

HALLIBURTON

Sperry Drilling

END OF WELL REPORT

For

EnCana Oil & Gas

KM DH7A-32 C08 799

Sec. 8-T7S-R99W

Garfield County, CO

Job #9189664

TABLE OF CONTENTS

Section 1 – Survey Data

Contents: Final Well Survey submitted as the official survey.

Section 2 – Proposal Report

Section 3 – BHA Data

Contents: BHA Report, BHA Schematic, Motor Performance Report, &
Survey & Drilling Parameters

Section 4 – Event Log (Total Well)

Contents: Daily Morning Reports

Section 5

Contents: Graphics

Section 1

Contents: Surveys

EnCana Oil & Gas (USA) Inc.

Garfield County, CO

Sec. 8-T7S-R99W

KM DH7A-32 C08 799

Plan A Rev 1

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

30 March, 2012

Well Coordinates: 1,608,190.33 N, 2,162,608.78 E (39° 27' 56.58" N, 108° 27' 59.81" W)

Ground Level: 6,429.00 ft

Local Coordinate Origin:

Centered on Well KM DH7A-32 C08 799

Viewing Datum:

RKB 32' @ 6461.00ft (Patterson 326)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Design Report for KM DH7A-32 C08 799 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
184.00	0.50	109.60	184.00	-0.27	0.76	-0.36	0.27
First GeoLink survey							
246.00	0.50	177.20	246.00	-0.63	1.02	-0.75	0.90
307.00	1.00	200.30	306.99	-1.40	0.85	-1.49	0.94
399.00	2.60	189.10	398.94	-4.21	0.24	-4.21	1.77
492.00	4.10	201.90	491.78	-9.38	-1.33	-9.15	1.79
584.00	5.80	202.50	583.44	-16.72	-4.34	-16.09	1.85
678.00	7.10	213.80	676.84	-25.94	-9.39	-24.64	1.93
772.00	7.90	222.30	770.04	-35.55	-16.96	-33.28	1.45
867.00	8.60	239.90	864.07	-43.94	-27.51	-40.36	2.75
962.00	9.40	242.40	957.90	-51.09	-40.53	-45.93	0.94
1,057.00	9.90	256.30	1,051.57	-56.62	-55.34	-49.66	2.50
1,151.00	10.80	250.90	1,144.04	-61.42	-71.51	-52.50	1.41
1,230.00	10.80	253.70	1,221.64	-65.92	-85.61	-55.30	0.66
1,278.00	10.90	254.30	1,268.78	-68.41	-94.29	-56.74	0.31
1,373.00	10.80	252.40	1,362.09	-73.53	-111.43	-59.79	0.39
1,468.00	10.50	252.10	1,455.45	-78.88	-128.15	-63.12	0.32
1,563.00	10.30	261.20	1,548.90	-82.84	-144.78	-65.08	1.74
1,657.00	11.10	256.00	1,641.26	-86.32	-161.86	-66.51	1.33
1,752.00	10.90	261.00	1,734.52	-89.94	-179.61	-67.99	1.03
1,847.00	10.80	264.00	1,827.82	-92.27	-197.33	-68.21	0.60
1,943.00	11.30	250.30	1,922.06	-96.38	-215.14	-70.18	2.78
2,037.00	11.00	247.50	2,014.28	-102.92	-232.09	-74.66	0.66
2,131.00	10.50	255.60	2,106.64	-108.48	-248.67	-78.21	1.69
2,226.00	10.80	254.80	2,200.00	-112.97	-265.65	-80.65	0.35
2,321.00	10.60	249.70	2,293.35	-118.33	-282.43	-83.99	1.02
2,416.00	10.20	247.30	2,386.79	-124.61	-298.39	-88.33	0.62
2,511.00	10.10	254.20	2,480.31	-130.12	-314.16	-91.93	1.28
2,605.00	10.20	249.40	2,572.84	-135.30	-329.88	-95.21	0.91
2,699.00	9.70	260.90	2,665.44	-139.48	-345.50	-97.51	2.18
2,794.00	10.70	255.00	2,758.94	-143.03	-361.92	-99.08	1.52
2,889.00	10.40	252.60	2,852.33	-147.87	-378.62	-101.91	0.56
2,984.00	9.70	259.60	2,945.88	-151.88	-394.67	-103.99	1.48
3,078.00	10.50	251.00	3,038.42	-156.10	-410.56	-106.29	1.81
3,173.00	10.00	248.80	3,131.91	-161.90	-426.44	-110.17	0.67
3,268.00	10.30	256.60	3,225.42	-166.85	-442.39	-113.19	1.48
3,363.00	10.40	260.30	3,318.88	-170.27	-459.10	-114.60	0.71
3,458.00	10.90	251.60	3,412.25	-174.55	-476.08	-116.83	1.77
3,552.00	10.10	248.80	3,504.68	-180.33	-492.20	-120.67	1.01
3,647.00	10.10	254.40	3,598.21	-185.59	-507.99	-124.01	1.03
3,742.00	10.00	252.70	3,691.75	-190.28	-523.89	-126.78	0.33
3,837.00	10.40	257.10	3,785.25	-194.65	-540.12	-129.19	0.92
3,932.00	11.20	258.10	3,878.56	-198.46	-557.51	-130.92	0.86
4,026.00	11.60	250.30	3,970.72	-203.53	-575.34	-133.84	1.69
4,121.00	11.50	257.00	4,063.80	-208.88	-593.56	-136.99	1.42
4,216.00	11.50	249.70	4,156.89	-214.30	-611.67	-140.22	1.53
4,311.00	11.70	257.10	4,249.96	-219.73	-629.94	-143.45	1.58
4,406.00	12.30	255.90	4,342.88	-224.35	-649.14	-145.75	0.68
4,500.00	11.50	250.40	4,434.86	-229.93	-667.68	-149.10	1.48

Design Report for KM DH7A-32 C08 799 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
4,595.00	11.40	258.00	4,527.98	-235.06	-685.79	-152.04	1.59
4,690.00	12.10	251.90	4,620.99	-240.11	-704.44	-154.84	1.50
4,785.00	10.60	251.30	4,714.13	-246.00	-722.18	-158.59	1.58
4,879.00	10.70	247.70	4,806.51	-252.08	-738.44	-162.70	0.72
4,974.00	10.90	254.40	4,899.83	-257.85	-755.25	-166.43	1.34
5,069.00	10.40	256.90	4,993.20	-262.21	-772.26	-168.74	0.72
5,163.00	10.80	253.80	5,085.59	-266.59	-788.98	-171.10	0.74
5,258.00	10.60	254.60	5,178.94	-271.39	-805.95	-173.86	0.26
5,353.00	10.80	258.60	5,272.29	-275.47	-823.10	-175.88	0.81
5,447.00	10.70	250.90	5,364.65	-280.07	-839.98	-178.44	1.53
5,542.00	10.00	252.90	5,458.10	-285.38	-856.20	-181.79	0.83
5,637.00	9.90	251.60	5,551.67	-290.38	-871.83	-184.90	0.26
5,732.00	10.00	253.70	5,645.24	-295.27	-887.49	-187.90	0.40
5,826.00	10.10	260.10	5,737.80	-298.98	-903.45	-189.69	1.19
5,921.00	10.90	253.30	5,831.22	-302.99	-920.26	-191.68	1.55
6,015.00	10.50	260.40	5,923.59	-306.98	-937.22	-193.62	1.46
6,110.00	10.40	254.40	6,017.01	-310.73	-954.01	-195.35	1.15
6,205.00	10.40	252.20	6,110.45	-315.65	-970.43	-198.30	0.42
6,299.00	10.30	251.70	6,202.92	-320.89	-986.49	-201.59	0.14
6,325.00	9.80	252.70	6,228.52	-322.27	-990.81	-202.45	2.04
Final Geo Link Survey - Tie on to Customer Supplied Surveys							
6,371.00	9.00	249.41	6,273.91	-324.70	-997.92	-204.02	2.09
First Sperry MWD Survey							
6,403.00	8.92	249.76	6,305.52	-326.44	-1,002.59	-205.19	0.30
6,434.00	9.13	256.15	6,336.13	-327.86	-1,007.23	-206.05	3.30
6,466.00	10.21	264.52	6,367.68	-328.74	-1,012.52	-206.30	5.53
6,498.00	11.82	271.74	6,399.09	-328.91	-1,018.62	-205.75	6.62
6,529.00	13.04	277.34	6,429.36	-328.37	-1,025.26	-204.42	5.53
6,561.00	13.99	284.35	6,460.48	-326.95	-1,032.59	-202.14	5.91
6,592.00	14.21	291.43	6,490.55	-324.63	-1,039.76	-198.98	5.61
6,624.00	14.32	300.54	6,521.56	-321.18	-1,046.83	-194.72	7.02
6,656.00	14.86	310.81	6,552.54	-316.49	-1,053.34	-189.29	8.25
6,687.00	15.46	319.78	6,582.46	-310.74	-1,059.02	-182.90	7.80
6,719.00	15.98	327.30	6,613.27	-303.77	-1,064.15	-175.38	6.57
6,751.00	15.76	332.77	6,644.05	-296.20	-1,068.52	-167.34	4.72
6,782.00	15.70	334.00	6,673.89	-288.69	-1,072.29	-159.44	1.09
6,814.00	16.37	334.00	6,704.65	-280.74	-1,076.16	-151.09	2.09
6,845.00	18.22	333.93	6,734.24	-272.46	-1,080.21	-142.39	5.97
6,877.00	20.05	335.61	6,764.47	-262.97	-1,084.67	-132.43	5.97
6,909.00	21.36	337.83	6,794.41	-252.58	-1,089.14	-121.59	4.77
6,940.00	22.77	339.19	6,823.14	-241.74	-1,093.40	-110.32	4.84
6,972.00	24.35	339.90	6,852.47	-229.76	-1,097.87	-97.89	5.02
7,003.00	25.72	340.12	6,880.55	-217.43	-1,102.35	-85.12	4.43
7,035.00	27.28	341.01	6,909.19	-203.96	-1,107.10	-71.18	5.03
7,067.00	29.04	341.46	6,937.40	-189.67	-1,111.95	-56.41	5.54
7,098.00	30.79	341.46	6,964.27	-175.01	-1,116.87	-41.27	5.65
7,130.00	33.07	341.53	6,991.43	-158.96	-1,122.24	-24.70	7.13
7,161.00	34.98	342.00	7,017.12	-142.49	-1,127.67	-7.70	6.22
7,193.00	36.48	343.43	7,043.10	-124.64	-1,133.21	10.68	5.36
7,225.00	38.42	344.70	7,068.50	-105.93	-1,138.55	29.89	6.52
7,256.00	40.61	344.42	7,092.41	-86.92	-1,143.80	49.39	7.09

Design Report for KM DH7A-32 C08 799 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
7,288.00	42.34	343.92	7,116.39	-66.53	-1,149.59	70.32	5.50
7,320.00	44.02	343.71	7,139.72	-45.50	-1,155.69	91.92	5.27
7,351.00	45.49	343.48	7,161.73	-24.57	-1,161.85	113.44	4.77
7,383.00	46.47	343.20	7,183.97	-2.52	-1,168.45	136.11	3.13
7,414.00	47.88	343.04	7,205.04	19.23	-1,175.05	158.50	4.56
7,446.00	49.30	343.27	7,226.21	42.20	-1,182.01	182.13	4.47
7,478.00	50.57	343.80	7,246.81	65.69	-1,188.95	206.28	4.17
7,509.00	51.40	344.21	7,266.32	88.84	-1,195.58	230.05	2.87
7,541.00	53.00	345.26	7,285.93	113.23	-1,202.24	255.06	5.63
7,573.00	55.28	346.15	7,304.68	138.36	-1,208.64	280.77	7.47
7,604.00	56.87	346.65	7,321.98	163.37	-1,214.69	306.32	5.30
7,636.00	57.93	346.80	7,339.22	189.60	-1,220.88	333.10	3.34
7,667.00	58.39	347.76	7,355.57	215.29	-1,226.67	359.30	3.02
7,701.00	59.16	347.61	7,373.20	243.70	-1,232.88	388.24	2.30
7,731.00	60.09	347.42	7,388.37	268.97	-1,238.47	413.99	3.15
7,762.00	61.14	347.99	7,403.58	295.36	-1,244.22	440.88	3.75
7,794.00	62.06	348.15	7,418.80	322.90	-1,250.04	468.92	2.91
7,825.00	62.99	348.28	7,433.10	349.82	-1,255.66	496.32	3.02
7,857.00	63.73	349.00	7,447.45	377.86	-1,261.29	524.83	3.06
7,911.00	64.94	349.30	7,470.84	425.67	-1,270.45	573.38	2.30
7,942.00	66.85	349.88	7,483.50	453.50	-1,275.56	601.62	6.39
7,974.00	70.01	350.30	7,495.26	482.81	-1,280.68	631.33	9.95
8,006.00	72.18	350.96	7,505.63	512.68	-1,285.61	661.57	7.06
8,037.00	73.28	352.31	7,514.83	541.96	-1,289.92	691.16	5.47
8,069.00	74.62	354.30	7,523.68	572.50	-1,293.50	721.91	7.30
8,100.00	77.03	355.75	7,531.27	602.44	-1,296.10	751.95	9.00
8,132.00	80.08	356.18	7,537.62	633.72	-1,298.31	783.27	9.62
8,164.00	82.58	356.42	7,542.44	665.29	-1,300.35	814.86	7.85
8,227.00	85.31	357.42	7,549.09	727.84	-1,303.72	877.37	4.61
8,259.00	85.71	357.57	7,551.59	759.71	-1,305.11	909.18	1.33
8,322.00	86.33	358.96	7,555.97	822.53	-1,307.01	971.78	2.41
8,353.00	86.51	358.22	7,557.90	853.46	-1,307.77	1,002.58	2.45
8,417.00	86.73	358.18	7,561.68	917.32	-1,309.78	1,066.23	0.35
8,448.00	86.92	358.34	7,563.39	948.26	-1,310.72	1,097.06	0.80
8,512.00	86.89	358.16	7,566.85	1,012.13	-1,312.67	1,160.71	0.28
8,543.00	86.98	357.86	7,568.51	1,043.07	-1,313.75	1,191.56	1.01
8,638.00	87.47	358.20	7,573.10	1,137.90	-1,317.01	1,286.11	0.63
8,701.00	87.44	357.65	7,575.90	1,200.80	-1,319.29	1,348.83	0.87
8,733.00	87.78	357.78	7,577.24	1,232.74	-1,320.56	1,380.70	1.14
8,828.00	88.21	359.14	7,580.56	1,327.65	-1,323.11	1,475.24	1.50
8,923.00	86.58	0.25	7,584.88	1,422.55	-1,323.62	1,569.53	2.08
9,018.00	87.01	0.75	7,590.19	1,517.39	-1,322.79	1,663.61	0.69
9,112.00	87.53	1.12	7,594.67	1,611.27	-1,321.26	1,756.64	0.68
9,207.00	86.23	1.11	7,599.84	1,706.11	-1,319.41	1,850.59	1.37
9,302.00	86.91	1.38	7,605.52	1,800.92	-1,317.35	1,944.49	0.77
9,397.00	87.32	1.42	7,610.30	1,895.77	-1,315.04	2,038.39	0.43
9,492.00	85.77	2.05	7,616.03	1,990.55	-1,312.16	2,132.16	1.76
9,587.00	86.39	2.08	7,622.52	2,085.27	-1,308.75	2,225.80	0.65
9,682.00	87.01	2.63	7,627.99	2,180.03	-1,304.85	2,319.43	0.87
9,776.00	87.26	2.75	7,632.69	2,273.81	-1,300.45	2,412.03	0.29
9,871.00	85.99	2.50	7,638.28	2,368.54	-1,296.10	2,505.58	1.36

Design Report for KM DH7A-32 C08 799 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
9,966.00	86.46	2.86	7,644.54	2,463.23	-1,291.67	2,599.07	0.62
10,061.00	86.64	2.42	7,650.25	2,557.96	-1,287.30	2,692.61	0.50
10,156.00	87.81	3.91	7,654.85	2,652.70	-1,282.06	2,786.06	1.99
10,251.00	86.33	3.48	7,659.71	2,747.37	-1,275.95	2,879.34	1.62
10,346.00	86.82	4.02	7,665.38	2,842.00	-1,269.75	2,972.57	0.77
10,441.00	87.29	3.92	7,670.26	2,936.65	-1,263.18	3,065.76	0.51
10,536.00	86.36	2.95	7,675.53	3,031.33	-1,257.49	3,159.10	1.41
10,630.00	86.39	2.91	7,681.47	3,125.02	-1,252.70	3,251.56	0.05
10,725.00	86.95	3.78	7,686.99	3,219.69	-1,247.17	3,344.91	1.09
10,820.00	87.87	4.18	7,691.28	3,314.37	-1,240.58	3,438.14	1.06
10,915.00	86.92	3.33	7,695.60	3,409.06	-1,234.36	3,531.43	1.34
11,010.00	86.73	2.09	7,700.86	3,503.81	-1,229.88	3,624.97	1.32
11,104.00	86.94	2.29	7,706.05	3,597.60	-1,226.29	3,717.67	0.31
11,199.00	86.15	0.44	7,711.78	3,692.39	-1,224.03	3,811.53	2.11
11,294.00	86.73	0.92	7,717.68	3,787.20	-1,222.91	3,905.54	0.79
11,389.00	88.12	2.31	7,721.94	3,882.06	-1,220.23	3,999.41	2.07
11,484.00	87.25	2.89	7,725.78	3,976.89	-1,215.93	4,093.05	1.10
11,579.00	88.67	3.85	7,729.16	4,071.66	-1,210.34	4,186.49	1.80
11,674.00	86.57	2.96	7,733.11	4,166.40	-1,204.71	4,279.90	2.40
11,768.00	87.22	1.85	7,738.20	4,260.18	-1,200.77	4,372.55	1.37
11,863.00	88.02	2.40	7,742.14	4,355.03	-1,197.25	4,466.31	1.02
11,958.00	87.38	1.37	7,745.96	4,449.90	-1,194.13	4,560.14	1.28
12,053.00	88.33	1.13	7,749.51	4,544.81	-1,192.06	4,654.14	1.03
12,148.00	87.62	359.33	7,752.87	4,639.75	-1,191.67	4,748.36	2.04
12,243.00	86.79	358.75	7,757.50	4,734.62	-1,193.26	4,842.75	1.07
12,337.00	87.69	358.70	7,762.03	4,828.49	-1,195.35	4,936.20	0.96
12,432.00	87.59	358.69	7,765.94	4,923.38	-1,197.51	5,030.68	0.11
12,527.00	87.07	359.39	7,770.37	5,018.26	-1,199.10	5,125.08	0.92
12,622.00	87.96	359.48	7,774.48	5,113.17	-1,200.04	5,219.43	0.94
12,717.00	87.13	359.35	7,778.55	5,208.08	-1,201.01	5,313.78	0.88
12,812.00	87.32	359.30	7,783.15	5,302.96	-1,202.13	5,408.12	0.21
12,906.00	86.45	358.95	7,788.26	5,396.81	-1,203.56	5,501.48	1.00
13,001.00	87.25	358.41	7,793.48	5,491.64	-1,205.75	5,595.90	1.02
13,096.00	85.92	359.00	7,799.14	5,586.44	-1,207.89	5,690.29	1.53
13,191.00	86.85	358.88	7,805.13	5,681.24	-1,209.64	5,784.62	0.99
13,286.00	87.22	359.51	7,810.04	5,776.10	-1,210.98	5,878.97	0.77
13,381.00	86.33	0.59	7,815.39	5,870.94	-1,210.89	5,973.14	1.47
13,476.00	87.56	0.27	7,820.45	5,965.81	-1,210.18	6,067.24	1.34
13,570.00	87.35	0.36	7,824.63	6,059.71	-1,209.67	6,160.43	0.24
13,665.00	85.79	359.31	7,830.31	6,154.54	-1,209.94	6,254.61	1.98
13,760.00	86.45	359.97	7,836.74	6,249.32	-1,210.53	6,348.79	0.98
13,855.00	87.34	0.29	7,841.88	6,344.17	-1,210.32	6,442.96	1.00
14,047.00	87.26	359.37	7,850.93	6,535.96	-1,210.89	6,633.46	0.48
14,170.00	88.61	359.80	7,855.36	6,658.87	-1,211.78	6,755.61	1.15
14,262.00	87.56	0.37	7,858.43	6,750.82	-1,211.64	6,846.89	1.30
14,354.00	86.27	359.50	7,863.39	6,842.68	-1,211.74	6,938.12	1.69
14,446.00	86.48	359.26	7,869.20	6,934.49	-1,212.74	7,029.40	0.35
14,538.00	86.92	359.15	7,874.50	7,026.33	-1,214.01	7,120.74	0.49
14,630.00	87.19	359.14	7,879.22	7,118.20	-1,215.38	7,212.12	0.29
14,722.00	87.35	359.26	7,883.61	7,210.09	-1,216.67	7,303.51	0.22
14,814.00	87.75	359.43	7,887.54	7,302.00	-1,217.72	7,394.89	0.47

Design Report for KM DH7A-32 C08 799 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
14,906.00	88.49	358.93	7,890.56	7,393.94	-1,219.03	7,486.34	0.97
14,999.00	87.35	358.73	7,893.93	7,486.85	-1,220.93	7,578.83	1.24
15,091.00	87.72	359.45	7,897.89	7,578.76	-1,222.39	7,670.25	0.88
15,183.00	88.40	358.93	7,901.00	7,670.69	-1,223.69	7,761.70	0.93
15,278.00	86.43	357.99	7,905.29	7,765.56	-1,226.24	7,856.19	2.30
15,372.00	86.98	358.19	7,910.69	7,859.35	-1,229.37	7,949.69	0.62
15,467.00	87.47	358.22	7,915.29	7,954.19	-1,232.34	8,044.22	0.52
15,562.00	88.30	358.16	7,918.80	8,049.08	-1,235.34	8,138.79	0.88
15,657.00	87.35	357.91	7,922.40	8,143.95	-1,238.59	8,233.38	1.03
15,752.00	87.59	357.77	7,926.60	8,238.79	-1,242.17	8,327.97	0.29
15,847.00	88.58	357.89	7,929.77	8,333.67	-1,245.77	8,422.61	1.05
15,941.00	87.59	357.94	7,932.91	8,427.55	-1,249.18	8,516.24	1.05
16,036.00	88.64	357.65	7,936.04	8,522.43	-1,252.84	8,610.88	1.15
16,131.00	87.04	358.29	7,939.62	8,617.30	-1,256.20	8,705.47	1.81
16,226.00	87.50	358.24	7,944.14	8,712.15	-1,259.07	8,799.99	0.49
16,321.00	88.06	358.21	7,947.82	8,807.03	-1,262.01	8,894.56	0.59
16,416.00	87.71	358.40	7,951.33	8,901.93	-1,264.82	8,989.11	0.42
16,511.00	88.34	358.70	7,954.60	8,996.84	-1,267.22	9,083.64	0.73
16,606.00	86.67	358.85	7,958.74	9,091.72	-1,269.25	9,178.09	1.76
16,700.00	87.28	358.64	7,963.70	9,185.57	-1,271.31	9,271.52	0.69
16,795.00	88.12	358.20	7,967.51	9,280.46	-1,273.93	9,366.05	1.00
16,890.00	87.65	358.00	7,971.02	9,375.34	-1,277.07	9,460.63	0.54
16,985.00	88.64	358.65	7,974.09	9,470.25	-1,279.85	9,555.20	1.25
17,080.00	87.81	358.92	7,977.03	9,565.18	-1,281.86	9,649.70	0.92
17,175.00	87.44	358.55	7,980.97	9,660.07	-1,283.96	9,744.18	0.55
17,269.00	88.67	358.84	7,984.16	9,753.99	-1,286.10	9,837.69	1.34
17,364.00	87.71	358.54	7,987.16	9,848.92	-1,288.27	9,932.20	1.06
17,459.00	88.67	358.93	7,990.16	9,943.85	-1,290.36	10,026.71	1.09
17,554.00	88.24	358.93	7,992.72	10,038.80	-1,292.14	10,121.19	0.45
17,649.00	87.16	358.82	7,996.54	10,133.70	-1,294.00	10,215.65	1.14
17,744.00	87.81	359.39	8,000.70	10,228.60	-1,295.48	10,310.05	0.91
17,839.00	88.73	358.87	8,003.57	10,323.54	-1,296.93	10,404.50	1.11
17,933.00	88.15	358.64	8,006.13	10,417.48	-1,298.97	10,498.02	0.66
18,028.00	88.27	359.66	8,009.10	10,512.42	-1,300.38	10,592.46	1.08
18,123.00	88.95	358.79	8,011.40	10,607.39	-1,301.66	10,686.90	1.16
18,218.00	89.72	358.68	8,012.51	10,702.36	-1,303.76	10,781.45	0.82
18,313.00	90.46	358.97	8,012.36	10,797.34	-1,305.71	10,875.99	0.84
18,383.00	91.17	358.84	8,011.36	10,867.32	-1,307.04	10,945.63	1.03
Final Sperry MWD Survey							
18,430.00	91.65	358.84	8,010.21	10,914.29	-1,307.99	10,992.39	1.02
Projection to TD							

Design Report for KM DH7A-32 C08 799 - Actual Field Surveys

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
184.00	184.00	-0.27	0.76	First GeoLink survey
6,325.00	6,228.52	-322.27	-990.81	Final Geo Link Survey
6,325.00	6,228.52	-322.27	-990.81	Tie on to Customer Supplied Surveys
6,371.00	6,273.91	-324.70	-997.92	First Sperry MWD Survey
18,383.00	8,011.36	10,867.32	-1,307.04	Final Sperry MWD Survey
18,430.00	8,010.21	10,914.29	-1,307.99	Projection to TD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	KM DH7A-32 C08 799 Plan A Rev 1 BHL	353.19	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
184.00	6,325.00	Customer Supplied Geo Link MWD Survey	MWD
6,371.00	18,430.00	Sperry MWD	MWD

Design Report for KM DH7A-32 C08 799 - Actual Field Surveys

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
KM DH7A-32 C08 799 - actual wellpath hits target center - Point	0.00	1.87	0.00	0.01	0.00	1,608,190.34	2,162,608.78	39° 27' 56.580 N	108° 27' 59.810 W
KM DH7A-32 C08 799 - actual wellpath misses target center by 42.59ft at 8322.75ft MD (7556.01 TVD, 823.27 N, -1307.03 E) - Point	0.00	1.87	7,530.00	825.73	-1,273.40	1,609,057.16	2,161,363.07	39° 28' 4.740 N	108° 28' 16.048 W
KM DH7A-32 C08 799 - actual wellpath misses target center by 128.61ft at 18430.00ft MD (8010.21 TVD, 10914.29 N, -1307.99 E) - Point	0.00	1.87	7,882.00	10,924.11	-1,305.20	1,619,150.75	2,161,660.98	39° 29' 44.545 N	108° 28' 16.460 W
KM C08 799 Section L - actual wellpath misses target center by 24.16ft at 0.10ft MD (0.10 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	0.00	-2.77	24.00	1,608,186.78	2,162,632.67	39° 27' 56.552 N	108° 27' 59.504 W
Point 1				-2,478.62	870.47	1,609,141.22	2,160,160.01		
Point 2				173.82	863.42	1,609,047.58	2,162,810.69		
Point 3				1,495.10	865.29	1,609,006.31	2,164,131.26		
Point 4				2,825.42	857.38	1,608,954.97	2,165,460.56		
Point 5				2,823.87	-463.03	1,607,635.37	2,165,415.90		
Point 6				2,825.42	857.38	1,608,954.97	2,165,460.56		
Point 7				2,797.15	6,394.03	1,614,489.35	2,165,613.07		
Point 8				2,928.12	6,394.04	1,614,485.08	2,165,743.96		
Point 9				2,930.07	11,610.18	1,619,698.15	2,165,916.21		
Point 10				-2,381.95	11,571.77	1,619,833.19	2,160,606.00		
Point 11				-2,381.95	11,089.97	1,619,351.67	2,160,590.27		
Point 12				-2,367.43	6,417.31	1,614,681.23	2,160,452.23		
Point 13				-2,495.86	6,414.41	1,614,682.52	2,160,323.78		
Point 14				134.55	6,405.18	1,614,587.42	2,162,952.37		
Point 15				2,797.15	6,394.03	1,614,489.35	2,165,613.07		
Point 16				134.55	6,405.18	1,614,587.42	2,162,952.37		
Point 17				-2,495.86	6,414.41	1,614,682.52	2,160,323.78		
Point 18				-2,478.62	870.47	1,609,141.22	2,160,160.01		
Point 19				-2,483.27	-449.95	1,607,821.71	2,160,112.25		
Point 20				-2,478.62	870.47	1,609,141.22	2,160,160.01		
KM C08 799 Setbacks - actual wellpath misses target center by 24.16ft at 0.10ft MD (0.10 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	0.00	-2.77	24.00	1,608,186.78	2,162,632.67	39° 27' 56.552 N	108° 27' 59.504 W
Point 1				-2,483.02	-449.60	1,607,822.05	2,160,112.51		
Point 2				171.08	-456.42	1,607,728.59	2,162,764.86		
Point 3				1,497.54	-459.58	1,607,682.12	2,164,090.45		
Point 4				1,497.54	-459.58	1,607,682.12	2,164,090.45		
Point 5				171.08	-456.42	1,607,728.59	2,162,764.86		
Point 6				-2,483.02	-449.60	1,607,822.05	2,160,112.51		

North Reference Sheet for Sec. 8-T7S-R99W - KM DH7A-32 C08 799 - Plan A Rev

1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB 32' @ 6461.00ft (Patterson 326). Northing and Easting are relative to KM DH7A-32 C08 799

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: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995612

Grid Coordinates of Well: 1,608,190.33 ft N, 2,162,608.78 ft E

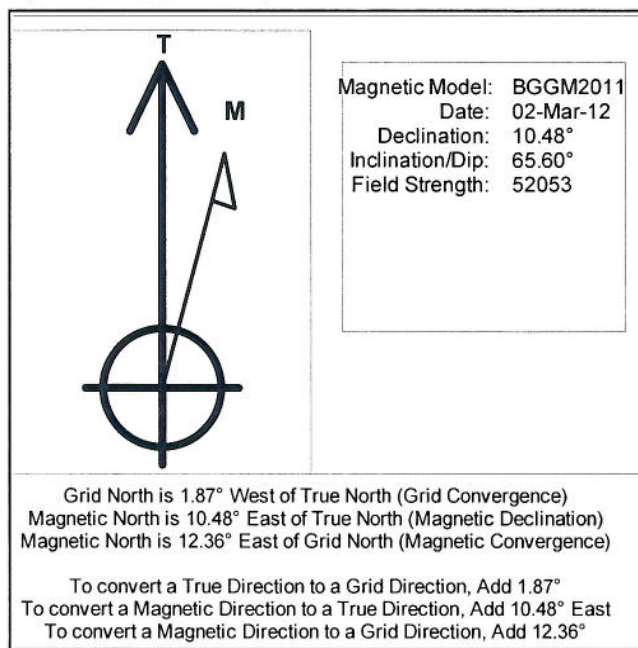
Geographical Coordinates of Well: 39° 27' 56.58" N, 108° 27' 59.81" W

Grid Convergence at Surface is: -1.87°

Based upon Minimum Curvature type calculations, at a Measured Depth of 18,430.00ft

the Bottom Hole Displacement is 10,992.39ft in the Direction of 353.17° (True).

Magnetic Convergence at surface is: -12.36° (2 March 2012, , BGGM2011)

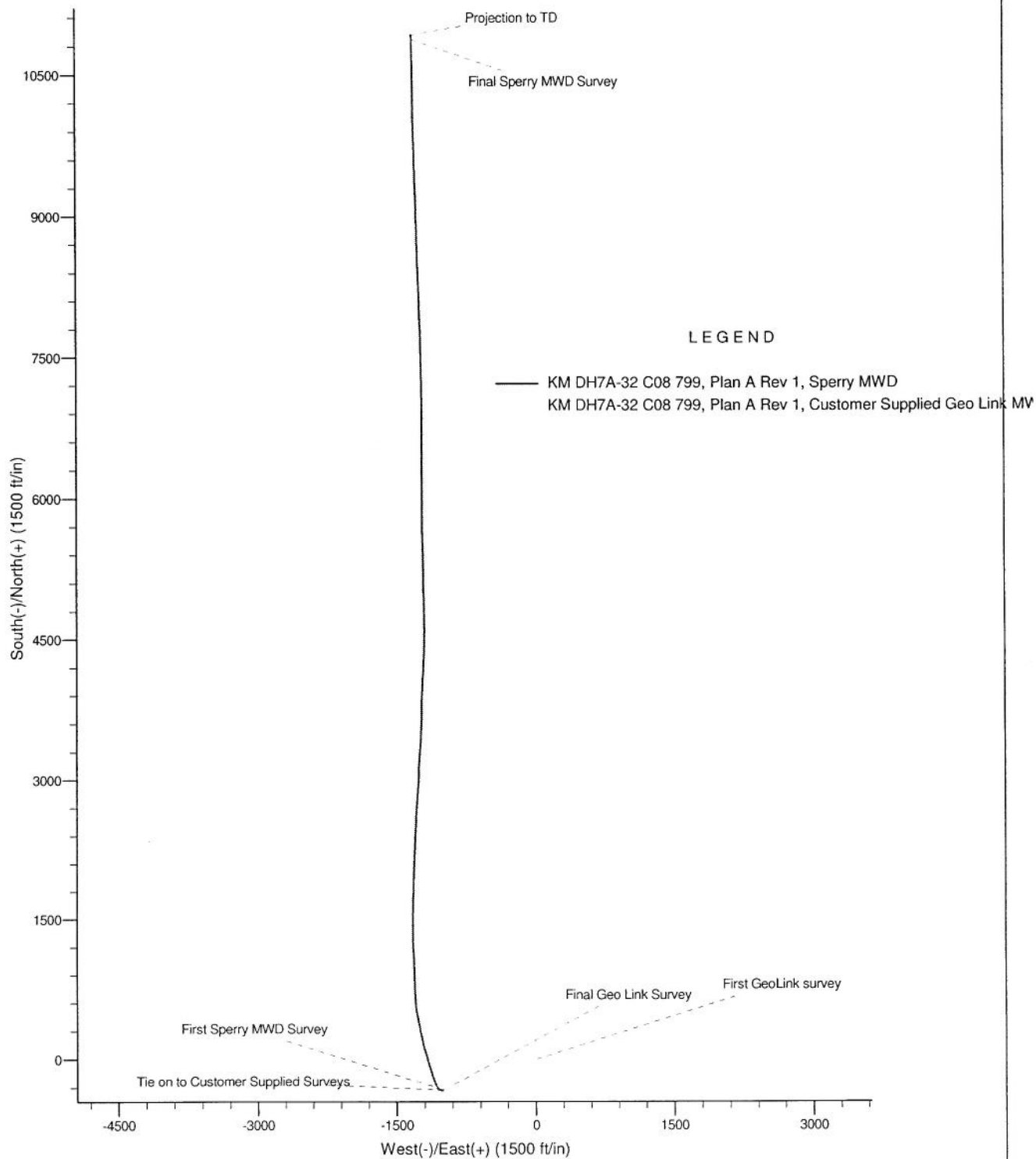


Project: Garfield County, CO
Site: Sec. 8-T7S-R99W
Well: KM DH7A-32 C08 799

EnCana Oil & Gas (USA) Inc.

HALLIBURTON

Sperry Drilling



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HALLIBURTON
Sperry Drilling

