 ft
16,985.00	8,060.83	225.37	-9,310.83	Straight Line Projection to TD @ 16985.00 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
Target	Property Reserve 4-65 3-4 1H_Rev C0_BHL Tgt	271.38	Slot	0.00	0.00	0.00

Design Report for Property Reserve 4-65 3-4 1H - Actual Field Surveys

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
83.00	2,220.00	Surface_Gyro	NS-GYRO-MS
2,307.00	16,922.00	Vertical-Build-Lateral_Sperry MWD Surveys	MWD
16,985.00	16,985.00	Projection to Bit_BLIND	Blind

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,230.00	9 5/8"		9-5/8	13-1/2

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
AMOCO-WESTAN-FIS	0.00	0.00	0.00	236.46	1,423.25	1,690,999.56	3,242,309.24	39° 43' 38.795 N	104° 38' 18.643 W
- actual wellpath misses target center by 2651.59usft at 2220.00usft MD (2219.97 TVD, -7.54 N, -6.12 E)									
- Circle (radius 500.00)									
Property Reserve 4-65	0.00	0.00	0.00	0.01	0.00	1,690,749.70	3,240,888.30	39° 43' 36.458 N	104° 38' 36.859 W
- actual wellpath misses target center by 2219.99usft at 2220.00usft MD (2219.97 TVD, -7.54 N, -6.12 E)									
- Polygon									
Point 1				0.00	34.19	338.56	1,690,787.08	3,241,226.52	
Point 2				0.00	4,307.94	353.02	1,695,060.76	3,241,200.69	
Point 3				0.00	4,337.83	-4,472.30	1,695,045.16	3,236,375.32	
Point 4				0.00	4,358.61	-9,303.23	1,695,020.40	3,231,544.43	
Point 5				0.00	2,210.07	-9,309.57	1,692,871.90	3,231,558.35	
Point 6				0.00	22.93	-9,317.05	1,690,684.80	3,231,571.49	
Point 7				0.00	31.16	-7,133.01	1,690,713.62	3,233,755.34	
Point 8				0.00	38.58	-4,488.96	1,690,745.96	3,236,399.19	
Property Reserve 4-65	0.00	0.00	0.00	0.01	0.00	1,690,749.70	3,240,888.30	39° 43' 36.458 N	104° 38' 36.859 W
- actual wellpath misses target center by 2219.99usft at 2220.00usft MD (2219.97 TVD, -7.54 N, -6.12 E)									
- Polygon									
Point 1				0.00	4,797.83	-4,472.30	1,695,505.14	3,236,370.98	
Point 2				0.00	-421.42	-4,488.96	1,690,285.99	3,236,403.53	
Point 3				0.00	-425.81	798.56	1,690,331.44	3,241,690.83	
Point 4				0.00	4,767.94	813.02	1,695,525.07	3,241,656.33	
Point 5				0.00	4,797.83	-4,472.30	1,695,505.14	3,236,370.98	
Point 6				0.00	4,818.61	-9,763.23	1,695,476.04	3,231,080.12	
Point 7				0.00	2,210.07	-9,769.57	1,692,867.57	3,231,098.37	
Point 8				0.00	-437.07	-9,777.05	1,690,220.49	3,231,115.84	
Point 9				0.00	-428.84	-7,133.01	1,690,253.64	3,233,759.68	
Point 10				0.00	-421.42	-4,488.96	1,690,285.99	3,236,403.53	
Property Reserve 4-65	0.00	0.00	8,017.00	224.64	-9,314.00	1,690,886.52	3,231,572.63	39° 43' 38.662 N	104° 40' 36.068 W
- actual wellpath misses target center by 43.95usft at 16985.00usft MD (8060.83 TVD, 225.37 N, -9310.83 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	1.23 °/100usft	Maximum Dogleg over Survey:	16.41 °/100usft at 8,100.00 usft
Net Tortousity applicable to Plans:	0.67 °/100usft	Directional Difficulty Index:	6.625

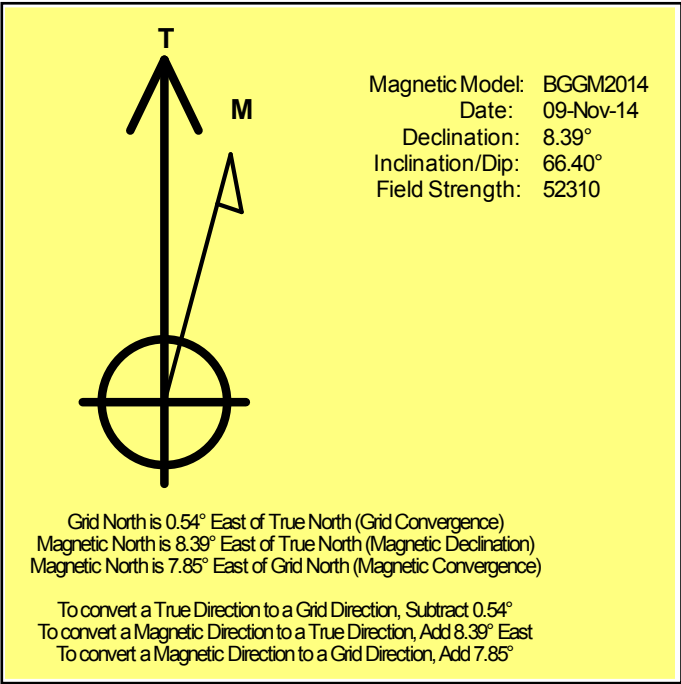
Audit Info

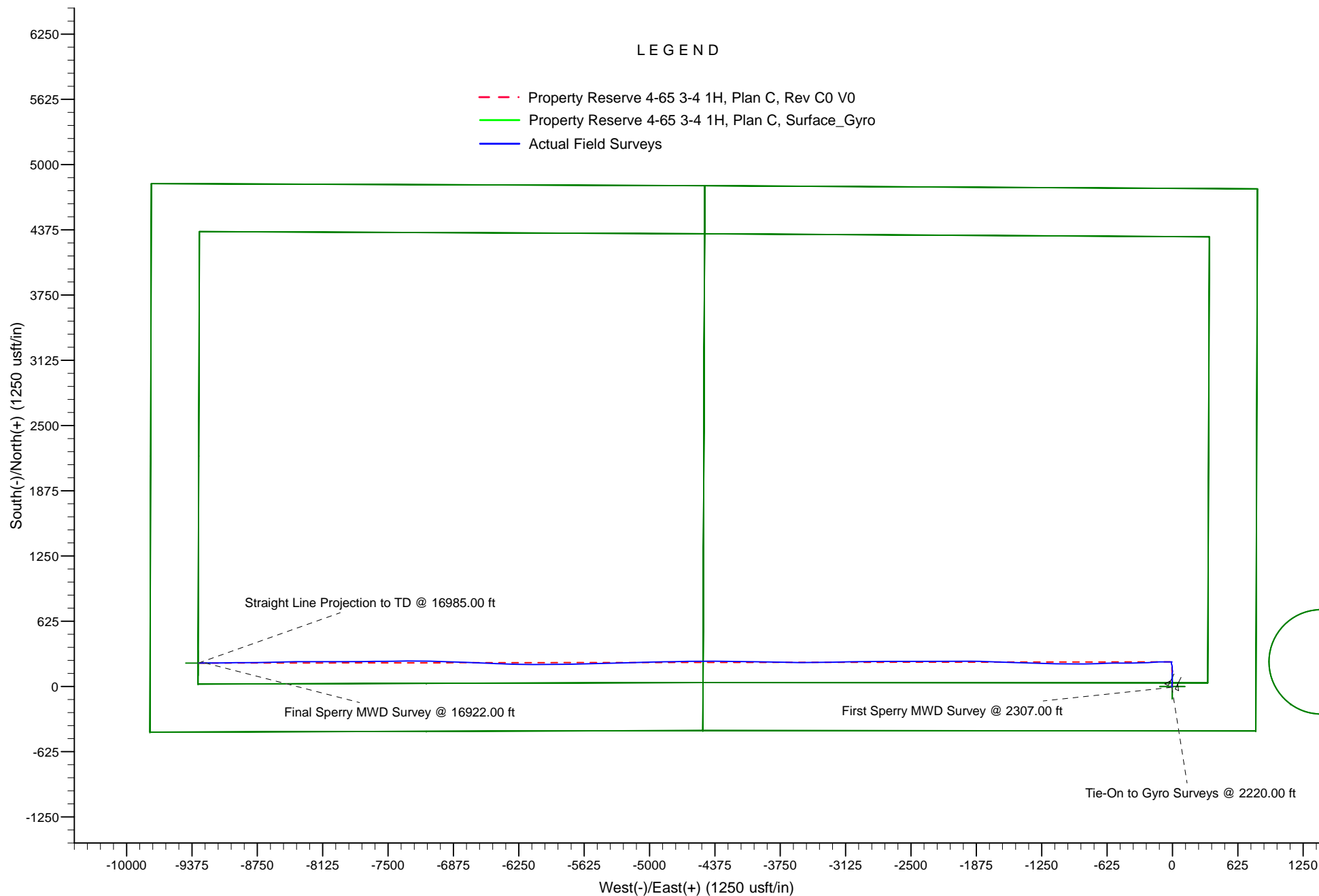
North Reference Sheet for Sec. 3-T4S-R65W - Property Reserve 4-65 3-4 1H - Plan
C

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference .
Vertical Depths are relative to KB 24 ft @ 5712.30usft (H&P 280). Northing and Easting are relative to Property Reserve 4-65 3-4 1H
Coordinate System is US State Plane 1983, Colorado Central 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:39° 45' 0.000 N°
False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99999549

Grid Coordinates of Well: 1,690,749.69 usft N, 3,240,888.30 usft E
Geographical Coordinates of Well: 39° 43' 36.46" N, 104° 38' 36.86" W
Grid Convergence at Surface is: 0.54°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,985.00usft
the Bottom Hole Displacement is 9,313.56usft in the Direction of 271.39° (True).
Magnetic Convergence at surface is: -7.85° (9 November 2014, , BGGM2014)





Project: Arapahoe County, Colorado
Site: Sec. 3-T4S-R65W
Well: Property Reserve 4-65 3-4 1H

Conoco Phillips Company

HALLIBURTON
Sperry Drilling

LEGEND

- Property Reserve 4-65 3-4 1H, Plan C, Rev C0 V0
- Property Reserve 4-65 3-4 1H, Plan C, Surface_Gyro
- Actual Field Surveys

