

Project: Weld County, CO (NAD 83)
 Site: Sec. 33-T4N-R67W (Deering 33H Pad)
 Well: Deering 33-3H
 Wellbore: Plan A
 Design: Rev A0 (Permitting Plan Only)

K.P. Kauffman Company, Inc.

HALLIBURTON

Sperry Drilling

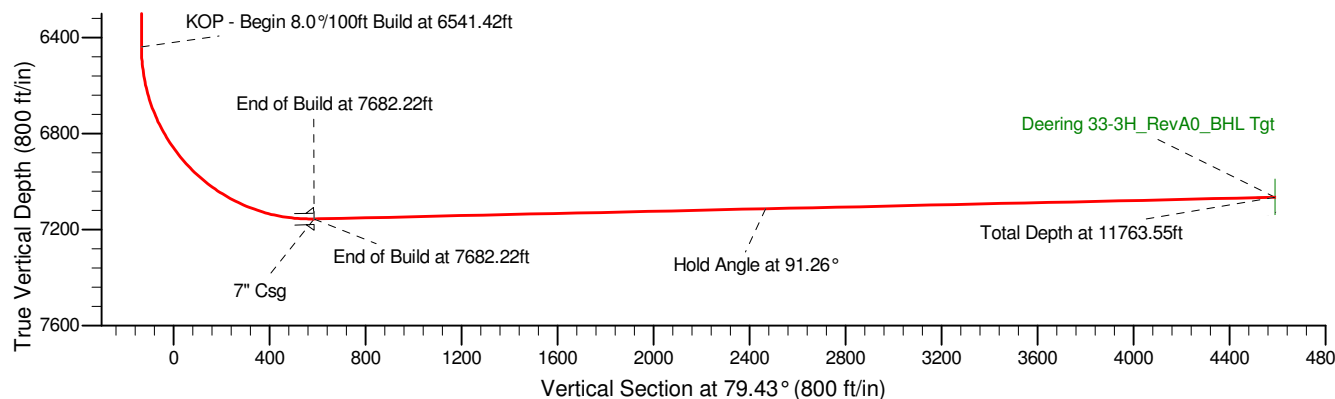
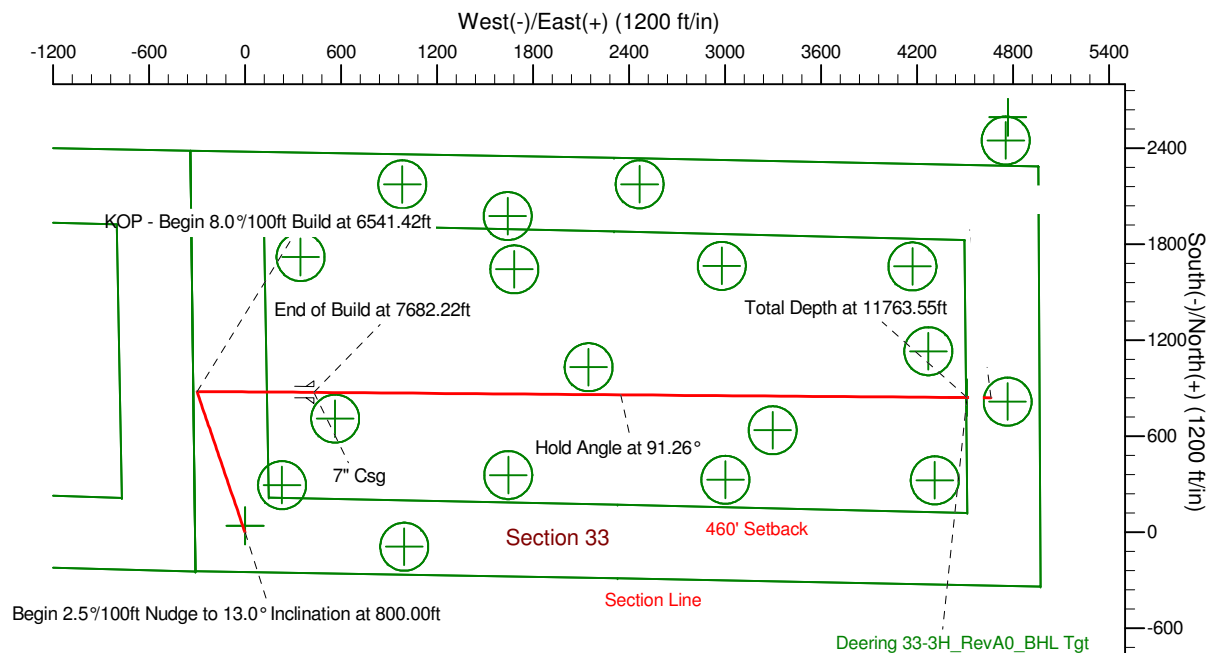
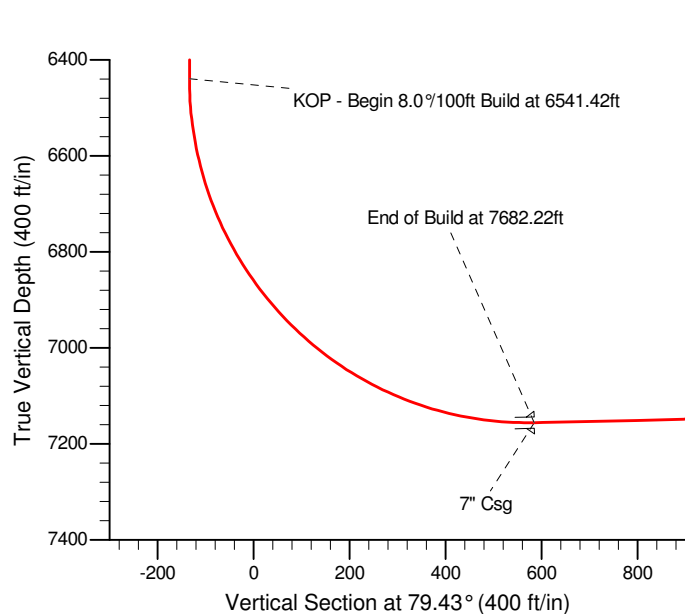
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-/S	+E-/W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	
3	1320.00	13.00	341.18	1315.55	55.60	-18.95	2.50	341.18	-8.43	
4	4930.79	13.00	341.18	4833.80	824.40	-281.05	0.00	0.00	-125.06	
5	5450.79	0.00	0.00	5349.35	880.00	-300.00	2.50	180.00	-133.49	
6	6541.42	0.00	0.00	6439.98	880.00	-300.00	0.00	0.00	-133.49	
7	7682.22	91.26	90.45	7156.00	874.21	431.97	8.00	90.45	584.99	
8	11763.55	91.26	90.45	7066.00	841.95	4512.18	0.00	0.00	4590.06	Deering 33-3H_RevA0_BHL Tgt



Azimuths to True North
 Magnetic North: 8.67°

Magnetic Field
 Strength: 52758.9snT
 Dip Angle: 66.84°
 Date: 7/24/2013
 Model: BGGM2013



WELL DETAILS: Deering 33-3H

Ground Level: 4905.00
 Northing 1341830.79 Easting 3166345.03 Latitude 40° 16' 12.684 N Longitude 104° 54' 13.932 W

Plan: Rev A0 (Permitting Plan Only) (Deering 33-3H/Plan A)

Created By: Jay Lantz Date: 12:36, July 25 2013

Approved: _____ Date: _____

K.P. Kauffman Company, Inc.

Weld County, CO (NAD 83)

Sec. 33-T4N-R67W (Deering 33H Pad)

Deering 33-3H

Plan A

Rev A0 (Permitting Plan Only)

Sperry Drilling Services **Ellipse Separation** **Anticollision Report**

25 July, 2013

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Reference Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-3H - Plan A - Rev A0 (Permitting Plan Only)

Well Coordinates: 1,341,830.79 N, 3,166,345.03 E (40° 16' 12.68" N, 104° 54' 13.93" W)

Datum Height: GL @ 4905.00ft (Ground Level)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Geodetic Scale Factor Applied

Version: 2003.16 Build: 43I

HALLIBURTON

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-4H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	+E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	+E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	1.00	-18.22	0.00	0.00	18.25	17.59	180.01	27.799
200.00	200.00	0.00	0.00	0.34	199.00	200.00	-18.22	0.00	0.33	18.22	16.89	180.01	13.718
400.00	400.00	0.00	0.00	0.79	399.00	400.00	-18.22	0.00	0.78	18.22	15.99	180.01	8.181
600.00	600.00	0.00	0.00	1.24	599.00	600.00	-18.22	0.00	1.23	18.22	15.09	180.01	5.828
800.00	800.00	0.00	0.00	1.69	799.00	800.00	-18.22	0.00	1.68	18.22	14.20	180.01	4.526
1,000.00	999.75	8.25	-2.81	2.14	998.75	999.75	-18.22	0.00	2.13	26.62	21.70	173.94	5.409
1,200.00	1,197.97	32.96	-11.23	2.64	1,200.88	1,201.63	-10.48	-4.18	2.59	44.15	38.36	170.77	7.622
1,400.00	1,393.50	72.63	-24.76	3.31	1,404.49	1,403.39	13.11	-16.91	3.10	60.85	54.14	172.48	9.075
1,600.00	1,588.37	115.21	-39.28	4.10	1,604.11	1,599.98	43.61	-33.37	3.70	72.78	65.05	175.28	9.415
1,800.00	1,783.25	157.80	-53.79	4.95	1,803.73	1,796.57	74.12	-49.83	4.36	84.82	76.01	177.28	9.624
2,000.00	1,978.12	200.38	-68.31	5.83	2,003.34	1,993.15	104.63	-66.29	5.05	96.95	87.01	178.79	9.754
2,200.00	2,173.00	242.97	-82.83	6.73	2,202.96	2,189.74	135.13	-82.75	5.77	109.13	98.03	179.96	9.833
2,400.00	2,367.87	285.55	-97.35	7.64	2,402.58	2,386.32	165.64	-99.21	6.51	121.34	109.06	180.89	9.880
2,600.00	2,562.74	328.13	-111.86	8.56	2,602.20	2,582.91	196.14	-115.67	7.25	133.57	120.09	181.65	9.908
2,800.00	2,757.62	370.72	-126.38	9.49	2,801.82	2,779.49	226.65	-132.13	8.00	145.83	131.13	182.28	9.922
3,000.00	2,952.49	413.30	-140.90	10.42	3,001.44	2,976.08	257.16	-148.59	8.76	158.10	142.18	182.82	9.928
3,200.00	3,147.37	455.88	-155.42	11.36	3,201.05	3,172.66	287.66	-165.05	9.53	170.39	153.22	183.28	9.929
3,400.00	3,342.24	498.47	-169.93	12.29	3,400.67	3,369.25	318.17	-181.51	10.29	182.68	164.27	183.67	9.926
3,600.00	3,537.11	541.05	-184.45	13.23	3,600.29	3,565.83	348.68	-197.97	11.06	194.98	175.32	184.02	9.920
3,800.00	3,731.99	583.64	-198.97	14.17	3,799.91	3,762.42	379.18	-214.43	11.83	207.28	186.37	184.32	9.914
4,000.00	3,926.86	626.22	-213.48	15.11	3,999.53	3,959.01	409.69	-230.89	12.61	219.60	197.43	184.60	9.906
4,200.00	4,121.74	668.80	-228.00	16.06	4,199.14	4,155.59	440.19	-247.35	13.38	231.91	208.48	184.84	9.898
4,400.00	4,316.61	711.39	-242.52	17.00	4,398.76	4,352.18	470.70	-263.81	14.16	244.23	219.53	185.06	9.889
4,600.00	4,511.48	753.97	-257.04	17.95	4,598.38	4,548.76	501.21	-280.27	14.93	256.55	230.59	185.25	9.881
4,800.00	4,706.36	796.55	-271.55	18.89	4,783.45	4,731.73	525.43	-293.34	15.51	273.18	246.19	184.59	10.123
5,000.00	4,901.46	838.17	-285.74	19.79	4,962.16	4,909.93	536.70	-299.42	15.86	301.90	274.28	182.60	10.928
5,200.00	5,099.06	867.02	-295.58	20.36	5,151.29	5,099.06	537.78	-300.00	16.13	329.28	301.25	180.77	11.750
5,400.00	5,298.56	879.47	-299.82	20.73	5,350.80	5,298.56	537.78	-300.00	16.44	341.69	313.25	180.03	12.013
5,600.00	5,498.56	880.00	-300.00	20.96	5,550.79	5,498.56	537.78	-300.00	16.75	342.22	305.39	180.00	9.291
5,800.00	5,698.56	880.00	-300.00	21.21	5,750.79	5,698.56	537.78	-300.00	17.07	342.22	304.80	180.00	9.145
6,000.00	5,898.56	880.00	-300.00	21.47	5,950.79	5,898.56	537.78	-300.00	17.39	342.22	304.20	180.00	9.001
6,200.00	6,098.56	880.00	-300.00	21.73	6,150.79	6,098.56	537.78	-300.00	17.72	342.22	303.59	180.00	8.859
6,400.00	6,298.56	880.00	-300.00	22.00	6,350.79	6,298.56	537.78	-300.00	18.05	342.22	302.97	180.00	8.719
6,600.00	6,498.49	879.98	-297.61	22.26	6,550.73	6,498.49	537.78	-300.00	18.39	342.21	309.25	180.40	10.381
6,603.67	6,502.15	879.98	-297.30	22.26	6,554.38	6,502.15	537.78	-300.00	18.40	342.21	309.23	180.45	10.376
6,800.00	6,692.97	879.63	-253.83	22.35	6,751.72	6,698.42	537.56	-284.63	18.65	343.51	309.39	185.14	10.070
7,000.00	6,867.86	878.88	-158.14	22.30	6,961.70	6,894.65	536.50	-212.07	18.67	347.63	312.94	188.95	10.022
7,200.00	7,009.59	877.77	-17.96	22.21	7,181.23	7,068.21	534.58	-79.04	18.57	353.48	318.35	190.09	10.061
7,400.00	7,107.19	876.40	155.86	22.25	7,409.39	7,197.27	531.87	107.91	18.48	359.32	322.36	187.92	9.720
7,600.00	7,153.10	874.86	349.85	23.03	7,643.65	7,262.03	528.62	331.93	20.68	363.41	321.83	182.96	8.739
7,800.00	7,153.41	873.28	549.72	25.02	7,856.61	7,267.00	525.54	544.68	23.27	365.86	320.01	180.83	7.979
8,000.00	7,149.00	871.70	749.66	26.87	8,056.56	7,267.00	522.65	744.60	25.27	368.50	319.14	180.83	7.466
8,200.00	7,144.58	870.12	949.61	29.41	8,256.50	7,267.00	519.75	944.53	28.01	371.17	316.79	180.83	6.825
8,400.00	7,140.17	868.54	1,149.55	32.55	8,456.45	7,267.00	516.85	1,144.46	31.32	373.89	313.38	180.83	6.179
8,600.00	7,135.76	866.96	1,349.50	36.16	8,656.40	7,267.00	513.96	1,344.38	35.07	376.64	309.23	180.83	5.588
8,800.00	7,131.35	865.38	1,549.44	40.11	8,856.34	7,267.00	511.06	1,544.31	39.13	379.43	304.59	180.83	5.070
9,000.00	7,126.94	863.79	1,749.39	44.31	9,056.29	7,267.00	508.16	1,744.23	43.41	382.25	299.62	180.83	4.626
9,200.00	7,122.53	862.21	1,949.33	48.69	9,256.24	7,267.00	505.27	1,944.16	47.86	385.11	294.43	180.83	4.247
9,400.00	7,118.12	860.63	2,149.28	53.21	9,456.18	7,267.00	502.37	2,144.09	52.44	388.00	289.11	180.83	3.923
9,600.00	7,113.71	859.05	2,349.22	57.83	9,656.13	7,267.00	499.47	2,344.01	57.11	390.92	283.71	180.83	3.646

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-4H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
9,800.00	7,109.30	857.47	2,549.17	62.53	9,856.08	7,267.00	496.58	2,543.94	61.85	393.88	278.27	180.83	3.407
10,000.00	7,104.89	855.89	2,749.11	67.30	10,056.03	7,267.00	493.68	2,743.86	66.65	396.86	272.82	180.83	3.199
10,200.00	7,100.48	854.31	2,949.06	72.11	10,255.97	7,267.00	490.79	2,943.79	71.49	399.88	267.38	180.83	3.018
10,400.00	7,096.07	852.73	3,149.00	76.97	10,455.92	7,267.00	487.89	3,143.72	76.38	402.93	261.98	180.83	2.859
10,600.00	7,091.66	851.15	3,348.95	81.86	10,659.94	7,267.00	485.11	3,347.72	81.39	405.87	256.40	180.19	2.715
10,800.00	7,087.25	849.56	3,548.89	86.78	10,861.12	7,267.00	485.09	3,548.89	86.36	406.38	248.69	180.00	2.577
11,000.00	7,082.84	847.98	3,748.84	91.72	11,061.06	7,267.00	485.09	3,748.84	91.32	406.94	241.11	180.00	2.454
11,200.00	7,078.43	846.40	3,948.78	96.68	11,261.01	7,267.00	485.09	3,948.78	96.29	407.56	233.66	180.00	2.344
11,400.00	7,074.02	844.82	4,148.73	101.66	11,460.95	7,267.00	485.09	4,148.73	101.28	408.22	226.36	180.00	2.245
11,600.00	7,069.61	843.24	4,348.67	106.65	11,642.10	7,267.00	480.00	4,329.77	105.81	413.84	223.87	182.98	2.178
11,800.00	7,065.20	841.66	4,548.62	111.65	11,841.85	7,267.00	469.62	4,529.26	110.82	423.69	224.73	182.98	2.130
11,913.55	7,062.69	840.76	4,662.14	114.50	11,955.26	7,267.00	463.73	4,642.52	113.66	429.28	225.21	182.98	2.104

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-2H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	1.00	21.85	0.00	0.00	21.87	21.22	359.99	33.322
200.00	200.00	0.00	0.00	0.34	199.00	200.00	21.85	0.00	0.33	21.85	20.52	359.99	16.451
400.00	400.00	0.00	0.00	0.79	399.00	400.00	21.85	0.00	0.78	21.85	19.62	359.99	9.810
600.00	600.00	0.00	0.00	1.24	599.00	600.00	21.85	0.00	1.23	21.85	18.73	359.99	6.989
800.00	800.00	0.00	0.00	1.69	796.69	797.45	30.03	-2.05	1.69	30.21	26.18	356.10	7.499
1,000.00	999.75	8.25	-2.81	2.14	992.69	991.77	54.41	-8.14	2.19	47.14	42.22	353.41	9.573
1,200.00	1,197.97	32.96	-11.23	2.64	1,187.31	1,181.90	94.46	-18.15	2.88	63.94	58.11	353.58	10.967
1,400.00	1,393.50	72.63	-24.76	3.31	1,386.63	1,374.44	144.47	-30.66	3.77	74.56	67.74	355.31	10.931
1,600.00	1,588.37	115.21	-39.28	4.10	1,586.47	1,567.47	194.65	-43.20	4.73	82.23	74.32	357.17	10.385
1,800.00	1,783.25	157.80	-53.79	4.95	1,786.31	1,760.50	244.83	-55.75	5.73	89.98	80.90	358.71	9.919
2,000.00	1,978.12	200.38	-68.31	5.83	1,986.14	1,953.53	295.01	-68.29	6.75	97.77	87.50	0.01	9.526
2,200.00	2,173.00	242.97	-82.83	6.73	2,185.98	2,146.55	345.18	-80.84	7.78	105.60	94.11	1.12	9.193
2,400.00	2,367.87	285.55	-97.35	7.64	2,385.82	2,339.58	395.36	-93.38	8.82	113.47	100.73	2.07	8.908
2,600.00	2,562.74	328.13	-111.86	8.56	2,585.66	2,532.61	445.54	-105.92	9.87	121.36	107.35	2.90	8.663
2,800.00	2,757.62	370.72	-126.38	9.49	2,785.49	2,725.64	495.72	-118.47	10.91	129.27	113.97	3.62	8.450
3,000.00	2,952.49	413.30	-140.90	10.42	2,985.33	2,918.67	545.89	-131.01	11.96	137.19	120.59	4.26	8.264
3,200.00	3,147.37	455.88	-155.42	11.36	3,185.17	3,111.70	596.07	-143.56	13.02	145.14	127.22	4.83	8.101
3,400.00	3,342.24	498.47	-169.93	12.29	3,385.01	3,304.72	646.25	-156.10	14.07	153.09	133.85	5.35	7.956
3,600.00	3,537.11	541.05	-184.45	13.23	3,584.84	3,497.75	696.42	-168.65	15.13	161.06	140.48	5.81	7.827
3,800.00	3,731.99	583.64	-198.97	14.17	3,784.68	3,690.78	746.60	-181.19	16.19	169.03	147.11	6.23	7.711
4,000.00	3,926.86	626.22	-213.48	15.11	3,984.52	3,883.81	796.78	-193.74	17.24	177.02	153.75	6.60	7.607
4,200.00	4,121.74	668.80	-228.00	16.06	4,184.36	4,076.84	846.96	-206.28	18.30	185.00	160.38	6.95	7.513
4,400.00	4,316.61	711.39	-242.52	17.00	4,384.19	4,269.86	897.13	-218.82	19.36	193.00	167.02	7.27	7.428
4,600.00	4,511.48	753.97	-257.04	17.95	4,584.03	4,462.89	947.31	-231.37	20.42	201.00	173.65	7.56	7.350
4,800.00	4,706.36	796.55	-271.55	18.89	4,783.87	4,655.92	997.49	-243.91	21.48	209.00	180.29	7.83	7.279
5,000.00	4,901.46	838.17	-285.74	19.79	4,983.66	4,848.90	1,047.65	-256.45	22.54	217.95	187.92	7.96	7.258
5,200.00	5,099.06	867.02	-295.58	20.36	5,182.39	5,040.86	1,097.55	-268.93	23.60	239.25	208.52	6.59	7.785
5,400.00	5,298.56	879.47	-299.82	20.73	5,378.85	5,230.63	1,146.88	-281.26	24.64	276.53	245.65	3.97	8.954
5,600.00	5,498.56	880.00	-300.00	20.96	5,602.33	5,449.03	1,192.41	-292.64	25.44	316.40	270.71	1.35	6.925
5,800.00	5,698.56	880.00	-300.00	21.21	5,833.01	5,678.16	1,217.54	-298.93	25.98	338.16	291.52	0.18	7.250
6,000.00	5,898.56	880.00	-300.00	21.47	6,053.50	5,898.56	1,221.85	-300.00	26.25	341.85	294.65	0.00	7.242
6,200.00	6,098.56	880.00	-300.00	21.73	6,253.50	6,098.56	1,221.85	-300.00	26.46	341.85	294.17	0.00	7.169
6,400.00	6,298.56	880.00	-300.00	22.00	6,453.50	6,298.56	1,221.85	-300.00	26.67	341.85	293.67	0.00	7.095
6,600.00	6,498.49	879.98	-297.61	22.26	6,653.89	6,498.88	1,221.82	-297.66	26.89	341.84	307.46	359.99	9.944
6,800.00	6,692.97	879.63	-253.83	22.35	6,855.24	6,694.67	1,221.21	-253.57	26.96	341.58	306.92	0.04	9.857
7,000.00	6,867.86	878.88	-158.14	22.30	7,056.54	6,870.49	1,219.87	-156.93	26.91	341.00	306.15	0.20	9.784
7,200.00	7,009.59	877.77	-17.96	22.21	7,257.67	7,012.51	1,217.91	-15.45	26.82	340.16	304.35	0.42	9.499
7,400.00	7,107.19	876.40	155.86	22.25	7,458.56	7,109.66	1,215.49	159.61	26.85	339.12	300.63	0.63	8.810
7,600.00	7,153.10	874.86	349.85	23.03	7,659.12	7,154.51	1,212.79	354.40	27.27	337.96	294.73	0.77	7.818
7,800.00	7,153.41	873.28	549.72	25.02	7,859.24	7,154.30	1,210.02	554.40	28.72	336.77	289.38	0.80	7.106
8,000.00	7,149.00	871.70	749.66	26.87	8,059.24	7,149.89	1,207.25	754.33	30.06	335.58	284.37	0.80	6.552
8,200.00	7,144.58	870.12	949.61	29.41	8,259.23	7,145.47	1,204.48	954.26	32.04	334.40	277.72	0.80	5.900
8,400.00	7,140.17	868.54	1,149.55	32.55	8,459.23	7,141.06	1,201.71	1,154.18	34.67	333.21	269.85	0.80	5.259
8,600.00	7,135.76	866.96	1,349.50	36.16	8,659.23	7,136.65	1,198.94	1,354.11	37.87	332.02	261.12	0.80	4.683
8,800.00	7,131.35	865.38	1,549.44	40.11	8,859.22	7,132.23	1,196.18	1,554.04	41.50	330.83	251.78	0.80	4.185
9,000.00	7,126.94	863.79	1,749.39	44.31	9,059.22	7,127.82	1,193.41	1,753.97	45.46	329.65	241.98	0.80	3.760
9,200.00	7,122.53	862.21	1,949.33	48.69	9,259.22	7,123.41	1,190.64	1,953.90	49.66	328.46	231.87	0.80	3.401
9,400.00	7,118.12	860.63	2,149.28	53.21	9,459.21	7,118.99	1,187.87	2,153.83	54.03	327.27	221.51	0.80	3.094
9,600.00	7,113.71	859.05	2,349.22	57.83	9,659.21	7,114.58	1,185.10	2,353.76	58.53	326.08	210.97	0.80	2.833
9,800.00	7,109.30	857.47	2,549.17	62.53	9,859.21	7,110.17	1,182.33	2,553.69	63.14	324.89	200.28	0.80	2.607
10,000.00	7,104.89	855.89	2,749.11	67.30	10,059.20	7,105.75	1,179.56	2,753.61	67.83	323.71	189.49	0.80	2.412
10,200.00	7,100.48	854.31	2,949.06	72.11	10,259.20	7,101.34	1,176.79	2,953.54	72.57	322.52	178.60	0.80	2.241

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-2H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
10,400.00	7,096.07	852.73	3,149.00	76.97	10,459.20	7,096.93	1,174.03	3,153.47	77.37	321.33	167.65	0.80	2.091
10,600.00	7,091.66	851.15	3,348.95	81.86	10,659.19	7,092.52	1,171.26	3,353.40	82.21	320.14	156.63	0.80	1.958
10,800.00	7,087.25	849.56	3,548.89	86.78	10,859.19	7,088.10	1,168.49	3,553.33	87.09	318.95	145.56	0.80	1.840
11,000.00	7,082.84	847.98	3,748.84	91.72	11,059.19	7,083.69	1,165.72	3,753.26	91.99	317.77	134.46	0.80	1.733
11,200.00	7,078.43	846.40	3,948.78	96.68	11,259.18	7,079.28	1,162.95	3,953.19	96.92	316.58	123.32	0.80	1.638
11,400.00	7,074.02	844.82	4,148.73	101.66	11,459.18	7,074.86	1,160.18	4,153.11	101.87	315.39	112.14	0.80	1.552
11,600.00	7,069.61	843.24	4,348.67	106.65	11,659.17	7,070.45	1,157.41	4,353.04	106.83	314.20	100.95	0.80	1.473
11,800.00	7,065.20	841.66	4,548.62	111.65	11,859.17	7,066.04	1,154.64	4,552.97	111.81	313.02	89.73	0.80	1.402
11,888.10	7,063.25	840.96	4,636.70	113.86	11,947.27	7,064.09	1,153.42	4,641.04	114.01	312.49	84.78	0.80	1.372
11,913.55	7,062.69	840.76	4,662.14	114.50	11,966.19	7,063.68	1,153.16	4,659.96	114.48	312.41	83.59	359.60	1.365

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-7HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	3.00	-80.16	0.00	0.00	80.21	79.55	180.00	122.190
200.00	200.00	0.00	0.00	0.34	197.00	200.00	-80.16	0.00	0.33	80.16	78.83	180.00	60.549
400.00	400.00	0.00	0.00	0.79	397.00	400.00	-80.16	0.00	0.78	80.16	77.93	180.00	36.059
600.00	600.00	0.00	0.00	1.24	597.00	600.00	-80.16	0.00	1.23	80.16	77.03	180.00	25.675
800.00	800.00	0.00	0.00	1.69	797.00	800.00	-80.16	0.00	1.68	80.16	76.13	180.00	19.934
1,000.00	999.75	8.25	-2.81	2.14	996.75	999.75	-80.16	0.00	2.13	88.45	83.54	178.18	17.987
1,200.00	1,197.97	32.96	-11.23	2.64	1,189.26	1,192.05	-85.16	-6.00	2.51	118.38	112.63	177.46	20.586
1,400.00	1,393.50	72.63	-24.76	3.31	1,380.56	1,382.35	-97.60	-20.93	2.92	170.64	164.01	178.71	25.749
1,600.00	1,588.37	115.21	-39.28	4.10	1,572.69	1,573.42	-110.46	-36.36	3.38	226.18	218.60	179.26	29.843
1,800.00	1,783.25	157.80	-53.79	4.95	1,764.81	1,764.49	-123.31	-51.79	3.88	281.74	273.17	179.59	32.850
2,000.00	1,978.12	200.38	-68.31	5.83	1,956.93	1,955.56	-136.17	-67.21	4.40	337.31	327.70	179.81	35.116
2,200.00	2,173.00	242.97	-82.83	6.73	2,149.05	2,146.63	-149.02	-82.64	4.93	392.88	382.22	179.97	36.873
2,400.00	2,367.87	285.55	-97.35	7.64	2,341.18	2,337.70	-161.88	-98.07	5.47	448.45	436.73	180.09	38.264
2,600.00	2,562.74	328.13	-111.86	8.56	2,539.76	2,535.25	-174.88	-113.67	6.01	503.77	490.98	180.21	39.385
2,800.00	2,757.62	370.72	-126.38	9.49	2,762.36	2,757.62	-180.16	-120.00	6.46	550.91	537.13	179.34	39.980
3,000.00	2,952.49	413.30	-140.90	10.42	2,957.24	2,952.49	-180.16	-120.00	6.82	593.82	579.12	177.98	40.385
3,200.00	3,147.37	455.88	-155.42	11.36	3,152.11	3,147.37	-180.16	-120.00	7.20	637.02	621.39	176.81	40.749
3,400.00	3,342.24	498.47	-169.93	12.29	3,346.99	3,342.24	-180.16	-120.00	7.58	680.46	663.89	175.79	41.081
3,600.00	3,537.11	541.05	-184.45	13.23	3,541.86	3,537.11	-180.16	-120.00	7.96	724.08	706.58	174.89	41.382
3,800.00	3,731.99	583.64	-198.97	14.17	3,736.73	3,731.99	-180.16	-120.00	8.36	767.86	749.43	174.10	41.655
4,000.00	3,926.86	626.22	-213.48	15.11	3,931.61	3,926.86	-180.16	-120.00	8.75	811.78	792.40	173.39	41.903
4,200.00	4,121.74	668.80	-228.00	16.06	4,126.48	4,121.74	-180.16	-120.00	9.15	855.80	835.49	172.75	42.129
4,400.00	4,316.61	711.39	-242.52	17.00	4,321.36	4,316.61	-180.16	-120.00	9.56	899.92	878.66	172.18	42.334
4,600.00	4,511.48	753.97	-257.04	17.95	4,516.23	4,511.48	-180.16	-120.00	9.96	944.12	921.92	171.65	42.521
4,800.00	4,706.36	796.55	-271.55	18.89	4,711.10	4,706.36	-180.16	-120.00	10.37	988.40	965.25	171.18	42.693
5,000.00	4,901.46	838.17	-285.74	19.79	4,906.20	4,901.46	-180.16	-120.00	10.78	1,031.73	1,007.58	170.76	42.727
5,200.00	5,099.06	867.02	-295.58	20.36	5,103.80	5,099.06	-180.16	-120.00	11.20	1,061.80	1,036.75	170.48	42.387
5,400.00	5,298.56	879.47	-299.82	20.73	5,303.31	5,298.56	-180.16	-120.00	11.63	1,074.77	1,049.02	170.37	41.739
5,600.00	5,498.56	880.00	-300.00	20.96	5,503.30	5,498.56	-180.16	-120.00	12.06	1,075.33	1,042.10	170.36	32.358
5,800.00	5,698.56	880.00	-300.00	21.21	5,703.30	5,698.56	-180.16	-120.00	12.49	1,075.33	1,041.41	170.36	31.702
6,000.00	5,898.56	880.00	-300.00	21.47	5,903.30	5,898.56	-180.16	-120.00	12.92	1,075.33	1,040.71	170.36	31.066
6,200.00	6,098.56	880.00	-300.00	21.73	6,103.30	6,098.56	-180.16	-120.00	13.35	1,075.33	1,040.01	170.36	30.448
6,400.00	6,298.56	880.00	-300.00	22.00	6,303.30	6,298.56	-180.16	-120.00	13.78	1,075.33	1,039.30	170.36	29.849
6,600.00	6,498.49	879.98	-297.61	22.26	6,522.78	6,517.90	-180.12	-123.93	14.26	1,074.40	1,043.78	170.70	35.078
6,800.00	6,692.97	879.63	-253.83	22.35	6,743.03	6,729.99	-179.54	-180.02	14.93	1,062.39	1,030.55	176.01	33.367
6,915.39	6,797.19	879.25	-204.57	22.31	6,819.06	6,797.90	-179.19	-214.13	15.25	1,058.48	1,026.00	180.52	32.585
7,000.00	6,867.86	878.88	-158.14	22.30	6,853.82	6,827.66	-179.01	-232.08	15.42	1,061.23	1,028.45	184.00	32.375
7,200.00	7,009.59	877.77	-17.96	22.21	6,885.96	6,854.38	-178.83	-249.94	15.59	1,092.84	1,059.48	192.38	32.758
7,400.00	7,107.19	876.40	155.86	22.25	6,873.90	6,844.44	-178.90	-243.10	15.52	1,158.38	1,123.28	200.71	33.003
7,600.00	7,153.10	874.86	349.85	23.03	6,836.99	6,813.36	-179.10	-223.21	15.34	1,246.86	1,210.06	208.53	33.888
7,800.00	7,153.41	873.28	549.72	25.02	6,800.00	6,781.22	-179.29	-204.90	15.16	1,347.54	1,309.25	215.64	35.195
8,000.00	7,149.00	871.70	749.66	26.87	6,750.00	6,736.36	-179.51	-182.85	14.96	1,464.54	1,424.08	221.58	36.190
8,200.00	7,144.58	870.12	949.61	29.41	6,717.31	6,706.24	-179.64	-170.14	14.84	1,596.24	1,552.61	226.85	36.588
8,400.00	7,140.17	868.54	1,149.55	32.55	6,700.00	6,690.07	-179.71	-163.97	14.78	1,739.76	1,692.20	231.41	36.581
8,600.00	7,135.76	866.96	1,349.50	36.16	6,668.58	6,660.34	-179.81	-153.78	14.67	1,892.51	1,840.99	235.15	36.732
8,800.00	7,131.35	865.38	1,549.44	40.11	6,650.00	6,642.57	-179.87	-148.37	14.61	2,052.81	1,996.86	238.38	36.695
9,000.00	7,126.94	863.79	1,749.39	44.31	6,650.00	6,642.57	-179.87	-148.37	14.61	2,219.31	2,158.36	241.19	36.412
9,200.00	7,122.53	862.21	1,949.33	48.69	6,619.73	6,613.34	-179.95	-140.56	14.52	2,390.19	2,324.92	243.50	36.618
9,400.00	7,118.12	860.63	2,149.28	53.21	6,600.00	6,594.11	-179.99	-136.13	14.46	2,565.26	2,495.38	245.52	36.708
9,600.00	7,113.71	859.05	2,349.22	57.83	6,600.00	6,594.11	-179.99	-136.13	14.46	2,743.46	2,668.35	247.31	36.530
9,800.00	7,109.30	857.47	2,549.17	62.53	6,600.00	6,594.11	-179.99	-136.13	14.46	2,924.47	2,844.10	248.88	36.385

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-7HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
10,000.00	7,104.89	855.89	2,749.11	67.30	6,578.85	6,573.37	-180.03	-131.97	14.41	3,107.46	3,022.50	250.22	36.578
10,200.00	7,100.48	854.31	2,949.06	72.11	6,571.24	6,565.88	-180.05	-130.62	14.39	3,292.43	3,202.45	251.43	36.590
10,400.00	7,096.07	852.73	3,149.00	76.97	6,550.00	6,544.91	-180.08	-127.29	14.33	3,479.16	3,384.69	252.50	36.829
10,600.00	7,091.66	851.15	3,348.95	81.86	6,550.00	6,544.91	-180.08	-127.29	14.33	3,666.96	3,567.19	253.48	36.754
10,800.00	7,087.25	849.56	3,548.89	86.78	6,550.00	6,544.91	-180.08	-127.29	14.33	3,855.99	3,750.89	254.35	36.691
11,000.00	7,082.84	847.98	3,748.84	91.72	6,550.00	6,544.91	-180.08	-127.29	14.33	4,046.07	3,935.64	255.15	36.640
11,200.00	7,078.43	846.40	3,948.78	96.68	6,550.00	6,544.91	-180.08	-127.29	14.33	4,237.06	4,121.28	255.87	36.597
11,400.00	7,074.02	844.82	4,148.73	101.66	6,550.00	6,544.91	-180.08	-127.29	14.33	4,428.85	4,307.71	256.52	36.561
11,600.00	7,069.61	843.24	4,348.67	106.65	6,550.00	6,544.91	-180.08	-127.29	14.33	4,621.34	4,494.83	257.12	36.531
11,800.00	7,065.20	841.66	4,548.62	111.65	6,550.00	6,544.91	-180.08	-127.29	14.33	4,814.43	4,682.55	257.67	36.506
11,913.55	7,062.69	840.76	4,662.14	114.50	6,550.00	6,544.91	-180.08	-127.29	14.33	4,924.31	4,789.37	257.97	36.493

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-5H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	1.00	-40.07	0.00	0.00	40.09	39.43	180.00	61.064
200.00	200.00	0.00	0.00	0.34	199.00	200.00	-40.07	0.00	0.33	40.07	38.74	180.00	30.168
400.00	400.00	0.00	0.00	0.79	399.00	400.00	-40.07	0.00	0.78	40.07	37.85	180.00	17.991
600.00	600.00	0.00	0.00	1.24	599.00	600.00	-40.07	0.00	1.23	40.07	36.95	180.00	12.817
800.00	800.00	0.00	0.00	1.69	799.00	800.00	-40.07	0.00	1.68	40.07	36.05	180.00	9.955
1,000.00	999.75	8.25	-2.81	2.14	998.75	999.75	-40.07	0.00	2.13	48.41	43.49	176.67	9.835
1,200.00	1,197.97	32.96	-11.23	2.64	1,196.97	1,197.97	-40.07	0.00	2.58	73.89	68.09	171.25	12.737
1,400.00	1,393.50	72.63	-24.76	3.31	1,398.52	1,399.28	-36.01	-7.57	3.02	110.14	103.47	171.01	16.500
1,600.00	1,588.37	115.21	-39.28	4.10	1,599.68	1,598.86	-24.28	-29.42	3.51	140.24	132.56	175.96	18.266
1,800.00	1,783.25	157.80	-53.79	4.95	1,797.24	1,794.50	-11.28	-53.65	4.05	169.45	160.67	179.95	19.285
2,000.00	1,978.12	200.38	-68.31	5.83	1,994.80	1,990.14	1.72	-77.88	4.63	199.25	189.29	182.76	19.992
2,200.00	2,173.00	242.97	-82.83	6.73	2,192.36	2,185.78	14.72	-102.10	5.23	229.41	218.21	184.83	20.488
2,400.00	2,367.87	285.55	-97.35	7.64	2,389.92	2,381.41	27.72	-126.33	5.85	259.80	247.34	186.41	20.844
2,600.00	2,562.74	328.13	-111.86	8.56	2,587.48	2,577.05	40.73	-150.56	6.48	290.35	276.59	187.67	21.105
2,800.00	2,757.62	370.72	-126.38	9.49	2,785.04	2,772.69	53.73	-174.78	7.12	321.02	305.95	188.68	21.301
3,000.00	2,952.49	413.30	-140.90	10.42	2,982.60	2,968.33	66.73	-199.01	7.77	351.77	335.37	189.52	21.451
3,200.00	3,147.37	455.88	-155.42	11.36	3,180.16	3,163.97	79.73	-223.24	8.43	382.58	364.84	190.22	21.569
3,400.00	3,342.24	498.47	-169.93	12.29	3,377.72	3,359.60	92.73	-247.46	9.08	413.44	394.35	190.82	21.662
3,600.00	3,537.11	541.05	-184.45	13.23	3,575.28	3,555.24	105.74	-271.69	9.74	444.34	423.90	191.33	21.737
3,800.00	3,731.99	583.64	-198.97	14.17	3,765.63	3,744.12	116.79	-292.30	10.28	476.23	454.59	191.31	22.005
4,000.00	3,926.86	626.22	-213.48	15.11	3,949.77	3,928.00	120.90	-299.95	10.62	512.66	490.16	189.71	22.785
4,200.00	4,121.74	668.80	-228.00	16.06	4,143.50	4,121.74	120.93	-300.00	10.96	552.59	529.32	187.49	23.755
4,400.00	4,316.61	711.39	-242.52	17.00	4,338.38	4,316.61	120.93	-300.00	11.31	593.25	569.20	185.56	24.668
4,600.00	4,511.48	753.97	-257.04	17.95	4,533.25	4,511.48	120.93	-300.00	11.67	634.50	609.65	183.88	25.531
4,800.00	4,706.36	796.55	-271.55	18.89	4,728.12	4,706.36	120.93	-300.00	12.03	676.23	650.56	182.41	26.343
5,000.00	4,901.46	838.17	-285.74	19.79	4,923.22	4,901.46	120.93	-300.00	12.40	717.39	690.87	181.14	27.050
5,200.00	5,099.06	867.02	-295.58	20.36	5,120.82	5,099.06	120.93	-300.00	12.78	746.11	718.84	180.34	27.363
5,400.00	5,298.56	879.47	-299.82	20.73	5,320.33	5,298.56	120.93	-300.00	13.17	758.54	730.68	180.01	27.222
5,600.00	5,498.56	880.00	-300.00	20.96	5,520.32	5,498.56	120.93	-300.00	13.56	759.07	725.72	180.00	22.757
5,800.00	5,698.56	880.00	-300.00	21.21	5,720.32	5,698.56	120.93	-300.00	13.96	759.07	725.04	180.00	22.303
6,000.00	5,898.56	880.00	-300.00	21.47	5,920.32	5,898.56	120.93	-300.00	14.36	759.07	724.35	180.00	21.861
6,200.00	6,098.56	880.00	-300.00	21.73	6,120.32	6,098.56	120.93	-300.00	14.76	759.07	723.65	180.00	21.432
6,400.00	6,298.56	880.00	-300.00	22.00	6,320.32	6,298.56	120.93	-300.00	15.16	759.07	722.95	180.00	21.015
6,600.00	6,498.49	879.98	-297.61	22.26	6,520.32	6,498.49	120.93	-297.69	15.54	759.05	726.65	180.01	23.422
6,800.00	6,692.97	879.63	-253.83	22.35	6,720.37	6,693.08	120.92	-254.16	15.71	758.71	725.97	180.03	23.176
7,000.00	6,867.86	878.88	-158.14	22.30	6,920.49	6,868.19	120.92	-158.63	15.80	757.96	724.96	180.04	22.972
7,200.00	7,009.59	877.77	-17.96	22.21	7,120.67	7,010.19	120.91	-18.47	16.25	756.86	722.81	180.04	22.229
7,400.00	7,107.19	876.40	155.86	22.25	7,320.90	7,108.04	120.90	155.48	17.71	755.50	718.60	180.03	20.477
7,600.00	7,153.10	874.86	349.85	23.03	7,521.16	7,154.08	120.89	349.71	20.27	753.97	712.14	180.01	18.022
7,800.00	7,153.41	873.28	549.72	25.02	7,721.27	7,154.41	120.87	549.69	22.78	752.41	706.05	180.00	16.232
8,000.00	7,149.00	871.70	749.66	26.87	7,921.26	7,150.01	120.86	749.64	24.66	750.84	700.65	180.00	14.960
8,200.00	7,144.58	870.12	949.61	29.41	8,121.26	7,145.60	120.85	949.58	27.37	749.27	693.58	180.00	13.455
8,400.00	7,140.17	868.54	1,149.55	32.55	8,321.25	7,141.20	120.84	1,149.53	30.70	747.70	685.29	180.00	11.980
8,600.00	7,135.76	866.96	1,349.50	36.16	8,521.25	7,136.79	120.82	1,349.47	34.47	746.13	676.13	180.00	10.659
8,800.00	7,131.35	865.38	1,549.44	40.11	8,721.24	7,132.39	120.81	1,549.42	38.55	744.56	666.36	180.00	9.520
9,000.00	7,126.94	863.79	1,749.39	44.31	8,921.23	7,127.98	120.80	1,749.36	42.86	743.00	656.14	180.00	8.555
9,200.00	7,122.53	862.21	1,949.33	48.69	9,121.23	7,123.58	120.79	1,949.31	47.33	741.43	645.61	180.00	7.738
9,400.00	7,118.12	860.63	2,149.28	53.21	9,321.22	7,119.18	120.78	2,149.25	51.92	739.86	634.84	180.00	7.045
9,600.00	7,113.71	859.05	2,349.22	57.83	9,521.21	7,114.77	120.76	2,349.20	56.60	738.29	623.90	180.00	6.454
9,800.00	7,109.30	857.47	2,549.17	62.53	9,721.21	7,110.37	120.75	2,549.14	61.36	736.72	612.81	180.00	5.946
10,000.00	7,104.89	855.89	2,749.11	67.30	9,921.20	7,105.96	120.74	2,749.09	66.16	735.15	601.62	180.00	5.505
10,200.00	7,100.48	854.31	2,949.06	72.11	10,121.20	7,101.56	120.73	2,949.04	71.01	733.58	590.33	180.00	5.121

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-5H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
10,400.00	7,096.07	852.73	3,149.00	76.97	10,321.19	7,097.15	120.71	3,148.98	75.90	732.01	578.98	180.00	4.783
10,600.00	7,091.66	851.15	3,348.95	81.86	10,521.18	7,092.75	120.70	3,348.93	80.82	730.45	567.57	180.00	4.485
10,800.00	7,087.25	849.56	3,548.89	86.78	10,721.18	7,088.35	120.69	3,548.87	85.76	728.88	556.12	180.00	4.219
11,000.00	7,082.84	847.98	3,748.84	91.72	10,921.17	7,083.94	120.68	3,748.82	90.72	727.31	544.62	180.00	3.981
11,200.00	7,078.43	846.40	3,948.78	96.68	11,121.17	7,079.54	120.66	3,948.76	95.70	725.74	533.09	180.00	3.767
11,400.00	7,074.02	844.82	4,148.73	101.66	11,321.16	7,075.13	120.65	4,148.71	100.69	724.17	521.53	180.00	3.574
11,600.00	7,069.61	843.24	4,348.67	106.65	11,521.15	7,070.73	120.64	4,348.65	105.69	722.60	509.95	180.00	3.398
11,800.00	7,065.20	841.66	4,548.62	111.65	11,721.15	7,066.32	120.63	4,548.60	110.71	721.03	498.35	180.00	3.238
11,913.55	7,062.69	840.76	4,662.14	114.50	11,834.69	7,063.82	120.62	4,662.12	113.56	720.14	491.75	180.00	3.153

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-8HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	3.00	-98.37	0.00	0.00	98.41	97.76	180.00	149.916
200.00	200.00	0.00	0.00	0.34	197.00	200.00	-98.37	0.00	0.33	98.37	97.04	180.00	74.306
400.00	400.00	0.00	0.00	0.79	397.00	400.00	-98.37	0.00	0.78	98.37	96.14	180.00	44.252
600.00	600.00	0.00	0.00	1.24	597.00	600.00	-98.37	0.00	1.23	98.37	95.24	180.00	31.508
800.00	800.00	0.00	0.00	1.69	797.00	800.00	-98.37	0.00	1.68	98.37	94.35	180.00	24.463
1,000.00	999.75	8.25	-2.81	2.14	988.17	990.96	-105.61	-2.68	2.05	114.20	109.35	179.93	23.550
1,200.00	1,197.97	32.96	-11.23	2.64	1,172.93	1,174.29	-126.73	-10.47	2.45	161.44	155.74	179.73	28.316
1,400.00	1,393.50	72.63	-24.76	3.31	1,360.96	1,360.00	-154.33	-20.66	2.97	229.45	222.88	178.97	34.928
1,600.00	1,588.37	115.21	-39.28	4.10	1,547.97	1,544.71	-181.77	-30.80	3.56	300.30	292.80	178.36	40.056
1,800.00	1,783.25	157.80	-53.79	4.95	1,734.98	1,729.42	-209.22	-40.93	4.18	371.16	362.70	177.99	43.850
2,000.00	1,978.12	200.38	-68.31	5.83	1,921.99	1,914.13	-236.66	-51.06	4.83	442.04	432.58	177.74	46.752
2,200.00	2,173.00	242.97	-82.83	6.73	2,109.00	2,098.84	-264.10	-61.20	5.49	512.92	502.46	177.56	49.018
2,400.00	2,367.87	285.55	-97.35	7.64	2,296.02	2,283.55	-291.55	-71.33	6.16	583.81	572.32	177.42	50.827
2,600.00	2,562.74	328.13	-111.86	8.56	2,483.03	2,468.26	-318.99	-81.46	6.83	654.69	642.18	177.31	52.301
2,800.00	2,757.62	370.72	-126.38	9.49	2,670.04	2,652.97	-346.44	-91.60	7.52	725.58	712.03	177.22	53.522
3,000.00	2,952.49	413.30	-140.90	10.42	2,857.05	2,837.68	-373.88	-101.73	8.20	796.47	781.87	177.15	54.549
3,200.00	3,147.37	455.88	-155.42	11.36	3,060.21	3,038.41	-403.26	-112.58	8.92	867.09	851.41	177.15	55.309
3,400.00	3,342.24	498.47	-169.93	12.29	3,359.82	3,337.04	-423.33	-119.99	9.55	923.16	906.34	176.90	54.897
3,600.00	3,537.11	541.05	-184.45	13.23	3,559.90	3,537.11	-423.37	-120.00	9.84	966.57	948.83	176.18	54.492
3,800.00	3,731.99	583.64	-198.97	14.17	3,754.77	3,731.99	-423.37	-120.00	10.13	1,010.09	991.44	175.52	54.150
4,000.00	3,926.86	626.22	-213.48	15.11	3,949.64	3,926.86	-423.37	-120.00	10.43	1,053.74	1,034.17	174.91	53.836
4,200.00	4,121.74	668.80	-228.00	16.06	4,144.52	4,121.74	-423.37	-120.00	10.74	1,097.50	1,077.00	174.35	53.547
4,400.00	4,316.61	711.39	-242.52	17.00	4,339.39	4,316.61	-423.37	-120.00	11.06	1,141.35	1,119.93	173.84	53.279
4,600.00	4,511.48	753.97	-257.04	17.95	4,534.27	4,511.48	-423.37	-120.00	11.38	1,185.28	1,162.93	173.36	53.031
4,800.00	4,706.36	796.55	-271.55	18.89	4,729.14	4,706.36	-423.37	-120.00	11.71	1,229.30	1,206.02	172.92	52.801
5,000.00	4,901.46	838.17	-285.74	19.79	4,924.24	4,901.46	-423.37	-120.00	12.05	1,272.38	1,248.10	172.52	52.412
5,200.00	5,099.06	867.02	-295.58	20.36	5,121.84	5,099.06	-423.37	-120.00	12.41	1,302.28	1,277.08	172.25	51.674
5,400.00	5,298.56	879.47	-299.82	20.73	5,321.34	5,298.56	-423.37	-120.00	12.77	1,315.18	1,289.26	172.14	50.738
5,600.00	5,498.56	880.00	-300.00	20.96	5,521.34	5,498.56	-423.37	-120.00	13.13	1,315.74	1,281.55	172.14	38.491
5,800.00	5,698.56	880.00	-300.00	21.21	5,721.34	5,698.56	-423.37	-120.00	13.50	1,315.74	1,280.92	172.14	37.793
6,000.00	5,898.56	880.00	-300.00	21.47	5,921.34	5,898.56	-423.37	-120.00	13.88	1,315.74	1,280.28	172.14	37.109
6,200.00	6,098.56	880.00	-300.00	21.73	6,121.34	6,098.56	-423.37	-120.00	14.26	1,315.74	1,279.63	172.14	36.439
6,400.00	6,298.56	880.00	-300.00	22.00	6,321.34	6,298.56	-423.37	-120.00	14.64	1,315.74	1,278.97	172.14	35.783
6,600.00	6,498.49	879.98	-297.61	22.26	6,542.85	6,519.91	-423.29	-124.15	15.08	1,314.94	1,284.25	172.42	42.854
6,800.00	6,692.97	879.63	-253.83	22.35	6,767.64	6,736.00	-422.17	-182.68	15.71	1,304.46	1,272.66	176.87	41.021
6,921.28	6,802.27	879.22	-201.61	22.31	6,847.10	6,806.56	-421.48	-219.14	16.00	1,300.82	1,268.46	180.77	40.198
7,000.00	6,867.86	878.88	-158.14	22.30	6,878.76	6,833.47	-421.16	-235.80	16.13	1,302.81	1,270.21	183.42	39.969
7,200.00	7,009.59	877.77	-17.96	22.21	6,909.91	6,859.20	-420.82	-253.34	16.28	1,328.30	1,295.11	190.27	40.023
7,400.00	7,107.19	876.40	155.86	22.25	6,900.00	6,851.10	-420.93	-247.64	16.23	1,382.56	1,347.55	197.28	39.495
7,600.00	7,153.10	874.86	349.85	23.03	6,850.00	6,809.05	-421.45	-220.61	16.01	1,457.47	1,420.35	203.75	39.261
7,800.00	7,153.41	873.28	549.72	25.02	6,800.00	6,765.22	-421.91	-196.58	15.82	1,544.40	1,505.51	209.95	39.712
8,000.00	7,149.00	871.70	749.66	26.87	6,769.96	6,738.11	-422.15	-183.63	15.71	1,647.40	1,605.85	215.80	39.648
8,200.00	7,144.58	870.12	949.61	29.41	6,750.00	6,719.81	-422.31	-175.66	15.65	1,765.51	1,720.41	221.04	39.146
8,400.00	7,140.17	868.54	1,149.55	32.55	6,700.00	6,673.06	-422.64	-157.96	15.49	1,896.03	1,847.30	225.36	38.906
8,600.00	7,135.76	866.96	1,349.50	36.16	6,700.00	6,673.06	-422.64	-157.96	15.49	2,037.05	1,983.59	229.45	38.102
8,800.00	7,131.35	865.38	1,549.44	40.11	6,668.96	6,643.46	-422.82	-148.63	15.40	2,186.54	2,128.62	232.82	37.751
9,000.00	7,126.94	863.79	1,749.39	44.31	6,650.00	6,625.19	-422.92	-143.57	15.35	2,343.21	2,280.50	235.79	37.363
9,200.00	7,122.53	862.21	1,949.33	48.69	6,650.00	6,625.19	-422.92	-143.57	15.35	2,505.82	2,437.83	238.45	36.856
9,400.00	7,118.12	860.63	2,149.28	53.21	6,626.33	6,602.21	-423.02	-137.92	15.29	2,673.06	2,600.22	240.70	36.697
9,600.00	7,113.71	859.05	2,349.22	57.83	6,600.00	6,576.43	-423.13	-132.54	15.22	2,844.61	2,766.98	242.68	36.643
9,800.00	7,109.30	857.47	2,549.17	62.53	6,600.00	6,576.43	-423.13	-132.54	15.22	3,019.18	2,936.11	244.47	36.344
10,000.00	7,104.89	855.89	2,749.11	67.30	6,600.00	6,576.43	-423.13	-132.54	15.22	3,196.73	3,108.17	246.07	36.098

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-8HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
10,200.00	7,100.48	854.31	2,949.06	72.11	6,600.00	6,576.43	-423.13	-132.54	15.22	3,376.79	3,282.72	247.48	35.894
10,400.00	7,096.07	852.73	3,149.00	76.97	6,600.00	6,576.43	-423.13	-132.54	15.22	3,558.99	3,459.36	248.75	35.723
10,600.00	7,091.66	851.15	3,348.95	81.86	6,576.53	6,553.31	-423.20	-128.55	15.16	3,742.56	3,638.10	249.87	35.828
10,800.00	7,087.25	849.56	3,548.89	86.78	6,550.00	6,527.02	-423.27	-124.95	15.10	3,928.24	3,819.12	250.89	35.998
11,000.00	7,082.84	847.98	3,748.84	91.72	6,550.00	6,527.02	-423.27	-124.95	15.10	4,114.76	4,000.10	251.83	35.887
11,200.00	7,078.43	846.40	3,948.78	96.68	6,550.00	6,527.02	-423.27	-124.95	15.10	4,302.49	4,182.28	252.69	35.792
11,400.00	7,074.02	844.82	4,148.73	101.66	6,550.00	6,527.02	-423.27	-124.95	15.10	4,491.28	4,365.51	253.47	35.711
11,600.00	7,069.61	843.24	4,348.67	106.65	6,550.00	6,527.02	-423.27	-124.95	15.10	4,681.00	4,549.66	254.19	35.642
11,800.00	7,065.20	841.66	4,548.62	111.65	6,550.00	6,527.02	-423.27	-124.95	15.10	4,871.54	4,734.63	254.86	35.582
11,913.55	7,062.69	840.76	4,662.14	114.50	6,550.00	6,527.02	-423.27	-124.95	15.10	4,980.05	4,839.97	255.21	35.551

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-6HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	2.00	-58.29	0.00	0.00	58.33	57.67	180.00	88.854
200.00	200.00	0.00	0.00	0.34	198.00	200.00	-58.29	0.00	0.33	58.29	56.97	180.00	43.960
400.00	400.00	0.00	0.00	0.79	398.00	400.00	-58.29	0.00	0.78	58.29	56.07	180.00	26.198
600.00	600.00	0.00	0.00	1.24	598.00	600.00	-58.29	0.00	1.23	58.29	55.17	180.00	18.659
800.00	800.00	0.00	0.00	1.69	798.00	800.00	-58.29	0.00	1.68	58.29	54.27	180.00	14.489
1,000.00	999.75	8.25	-2.81	2.14	997.75	999.75	-58.29	0.00	2.13	66.61	61.69	177.58	13.538
1,200.00	1,197.97	32.96	-11.23	2.64	1,195.97	1,197.97	-58.29	0.00	2.58	91.94	86.14	172.98	15.851
1,400.00	1,393.50	72.63	-24.76	3.31	1,391.50	1,393.50	-58.29	0.00	3.02	133.25	126.57	169.29	19.947
1,600.00	1,588.37	115.21	-39.28	4.10	1,586.37	1,588.37	-58.29	0.00	3.45	177.90	170.29	167.25	23.397
1,800.00	1,783.25	157.80	-53.79	4.95	1,781.25	1,783.25	-58.29	0.00	3.89	222.69	214.15	166.02	26.074
2,000.00	1,978.12	200.38	-68.31	5.83	1,976.12	1,978.12	-58.29	0.00	4.33	267.54	258.06	165.21	28.202
2,200.00	2,173.00	242.97	-82.83	6.73	2,171.00	2,173.00	-58.29	0.00	4.77	312.44	302.00	164.63	29.928
2,400.00	2,367.87	285.55	-97.35	7.64	2,365.87	2,367.87	-58.29	0.00	5.21	357.36	345.96	164.19	31.354
2,600.00	2,562.74	328.13	-111.86	8.56	2,560.74	2,562.74	-58.29	0.00	5.64	402.29	389.93	163.86	32.551
2,800.00	2,757.62	370.72	-126.38	9.49	2,755.62	2,757.62	-58.29	0.00	6.08	447.24	433.91	163.59	33.569
3,000.00	2,952.49	413.30	-140.90	10.42	2,950.49	2,952.49	-58.29	0.00	6.52	492.19	477.90	163.37	34.444
3,200.00	3,147.37	455.88	-155.42	11.36	3,145.37	3,147.37	-58.29	0.00	6.96	537.15	521.89	163.18	35.205
3,400.00	3,342.24	498.47	-169.93	12.29	3,340.24	3,342.24	-58.29	0.00	7.40	582.12	565.89	163.03	35.873
3,600.00	3,537.11	541.05	-184.45	13.23	3,535.11	3,537.11	-58.29	0.00	7.83	627.09	609.89	162.89	36.463
3,800.00	3,731.99	583.64	-198.97	14.17	3,729.99	3,731.99	-58.29	0.00	8.27	672.06	653.89	162.78	36.988
4,000.00	3,926.86	626.22	-213.48	15.11	3,924.86	3,926.86	-58.29	0.00	8.71	717.03	697.89	162.68	37.458
4,200.00	4,121.74	668.80	-228.00	16.06	4,119.74	4,121.74	-58.29	0.00	9.15	762.01	741.89	162.59	37.882
4,400.00	4,316.61	711.39	-242.52	17.00	4,314.61	4,316.61	-58.29	0.00	9.59	806.98	785.89	162.51	38.266
4,600.00	4,511.48	753.97	-257.04	17.95	4,509.48	4,511.48	-58.29	0.00	10.02	851.96	829.90	162.44	38.615
4,800.00	4,706.36	796.55	-271.55	18.89	4,704.36	4,706.36	-58.29	0.00	10.46	896.94	873.90	162.38	38.933
5,000.00	4,901.46	838.17	-285.74	19.79	4,899.46	4,901.46	-58.29	0.00	10.90	940.90	916.84	162.32	39.102
5,200.00	5,099.06	867.02	-295.58	20.36	5,097.06	5,099.06	-58.29	0.00	11.34	971.38	946.38	162.28	38.860
5,400.00	5,298.56	879.47	-299.82	20.73	5,296.56	5,298.56	-58.29	0.00	11.79	984.52	958.81	162.27	38.289
5,600.00	5,498.56	880.00	-300.00	20.96	5,496.56	5,498.56	-58.29	0.00	12.24	985.09	951.23	162.27	29.096
5,800.00	5,698.56	880.00	-300.00	21.21	5,696.56	5,698.56	-58.29	0.00	12.69	985.09	950.53	162.27	28.507
6,000.00	5,898.56	880.00	-300.00	21.47	5,896.56	5,898.56	-58.29	0.00	13.14	985.09	949.82	162.27	27.936
6,200.00	6,098.56	880.00	-300.00	21.73	6,096.56	6,098.56	-58.29	0.00	13.59	985.09	949.11	162.27	27.383
6,400.00	6,298.56	880.00	-300.00	22.00	6,296.56	6,298.56	-58.29	0.00	14.04	985.09	948.39	162.27	26.847
6,600.00	6,498.49	879.98	-297.61	22.26	6,579.89	6,578.37	-58.29	-35.58	14.64	977.45	946.63	164.40	31.724
6,800.00	6,692.97	879.63	-253.83	22.35	6,795.28	6,773.81	-58.29	-124.62	15.28	950.23	918.18	172.16	29.648
6,976.43	6,848.73	878.99	-171.91	22.30	6,883.57	6,845.99	-58.29	-175.39	15.66	937.29	904.30	180.21	28.408
7,000.00	6,867.86	878.88	-158.14	22.30	6,889.87	6,850.93	-58.29	-179.31	15.70	937.56	904.50	181.29	28.359
7,200.00	7,009.59	877.77	-17.96	22.21	6,908.01	6,864.96	-58.29	-190.79	15.79	962.81	929.23	190.46	28.675
7,400.00	7,107.19	876.40	155.86	22.25	6,883.79	6,846.16	-58.29	-175.52	15.67	1,025.47	990.45	199.52	29.282
7,600.00	7,153.10	874.86	349.85	23.03	6,835.48	6,807.35	-58.29	-146.77	15.44	1,112.18	1,075.88	208.02	30.635
7,800.00	7,153.41	873.28	549.72	25.02	6,776.84	6,758.07	-58.29	-115.01	15.21	1,210.78	1,173.49	215.51	32.473
8,000.00	7,149.00	871.70	749.66	26.87	6,727.65	6,715.06	-58.29	-91.15	15.04	1,326.71	1,287.37	222.12	33.721
8,200.00	7,144.58	870.12	949.61	29.41	6,700.00	6,690.28	-58.29	-78.89	14.96	1,458.13	1,415.67	227.93	34.337
8,400.00	7,140.17	868.54	1,149.55	32.55	6,650.00	6,644.48	-58.29	-58.87	14.82	1,601.57	1,556.01	232.51	35.158
8,600.00	7,135.76	866.96	1,349.50	36.16	6,625.72	6,621.81	-58.29	-50.16	14.75	1,754.79	1,705.34	236.53	35.490
8,800.00	7,131.35	865.38	1,549.44	40.11	6,600.00	6,597.53	-58.29	-41.68	14.69	1,915.67	1,862.21	239.86	35.837
9,000.00	7,126.94	863.79	1,749.39	44.31	6,581.17	6,579.60	-58.29	-35.95	14.65	2,082.61	2,024.88	242.68	36.074
9,200.00	7,122.53	862.21	1,949.33	48.69	6,550.00	6,549.63	-58.29	-27.39	14.57	2,254.54	2,192.87	245.03	36.557
9,400.00	7,118.12	860.63	2,149.28	53.21	6,550.00	6,549.63	-58.29	-27.39	14.57	2,430.12	2,363.52	247.11	36.491
9,600.00	7,113.71	859.05	2,349.22	57.83	6,550.00	6,549.63	-58.29	-27.39	14.57	2,609.21	2,537.62	248.89	36.449
9,800.00	7,109.30	857.47	2,549.17	62.53	6,521.58	6,522.03	-58.29	-20.57	14.51	2,790.53	2,714.97	250.39	36.929

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-6HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
10,000.00	7,104.89	855.89	2,749.11	67.30	6,500.00	6,500.94	-58.29	-16.04	14.46	2,974.32	2,894.59	251.71	37.307
10,200.00	7,100.48	854.31	2,949.06	72.11	6,500.00	6,500.94	-58.29	-16.04	14.46	3,159.77	3,075.04	252.89	37.293
10,400.00	7,096.07	852.73	3,149.00	76.97	6,500.00	6,500.94	-58.29	-16.04	14.46	3,346.89	3,257.13	253.94	37.289
10,600.00	7,091.66	851.15	3,348.95	81.86	6,500.00	6,500.94	-58.29	-16.04	14.46	3,535.42	3,440.62	254.88	37.293
10,800.00	7,087.25	849.56	3,548.89	86.78	6,476.44	6,477.78	-58.29	-11.74	14.41	3,724.75	3,626.03	255.70	37.732
11,000.00	7,082.84	847.98	3,748.84	91.72	6,450.00	6,451.65	-58.29	-7.70	14.36	3,915.52	3,813.13	256.44	38.243
11,200.00	7,078.43	846.40	3,948.78	96.68	6,450.00	6,451.65	-58.29	-7.70	14.36	4,106.71	3,999.35	257.12	38.251
11,400.00	7,074.02	844.82	4,148.73	101.66	6,450.00	6,451.65	-58.29	-7.70	14.36	4,298.70	4,186.35	257.74	38.263
11,600.00	7,069.61	843.24	4,348.67	106.65	6,450.00	6,451.65	-58.29	-7.70	14.36	4,491.39	4,374.05	258.31	38.277
11,800.00	7,065.20	841.66	4,548.62	111.65	6,450.00	6,451.65	-58.29	-7.70	14.36	4,684.69	4,562.35	258.83	38.292
11,913.55	7,062.69	840.76	4,662.14	114.50	6,450.00	6,451.65	-58.29	-7.70	14.36	4,794.69	4,669.50	259.10	38.302

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-1H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.07	0.00	0.00	40.07	39.41	0.00	61.039
200.00	200.00	0.00	0.00	0.34	200.00	200.00	40.07	0.00	0.34	40.07	38.74	0.00	30.115
400.00	400.00	0.00	0.00	0.79	400.00	400.00	40.07	0.00	0.79	40.07	37.84	0.00	17.971
466.80	466.80	0.00	0.00	0.94	466.80	466.80	40.07	0.00	0.94	40.07	37.54	0.00	15.838
600.00	600.00	0.00	0.00	1.24	598.26	598.23	42.13	-0.46	1.23	42.16	39.04	359.38	13.488
800.00	800.00	0.00	0.00	1.69	793.35	792.55	58.37	-4.07	1.70	58.99	54.94	356.02	14.599
1,000.00	999.75	8.25	-2.81	2.14	985.79	982.16	90.14	-11.12	2.28	84.16	79.23	354.20	17.047
1,200.00	1,197.97	32.96	-11.23	2.64	1,176.27	1,166.50	136.76	-21.49	3.09	108.96	103.10	354.36	18.600
1,400.00	1,393.50	72.63	-24.76	3.31	1,373.04	1,353.76	195.73	-34.59	4.15	129.73	122.85	355.43	18.862
1,600.00	1,588.37	115.21	-39.28	4.10	1,572.19	1,543.17	255.81	-47.94	5.30	147.94	139.94	356.47	18.495
1,800.00	1,783.25	157.80	-53.79	4.95	1,771.35	1,732.58	315.89	-61.29	6.48	166.18	157.01	357.29	18.128
2,000.00	1,978.12	200.38	-68.31	5.83	1,970.50	1,921.98	375.96	-74.64	7.67	184.45	174.08	357.94	17.796
2,200.00	2,173.00	242.97	-82.83	6.73	2,169.66	2,111.39	436.04	-87.99	8.88	202.73	191.15	358.47	17.502
2,400.00	2,367.87	285.55	-97.35	7.64	2,368.81	2,300.80	496.12	-101.34	10.10	221.03	208.21	358.91	17.242
2,600.00	2,562.74	328.13	-111.86	8.56	2,567.97	2,490.21	556.19	-114.69	11.32	239.34	225.27	359.29	17.014
2,800.00	2,757.62	370.72	-126.38	9.49	2,767.12	2,679.61	616.27	-128.04	12.54	257.65	242.33	359.61	16.812
3,000.00	2,952.49	413.30	-140.90	10.42	2,966.28	2,869.02	676.35	-141.39	13.76	275.97	259.38	359.89	16.634
3,200.00	3,147.37	455.88	-155.42	11.36	3,165.43	3,058.43	736.43	-154.74	14.99	294.30	276.44	0.14	16.476
3,400.00	3,342.24	498.47	-169.93	12.29	3,364.59	3,247.84	796.50	-168.09	16.22	312.63	293.49	0.35	16.335
3,600.00	3,537.11	541.05	-184.45	13.23	3,563.74	3,437.25	856.58	-181.44	17.45	330.97	310.55	0.55	16.208
3,800.00	3,731.99	583.64	-198.97	14.17	3,762.90	3,626.65	916.66	-194.80	18.68	349.31	327.60	0.72	16.093
4,000.00	3,926.86	626.22	-213.48	15.11	3,962.05	3,816.06	976.73	-208.15	19.91	367.65	344.65	0.87	15.989
4,200.00	4,121.74	668.80	-228.00	16.06	4,161.21	4,005.47	1,036.81	-221.50	21.14	385.99	361.71	1.01	15.895
4,400.00	4,316.61	711.39	-242.52	17.00	4,360.36	4,194.88	1,096.89	-234.85	22.37	404.34	378.76	1.14	15.809
4,600.00	4,511.48	753.97	-257.04	17.95	4,559.52	4,384.28	1,156.96	-248.20	23.60	422.68	395.81	1.26	15.730
4,800.00	4,706.36	796.55	-271.55	18.89	4,758.67	4,573.69	1,217.04	-261.55	24.84	441.03	412.86	1.36	15.658
5,000.00	4,901.46	838.17	-285.74	19.79	4,957.73	4,763.00	1,277.09	-274.89	26.07	460.36	430.95	1.42	15.650
5,200.00	5,099.06	867.02	-295.58	20.36	5,203.45	5,000.00	1,339.99	-288.87	27.14	483.27	453.00	0.81	15.963
5,400.00	5,298.56	879.47	-299.82	20.73	5,455.40	5,248.74	1,378.43	-297.41	27.86	501.45	470.73	0.28	16.325
5,600.00	5,498.56	880.00	-300.00	20.96	5,705.63	5,498.56	1,390.07	-300.00	28.22	510.07	461.36	0.00	10.472
5,800.00	5,698.56	880.00	-300.00	21.21	5,905.63	5,698.56	1,390.07	-300.00	28.40	510.07	460.92	0.00	10.379
6,000.00	5,898.56	880.00	-300.00	21.47	6,105.63	5,898.56	1,390.07	-300.00	28.59	510.07	460.47	0.00	10.285
6,200.00	6,098.56	880.00	-300.00	21.73	6,305.63	6,098.56	1,390.07	-300.00	28.78	510.07	460.01	0.00	10.190
6,400.00	6,298.56	880.00	-300.00	22.00	6,505.63	6,298.56	1,390.07	-300.00	28.98	510.07	459.54	0.00	10.094
6,600.00	6,498.49	879.98	-297.61	22.26	6,706.38	6,499.24	1,390.03	-297.54	29.17	510.05	475.29	0.01	14.676
6,800.00	6,692.97	879.63	-253.83	22.35	6,908.87	6,696.00	1,389.23	-252.68	29.24	509.60	474.57	0.13	14.545
7,000.00	6,867.86	878.88	-158.14	22.30	7,111.09	6,872.23	1,387.49	-154.88	29.18	508.64	473.40	0.37	14.433
7,200.00	7,009.59	877.77	-17.96	22.21	7,312.88	7,013.96	1,384.96	-12.20	29.10	507.24	471.03	0.65	14.010
7,400.00	7,107.19	876.40	155.86	22.25	7,514.09	7,110.22	1,381.83	163.70	29.12	505.50	466.61	0.89	12.997
7,600.00	7,153.10	874.86	349.85	23.03	7,714.63	7,153.88	1,378.36	358.73	29.45	503.58	459.96	1.01	11.543
7,800.00	7,153.41	873.28	549.72	25.02	7,914.65	7,153.21	1,374.81	558.62	30.64	501.61	454.11	1.02	10.560
8,000.00	7,149.00	871.70	749.66	26.87	8,114.64	7,148.79	1,371.26	758.53	31.77	499.64	448.22	1.02	9.716
8,200.00	7,144.58	870.12	949.61	29.41	8,314.63	7,144.38	1,367.71	958.44	33.50	497.67	440.70	1.02	8.737
8,400.00	7,140.17	868.54	1,149.55	32.55	8,514.62	7,139.97	1,364.16	1,158.35	35.91	495.70	432.00	1.02	7.782
8,600.00	7,135.76	866.96	1,349.50	36.16	8,714.61	7,135.55	1,360.60	1,358.26	38.94	493.72	422.44	1.02	6.926
8,800.00	7,131.35	865.38	1,549.44	40.11	8,914.60	7,131.14	1,357.05	1,558.17	42.45	491.75	412.28	1.02	6.188
9,000.00	7,126.94	863.79	1,749.39	44.31	9,114.59	7,126.73	1,353.50	1,758.08	46.33	489.78	401.68	1.02	5.559
9,200.00	7,122.53	862.21	1,949.33	48.69	9,314.58	7,122.32	1,349.95	1,957.99	50.47	487.81	390.77	1.02	5.027
9,400.00	7,118.12	860.63	2,149.28	53.21	9,514.57	7,117.90	1,346.39	2,157.90	54.80	485.84	379.61	1.02	4.574
9,600.00	7,113.71	859.05	2,349.22	57.83	9,714.56	7,113.49	1,342.84	2,357.81	59.27	483.87	368.27	1.02	4.186
9,800.00	7,109.30	857.47	2,549.17	62.53	9,914.55	7,109.08	1,339.29	2,557.72	63.85	481.90	356.80	1.02	3.852
10,000.00	7,104.89	855.89	2,749.11	67.30	10,114.54	7,104.67	1,335.74	2,757.63	68.52	479.92	345.21	1.02	3.563

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-1H - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
10,200.00	7,100.48	854.31	2,949.06	72.11	10,314.53	7,100.25	1,332.19	2,957.54	73.25	477.95	333.54	1.02	3.310
10,400.00	7,096.07	852.73	3,149.00	76.97	10,514.52	7,095.84	1,328.63	3,157.45	78.04	475.98	321.79	1.02	3.087
10,600.00	7,091.66	851.15	3,348.95	81.86	10,714.51	7,091.43	1,325.08	3,357.36	82.87	474.01	309.99	1.02	2.890
10,800.00	7,087.25	849.56	3,548.89	86.78	10,914.50	7,087.01	1,321.53	3,557.27	87.73	472.04	298.13	1.02	2.714
11,000.00	7,082.84	847.98	3,748.84	91.72	11,114.49	7,082.60	1,317.98	3,757.18	92.63	470.07	286.24	1.02	2.557
11,200.00	7,078.43	846.40	3,948.78	96.68	11,314.48	7,078.19	1,314.42	3,957.09	97.55	468.10	274.31	1.02	2.416
11,400.00	7,074.02	844.82	4,148.73	101.66	11,514.47	7,073.78	1,310.87	4,157.00	102.49	466.12	262.35	1.02	2.287
11,600.00	7,069.61	843.24	4,348.67	106.65	11,714.46	7,069.36	1,307.32	4,356.91	107.45	464.15	250.37	1.02	2.171
11,800.00	7,065.20	841.66	4,548.62	111.65	11,914.45	7,064.95	1,303.77	4,556.82	112.43	462.18	238.36	1.02	2.065
11,893.75	7,063.13	840.92	4,642.34	114.00	12,008.19	7,062.88	1,302.10	4,650.53	114.76	461.26	232.73	1.02	2.018
11,913.55	7,062.69	840.76	4,662.14	114.50	12,017.51	7,062.68	1,301.94	4,659.84	114.99	461.18	231.93	359.71	2.012

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-9HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
0.00	0.00	0.00	0.00	0.00	0.00	3.00	-120.22	0.00	0.00	120.26	119.60	180.00	183.191
200.00	200.00	0.00	0.00	0.34	197.00	200.00	-120.22	0.00	0.33	120.22	118.89	180.00	90.812
400.00	400.00	0.00	0.00	0.79	397.00	400.00	-120.22	0.00	0.78	120.22	118.00	180.00	54.082
600.00	600.00	0.00	0.00	1.24	597.00	600.00	-120.22	0.00	1.23	120.22	117.10	180.00	38.508
800.00	800.00	0.00	0.00	1.69	786.99	789.78	-127.66	-1.65	1.60	128.08	124.14	180.74	32.490
1,000.00	999.75	8.25	-2.81	2.14	972.93	974.29	-149.77	-6.57	2.03	160.11	155.30	181.36	33.311
1,200.00	1,197.97	32.96	-11.23	2.64	1,154.89	1,152.75	-184.31	-14.24	2.62	221.94	216.24	180.79	38.960
1,400.00	1,393.50	72.63	-24.76	3.31	1,338.70	1,332.55	-221.61	-22.53	3.33	300.50	293.92	179.57	45.683
1,600.00	1,588.37	115.21	-39.28	4.10	1,521.33	1,511.19	-258.68	-30.77	4.09	381.87	374.35	178.70	50.775
1,800.00	1,783.25	157.80	-53.79	4.95	1,703.96	1,689.82	-295.75	-39.00	4.87	463.30	454.80	178.13	54.521
2,000.00	1,978.12	200.38	-68.31	5.83	1,886.59	1,868.46	-332.81	-47.24	5.67	544.76	535.26	177.74	57.357
2,200.00	2,173.00	242.97	-82.83	6.73	2,069.21	2,047.10	-369.88	-55.48	6.48	626.24	615.73	177.44	59.565
2,400.00	2,367.87	285.55	-97.35	7.64	2,251.84	2,225.73	-406.94	-63.71	7.29	707.73	696.19	177.22	61.325
2,600.00	2,562.74	328.13	-111.86	8.56	2,434.47	2,404.37	-444.01	-71.95	8.11	789.23	776.65	177.04	62.755
2,800.00	2,757.62	370.72	-126.38	9.49	2,617.10	2,583.01	-481.08	-80.19	8.94	870.73	857.11	176.90	63.937
3,000.00	2,952.49	413.30	-140.90	10.42	2,799.72	2,761.64	-518.14	-88.43	9.76	952.24	937.57	176.78	64.930
3,200.00	3,147.37	455.88	-155.42	11.36	2,982.35	2,940.28	-555.21	-96.66	10.59	1,033.75	1,018.03	176.67	65.773
3,400.00	3,342.24	498.47	-169.93	12.29	3,164.98	3,118.92	-592.27	-104.90	11.41	1,115.27	1,098.50	176.59	66.498
3,600.00	3,537.11	541.05	-184.45	13.23	3,436.97	3,386.22	-640.84	-115.69	12.37	1,193.46	1,175.50	176.67	66.426
3,800.00	3,731.99	583.64	-198.97	14.17	3,783.60	3,731.99	-660.22	-120.00	12.98	1,246.36	1,227.21	176.37	65.080
4,000.00	3,926.86	626.22	-213.48	15.11	3,978.48	3,926.86	-660.22	-120.00	13.20	1,289.83	1,269.78	175.84	64.329
4,200.00	4,121.74	668.80	-228.00	16.06	4,173.35	4,121.74	-660.22	-120.00	13.44	1,333.40	1,312.45	175.35	63.636
4,400.00	4,316.61	711.39	-242.52	17.00	4,368.23	4,316.61	-660.22	-120.00	13.68	1,377.07	1,355.20	174.90	62.992
4,600.00	4,511.48	753.97	-257.04	17.95	4,563.10	4,511.48	-660.22	-120.00	13.93	1,420.81	1,398.04	174.47	62.393
4,800.00	4,706.36	796.55	-271.55	18.89	4,757.97	4,706.36	-660.22	-120.00	14.19	1,464.63	1,440.95	174.06	61.833
5,000.00	4,901.46	838.17	-285.74	19.79	4,953.07	4,901.46	-660.22	-120.00	14.46	1,507.53	1,482.84	173.69	61.068
5,200.00	5,099.06	867.02	-295.58	20.36	5,150.67	5,099.06	-660.22	-120.00	14.74	1,537.30	1,511.65	173.44	59.940
5,400.00	5,298.56	879.47	-299.82	20.73	5,350.18	5,298.56	-660.22	-120.00	15.04	1,550.15	1,523.76	173.34	58.730
5,600.00	5,498.56	880.00	-300.00	20.96	5,550.17	5,498.56	-660.22	-120.00	15.34	1,550.70	1,514.38	173.33	42.690
5,800.00	5,698.56	880.00	-300.00	21.21	5,750.17	5,698.56	-660.22	-120.00	15.65	1,550.70	1,513.81	173.33	42.034
6,000.00	5,898.56	880.00	-300.00	21.47	5,950.17	5,898.56	-660.22	-120.00	15.96	1,550.70	1,513.23	173.33	41.384
6,200.00	6,098.56	880.00	-300.00	21.73	6,150.17	6,098.56	-660.22	-120.00	16.28	1,550.70	1,512.64	173.33	40.740
6,400.00	6,298.56	880.00	-300.00	22.00	6,350.17	6,298.56	-660.22	-120.00	16.61	1,550.70	1,512.03	173.33	40.104
6,600.00	6,498.49	879.98	-297.61	22.26	6,576.79	6,525.00	-660.04	-124.71	17.00	1,549.93	1,518.88	173.59	49.921
6,800.00	6,692.97	879.63	-253.83	22.35	6,812.70	6,750.73	-657.64	-189.45	17.56	1,539.71	1,507.59	177.60	47.945
6,932.53	6,811.94	879.18	-195.84	22.31	6,898.53	6,825.83	-656.10	-230.85	17.83	1,535.74	1,503.10	181.31	47.046
7,000.00	6,867.86	878.88	-158.14	22.30	6,924.34	6,847.40	-655.58	-245.03	17.93	1,537.05	1,504.23	183.24	46.839
7,200.00	7,009.59	877.77	-17.96	22.21	6,950.00	6,868.31	-655.03	-259.88	18.02	1,558.19	1,524.80	188.97	46.674
7,400.00	7,107.19	876.40	155.86	22.25	6,937.01	6,857.79	-655.31	-252.27	17.97	1,604.65	1,569.47	194.92	45.614
7,600.00	7,153.10	874.86	349.85	23.03	6,900.00	6,827.08	-656.07	-231.64	17.84	1,669.78	1,632.02	200.80	44.216
7,800.00	7,153.41	873.28	549.72	25.02	6,850.00	6,783.98	-657.01	-206.33	17.67	1,746.39	1,706.52	206.29	43.803
8,000.00	7,149.00	871.70	749.66	26.87	6,800.00	6,739.21	-657.84	-184.09	17.52	1,838.29	1,795.84	211.40	43.304
8,200.00	7,144.58	870.12	949.61	29.41	6,770.77	6,712.36	-658.27	-172.56	17.44	1,944.74	1,898.74	216.29	42.277
8,400.00	7,140.17	868.54	1,149.55	32.55	6,750.00	6,693.00	-658.55	-165.03	17.39	2,063.99	2,013.81	220.72	41.130
8,600.00	7,135.76	866.96	1,349.50	36.16	6,720.00	6,664.68	-658.91	-155.15	17.31	2,194.12	2,139.51	224.60	40.174
8,800.00	7,131.35	865.38	1,549.44	40.11	6,700.00	6,645.58	-659.13	-149.23	17.26	2,333.58	2,274.17	228.09	39.280
9,000.00	7,126.94	863.79	1,749.39	44.31	6,700.00	6,645.58	-659.13	-149.23	17.26	2,481.08	2,416.42	231.27	38.371
9,200.00	7,122.53	862.21	1,949.33	48.69	6,669.46	6,616.11	-659.43	-141.23	17.19	2,634.82	2,565.26	233.95	37.877
9,400.00	7,118.12	860.63	2,149.28	53.21	6,650.00	6,597.17	-659.59	-136.78	17.15	2,794.38	2,719.69	236.38	37.413
9,600.00	7,113.71	859.05	2,349.22	57.83	6,650.00	6,597.17	-659.59	-136.78	17.15	2,958.60	2,878.39	238.58	36.883
9,800.00	7,109.30	857.47	2,549.17	62.53	6,650.00	6,597.17	-659.59	-136.78	17.15	3,126.99	3,041.19	240.54	36.445

Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Closest Approach 3D Proximity Scan on Current Survey Data (North Reference)

Offset Design: Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-9HX - Plan A - Rev A0 (Permitting Plan Only)

Scan Range: 0.00 to 11,913.55 ft. Measured Depth.

Scan Radius is 9,999.99 ft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Measured Depth (ft)	Vertical Depth (ft)	Ellipse Centre +N/-S (ft)	Ellipse Centre +E/-W (ft)	Ellipse Major Axis/2	Between Centres (ft)	Between Ellipsoids ft	Relative North Bearing	Clearance Factor
10,000.00	7,104.89	855.89	2,749.11	67.30	6,627.45	6,575.07	-659.76	-132.28	17.10	3,298.53	3,207.57	242.26	36.264
10,200.00	7,100.48	854.31	2,949.06	72.11	6,600.00	6,548.00	-659.93	-127.74	17.04	3,473.44	3,377.46	243.80	36.189
10,400.00	7,096.07	852.73	3,149.00	76.97	6,600.00	6,548.00	-659.93	-127.74	17.04	3,650.41	3,548.79	245.22	35.920
10,600.00	7,091.66	851.15	3,348.95	81.86	6,600.00	6,548.00	-659.93	-127.74	17.04	3,829.65	3,722.36	246.51	35.693
10,800.00	7,087.25	849.56	3,548.89	86.78	6,600.00	6,548.00	-659.93	-127.74	17.04	4,010.86	3,897.88	247.68	35.500
11,000.00	7,082.84	847.98	3,748.84	91.72	6,600.00	6,548.00	-659.93	-127.74	17.04	4,193.77	4,075.08	248.74	35.335
11,200.00	7,078.43	846.40	3,948.78	96.68	6,600.00	6,548.00	-659.93	-127.74	17.04	4,378.17	4,253.77	249.72	35.193
11,400.00	7,074.02	844.82	4,148.73	101.66	6,600.00	6,548.00	-659.93	-127.74	17.04	4,563.89	4,433.76	250.61	35.071
11,600.00	7,069.61	843.24	4,348.67	106.65	6,600.00	6,548.00	-659.93	-127.74	17.04	4,750.77	4,614.90	251.44	34.964
11,800.00	7,065.20	841.66	4,548.62	111.65	6,577.88	6,526.08	-660.04	-124.83	17.00	4,938.31	4,797.40	252.19	35.047
11,913.55	7,062.69	840.76	4,662.14	114.50	6,575.83	6,524.04	-660.05	-124.60	17.00	5,045.34	4,901.25	252.59	35.016

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,682.22	Rev A0 (Permitting Plan Only)	MWD
7,682.22	11,913.55	Rev A0 (Permitting Plan Only)	MWD

Ellipse error terms are correlated across survey tool tie-on points.

Calculated ellipses incorporate surface errors.

Separation is the actual distance between ellipsoids.

Distance Between centres is the straight line distance between wellbore centres.

Clearance Factor = Distance Between Profiles / (Distance Between Profiles - Ellipse Separation).

All station coordinates were calculated using the Minimum Curvature method.

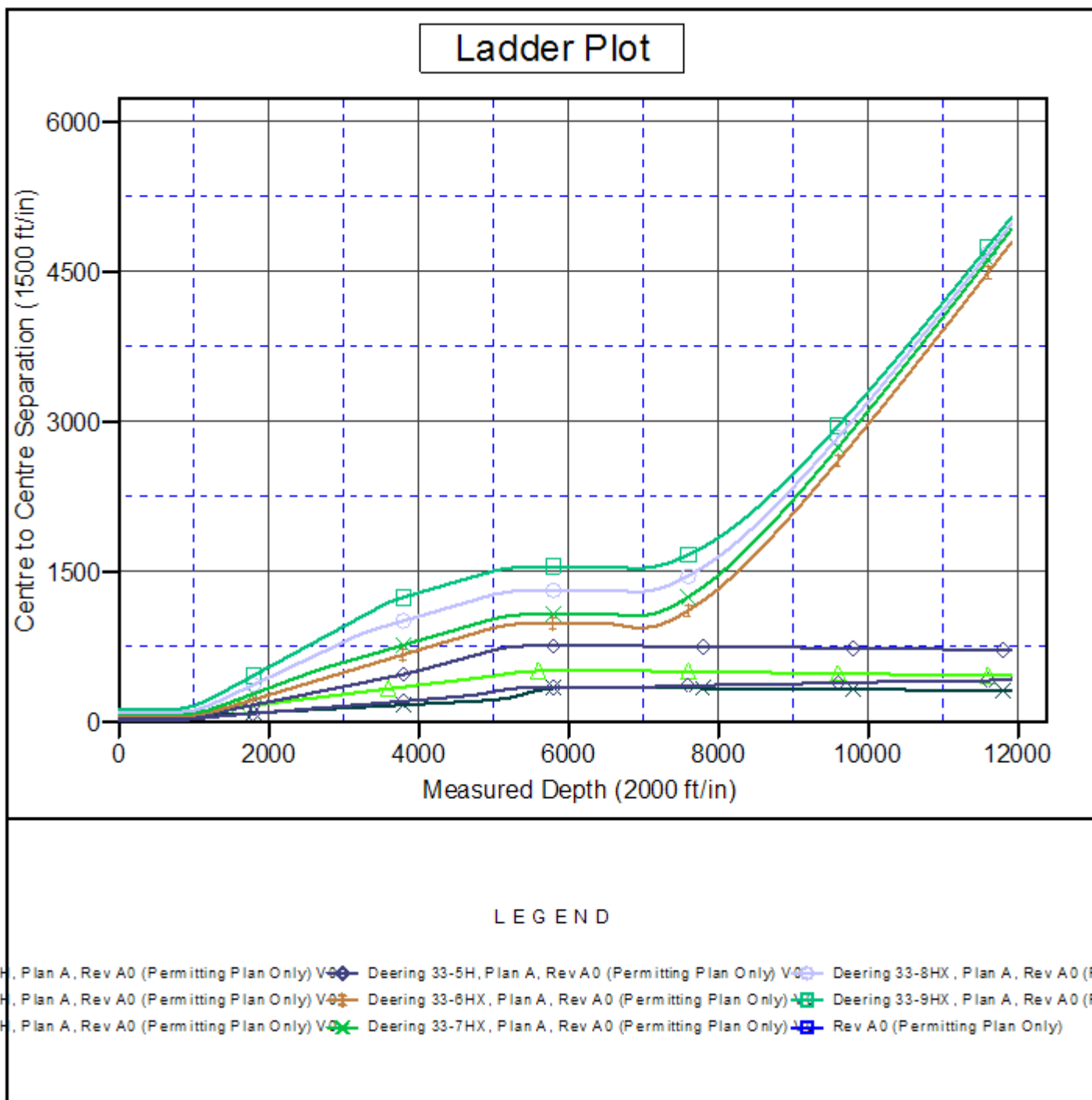
Anticollision Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Direction and Coordinates are relative to True North Reference.

Vertical Depths are relative to GL @ 4905.00ft (Ground Level). Northing and Easting are relative to Deering 33-3H - Slot A3

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.00°, Grid Convergence at Surface is: 0.39°



K.P. Kauffman Company, Inc.

Weld County, CO (NAD 83)

Sec. 33-T4N-R67W (Deering 33H Pad)

Deering 33-3H - A3

Plan A

Plan: Rev A0 (Permitting Plan Only)

Sperry Drilling Services

Proposal Report

25 July, 2013

Well Coordinates: 1,341,830.79 N, 3,166,345.03 E (40° 16' 12.68" N, 104° 54' 13.93" W)

Ground Level: 4,905.00 ft

Local Coordinate Origin: Centered on Well Deering 33-3H - Slot A3

Viewing Datum: GL @ 4905.00ft (Ground Level)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Plan Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin 2.5°/100ft Nudge to 13.0° Inclination at 800.00ft										
900.00	2.50	341.18	899.97	2.06	-0.70	-0.31	2.50	2.50	0.00	341.18
1,000.00	5.00	341.18	999.75	8.25	-2.81	-1.25	2.50	2.50	0.00	0.00
1,100.00	7.50	341.18	1,099.14	18.56	-6.33	-2.82	2.50	2.50	0.00	0.00
1,200.00	10.00	341.18	1,197.97	32.96	-11.23	-5.00	2.50	2.50	0.00	0.00
1,300.00	12.50	341.18	1,296.04	51.42	-17.53	-7.80	2.50	2.50	0.00	0.00
1,320.00	13.00	341.18	1,315.55	55.60	-18.95	-8.43	2.50	2.50	0.00	0.00
Begin 3610.79ft Tangent at 1320.00ft										
1,400.00	13.00	341.18	1,393.50	72.63	-24.76	-11.02	0.00	0.00	0.00	0.00
1,500.00	13.00	341.18	1,490.94	93.92	-32.02	-14.25	0.00	0.00	0.00	0.00
1,600.00	13.00	341.18	1,588.37	115.21	-39.28	-17.48	0.00	0.00	0.00	0.00
1,700.00	13.00	341.18	1,685.81	136.51	-46.54	-20.71	0.00	0.00	0.00	0.00
1,800.00	13.00	341.18	1,783.25	157.80	-53.79	-23.94	0.00	0.00	0.00	0.00
1,900.00	13.00	341.18	1,880.68	179.09	-61.05	-27.17	0.00	0.00	0.00	0.00
2,000.00	13.00	341.18	1,978.12	200.38	-68.31	-30.40	0.00	0.00	0.00	0.00
2,100.00	13.00	341.18	2,075.56	221.67	-75.57	-33.63	0.00	0.00	0.00	0.00
2,200.00	13.00	341.18	2,173.00	242.97	-82.83	-36.86	0.00	0.00	0.00	0.00
2,300.00	13.00	341.18	2,270.43	264.26	-90.09	-40.09	0.00	0.00	0.00	0.00
2,400.00	13.00	341.18	2,367.87	285.55	-97.35	-43.32	0.00	0.00	0.00	0.00
2,500.00	13.00	341.18	2,465.31	306.84	-104.61	-46.55	0.00	0.00	0.00	0.00
2,600.00	13.00	341.18	2,562.74	328.13	-111.86	-49.78	0.00	0.00	0.00	0.00
2,700.00	13.00	341.18	2,660.18	349.43	-119.12	-53.01	0.00	0.00	0.00	0.00
2,800.00	13.00	341.18	2,757.62	370.72	-126.38	-56.24	0.00	0.00	0.00	0.00
2,900.00	13.00	341.18	2,855.05	392.01	-133.64	-59.47	0.00	0.00	0.00	0.00
3,000.00	13.00	341.18	2,952.49	413.30	-140.90	-62.70	0.00	0.00	0.00	0.00
3,100.00	13.00	341.18	3,049.93	434.59	-148.16	-65.93	0.00	0.00	0.00	0.00
3,200.00	13.00	341.18	3,147.37	455.88	-155.42	-69.16	0.00	0.00	0.00	0.00
3,300.00	13.00	341.18	3,244.80	477.18	-162.67	-72.39	0.00	0.00	0.00	0.00
3,400.00	13.00	341.18	3,342.24	498.47	-169.93	-75.62	0.00	0.00	0.00	0.00
3,500.00	13.00	341.18	3,439.68	519.76	-177.19	-78.85	0.00	0.00	0.00	0.00
3,600.00	13.00	341.18	3,537.11	541.05	-184.45	-82.08	0.00	0.00	0.00	0.00
3,700.00	13.00	341.18	3,634.55	562.34	-191.71	-85.31	0.00	0.00	0.00	0.00
3,800.00	13.00	341.18	3,731.99	583.64	-198.97	-88.54	0.00	0.00	0.00	0.00
3,900.00	13.00	341.18	3,829.42	604.93	-206.23	-91.77	0.00	0.00	0.00	0.00
4,000.00	13.00	341.18	3,926.86	626.22	-213.48	-95.00	0.00	0.00	0.00	0.00
4,100.00	13.00	341.18	4,024.30	647.51	-220.74	-98.23	0.00	0.00	0.00	0.00
4,200.00	13.00	341.18	4,121.74	668.80	-228.00	-101.45	0.00	0.00	0.00	0.00
4,300.00	13.00	341.18	4,219.17	690.09	-235.26	-104.68	0.00	0.00	0.00	0.00
4,400.00	13.00	341.18	4,316.61	711.39	-242.52	-107.91	0.00	0.00	0.00	0.00
4,500.00	13.00	341.18	4,414.05	732.68	-249.78	-111.14	0.00	0.00	0.00	0.00
4,600.00	13.00	341.18	4,511.48	753.97	-257.04	-114.37	0.00	0.00	0.00	0.00
4,700.00	13.00	341.18	4,608.92	775.26	-264.29	-117.60	0.00	0.00	0.00	0.00
4,800.00	13.00	341.18	4,706.36	796.55	-271.55	-120.83	0.00	0.00	0.00	0.00
4,900.00	13.00	341.18	4,803.79	817.85	-278.81	-124.06	0.00	0.00	0.00	0.00
4,930.79	13.00	341.18	4,833.80	824.40	-281.05	-125.06	0.00	0.00	0.00	0.00
Begin 2.5°/100ft Drop to Vertical at 4930.79ft										
5,000.00	11.27	341.18	4,901.46	838.17	-285.74	-127.15	2.50	-2.50	0.00	180.00
5,100.00	8.77	341.18	4,999.92	854.64	-291.35	-129.65	2.50	-2.50	0.00	180.00
5,200.00	6.27	341.18	5,099.06	867.02	-295.58	-131.52	2.50	-2.50	0.00	180.00

Plan Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
5,300.00	3.77	341.18	5,198.66	875.31	-298.40	-132.78	2.50	-2.50	0.00	180.00
5,400.00	1.27	341.18	5,298.56	879.47	-299.82	-133.41	2.50	-2.50	0.00	180.00
5,450.79	0.00	341.18	5,349.35	880.00	-300.00	-133.49	2.50	-2.50	0.00	180.00
End of Drop at 5450.79ft										
5,500.00	0.00	0.00	5,398.56	880.00	-300.00	-133.49	0.00	0.00	0.00	180.00
5,600.00	0.00	0.00	5,498.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,598.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,698.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,798.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,898.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	5,998.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,098.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,198.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,298.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,398.56	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
6,541.42	0.00	0.00	6,439.98	880.00	-300.00	-133.49	0.00	0.00	0.00	0.00
KOP - Begin 8.0°/100ft Build at 6541.42ft										
6,600.00	4.69	90.45	6,498.49	879.98	-297.61	-131.14	8.00	8.00	0.00	90.45
6,700.00	12.69	90.45	6,597.26	879.86	-282.52	-116.33	8.00	8.00	0.00	0.00
6,800.00	20.69	90.45	6,692.97	879.63	-253.83	-88.17	8.00	8.00	0.00	0.00
6,900.00	28.69	90.45	6,783.76	879.30	-212.10	-47.21	8.00	8.00	0.00	0.00
7,000.00	36.69	90.45	6,867.86	878.88	-158.14	5.75	8.00	8.00	0.00	0.00
7,100.00	44.69	90.45	6,943.63	878.36	-93.00	69.69	8.00	8.00	0.00	0.00
7,200.00	52.69	90.45	7,009.59	877.77	-17.96	143.35	8.00	8.00	0.00	0.00
7,300.00	60.69	90.45	7,064.47	877.11	65.54	225.31	8.00	8.00	0.00	0.00
7,400.00	68.69	90.45	7,107.19	876.40	155.86	313.97	8.00	8.00	0.00	0.00
7,500.00	76.69	90.45	7,136.93	875.64	251.25	407.60	8.00	8.00	0.00	0.00
7,600.00	84.69	90.45	7,153.10	874.86	349.85	504.39	8.00	8.00	0.00	0.00
7,682.22	91.26	90.45	7,156.00	874.21	431.97	584.99	8.00	8.00	0.00	0.00
End of Build at 7682.22ft - 7" Csg										
7,700.00	91.26	90.45	7,155.61	874.07	449.74	602.44	0.00	0.00	0.00	0.00
7,800.00	91.26	90.45	7,153.41	873.28	549.72	700.57	0.00	0.00	0.00	0.00
7,900.00	91.26	90.45	7,151.20	872.49	649.69	798.70	0.00	0.00	0.00	0.00
8,000.00	91.26	90.45	7,149.00	871.70	749.66	896.84	0.00	0.00	0.00	0.00
8,100.00	91.26	90.45	7,146.79	870.91	849.63	994.97	0.00	0.00	0.00	0.00
8,200.00	91.26	90.45	7,144.58	870.12	949.61	1,093.10	0.00	0.00	0.00	0.00
8,300.00	91.26	90.45	7,142.38	869.33	1,049.58	1,191.23	0.00	0.00	0.00	0.00
8,400.00	91.26	90.45	7,140.17	868.54	1,149.55	1,289.36	0.00	0.00	0.00	0.00
8,500.00	91.26	90.45	7,137.97	867.75	1,249.52	1,387.49	0.00	0.00	0.00	0.00
8,600.00	91.26	90.45	7,135.76	866.96	1,349.50	1,485.62	0.00	0.00	0.00	0.00
8,700.00	91.26	90.45	7,133.56	866.17	1,449.47	1,583.76	0.00	0.00	0.00	0.00
8,800.00	91.26	90.45	7,131.35	865.38	1,549.44	1,681.89	0.00	0.00	0.00	0.00
8,900.00	91.26	90.45	7,129.15	864.59	1,649.41	1,780.02	0.00	0.00	0.00	0.00
9,000.00	91.26	90.45	7,126.94	863.79	1,749.39	1,878.15	0.00	0.00	0.00	0.00
9,100.00	91.26	90.45	7,124.74	863.00	1,849.36	1,976.28	0.00	0.00	0.00	0.00
9,200.00	91.26	90.45	7,122.53	862.21	1,949.33	2,074.41	0.00	0.00	0.00	0.00
9,300.00	91.26	90.45	7,120.33	861.42	2,049.30	2,172.54	0.00	0.00	0.00	0.00
9,400.00	91.26	90.45	7,118.12	860.63	2,149.28	2,270.67	0.00	0.00	0.00	0.00
9,500.00	91.26	90.45	7,115.92	859.84	2,249.25	2,368.81	0.00	0.00	0.00	0.00
9,600.00	91.26	90.45	7,113.71	859.05	2,349.22	2,466.94	0.00	0.00	0.00	0.00
Hold Angle at 91.26°										
9,700.00	91.26	90.45	7,111.51	858.26	2,449.19	2,565.07	0.00	0.00	0.00	0.00
9,800.00	91.26	90.45	7,109.30	857.47	2,549.17	2,663.20	0.00	0.00	0.00	0.00
9,900.00	91.26	90.45	7,107.10	856.68	2,649.14	2,761.33	0.00	0.00	0.00	0.00
10,000.00	91.26	90.45	7,104.89	855.89	2,749.11	2,859.46	0.00	0.00	0.00	0.00
10,100.00	91.26	90.45	7,102.69	855.10	2,849.08	2,957.59	0.00	0.00	0.00	0.00
10,200.00	91.26	90.45	7,100.48	854.31	2,949.06	3,055.73	0.00	0.00	0.00	0.00
10,300.00	91.26	90.45	7,098.27	853.52	3,049.03	3,153.86	0.00	0.00	0.00	0.00
10,400.00	91.26	90.45	7,096.07	852.73	3,149.00	3,251.99	0.00	0.00	0.00	0.00

Plan Report for Deering 33-3H - Rev A0 (Permitting Plan Only)

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
10,500.00	91.26	90.45	7,093.86	851.94	3,248.97	3,350.12	0.00	0.00	0.00	0.00
10,600.00	91.26	90.45	7,091.66	851.15	3,348.95	3,448.25	0.00	0.00	0.00	0.00
10,700.00	91.26	90.45	7,089.45	850.36	3,448.92	3,546.38	0.00	0.00	0.00	0.00
10,800.00	91.26	90.45	7,087.25	849.56	3,548.89	3,644.51	0.00	0.00	0.00	0.00
10,900.00	91.26	90.45	7,085.04	848.77	3,648.87	3,742.64	0.00	0.00	0.00	0.00
11,000.00	91.26	90.45	7,082.84	847.98	3,748.84	3,840.78	0.00	0.00	0.00	0.00
11,100.00	91.26	90.45	7,080.63	847.19	3,848.81	3,938.91	0.00	0.00	0.00	0.00
11,200.00	91.26	90.45	7,078.43	846.40	3,948.78	4,037.04	0.00	0.00	0.00	0.00
11,300.00	91.26	90.45	7,076.22	845.61	4,048.76	4,135.17	0.00	0.00	0.00	0.00
11,400.00	91.26	90.45	7,074.02	844.82	4,148.73	4,233.30	0.00	0.00	0.00	0.00
11,500.00	91.26	90.45	7,071.81	844.03	4,248.70	4,331.43	0.00	0.00	0.00	0.00
11,600.00	91.26	90.45	7,069.61	843.24	4,348.67	4,429.56	0.00	0.00	0.00	0.00
11,700.00	91.26	90.45	7,067.40	842.45	4,448.65	4,527.70	0.00	0.00	0.00	0.00
11,763.55	91.26	90.45	7,066.00	841.95	4,512.18	4,590.06	0.00	0.00	0.00	0.00
Total Depth at 11763.55ft										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
800.00	800.00	0.00	0.00	Begin 2.5°/100ft Nudge to 13.0° Inclination at 800.00ft
1,320.00	1,315.55	55.60	-18.95	Begin 3610.79ft Tangent at 1320.00ft
4,930.79	4,833.80	824.40	-281.05	Begin 2.5°/100ft Drop to Vertical at 4930.79ft
5,450.79	5,349.35	880.00	-300.00	End of Drop at 5450.79ft
6,541.42	6,439.98	880.00	-300.00	KOP - Begin 8.0°/100ft Build at 6541.42ft
7,682.22	7,156.00	874.21	431.97	End of Build at 7682.22ft
9,600.00	7,113.71	859.05	2,349.22	Hold Angle at 91.26°
11,763.55	7,066.00	841.95	4,512.18	Total Depth at 11763.55ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Deering 33-3H_RevA0_BHL Tgt	79.43	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,682.22	Rev A0 (Permitting Plan Only)	MWD
7,682.22	11,913.55	Rev A0 (Permitting Plan Only)	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,682.22	7,156.00	7" Csg	7	8-3/4

Plan Report for Deering 33-3H - Rev A0 (Permitting Plan Only)**Targets associated with this wellbore**

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Deering_Camenisch 32-9	0.00	-1,030.96	-1,021.38	Circle
Stroh_Sunmarke 19-28-11_BHL	-84.00	4,338.09	1,628.27	Circle
Stroh_Stroh 28-10	-31.00	4,313.53	2,971.43	Circle
Stroh_Stroh 23-28	-31.00	3,533.86	2,466.50	Circle
Stroh_Spaur 1	-31.00	4,318.87	1,608.48	Circle
Deering_Anderson 12-32	0.00	-910.33	-4,649.24	Circle
Deering_Anderson 1	0.00	-892.32	-3,334.83	Circle
Stroh_Frank 1 (B)	-31.00	1,131.53	4,271.03	Circle
Deering_Hepp 32-5	0.00	557.84	-4,749.42	Circle
Deering_Stroh 7-33	0.00	328.05	3,002.60	Circle
Stroh_Koester 18-33-6_BHL	-33.00	357.54	1,645.40	Circle
Stroh_Stroh 33-2	-31.00	1,665.04	2,980.12	Circle
Stroh_Koester 3-33-3_BHL	-64.00	1,643.27	1,683.45	Circle
Stroh_Sunmarke 15-28	-31.00	3,282.39	1,021.21	Circle
Deering_Stroh 33-4	0.00	324.60	4,311.36	Circle
Stroh_Stroh 28-16	-31.00	2,958.71	5,320.96	Circle
Stroh_Stroh 2	-31.00	3,355.45	3,303.57	Circle
Deering_Camenisch 32-10	0.00	-735.79	-2,277.16	Circle
Stroh_Sunmarke 19-28-14_BHL	-84.00	3,008.95	1,620.02	Circle
Stroh_Koester 18-33	-31.00	710.39	563.68	Circle
Stroh_Stroh 39-28R	-31.00	3,450.41	4,748.87	Circle
Stroh 28-1H_Sec. 33 Lines	-31.00	2,594.30	4,768.56	Polygon
Stroh_Sunmarke 19-28-12_BHL	-84.00	4,319.43	305.95	Circle
Deering_Hepp 22-32R	0.00	33.12	-4,107.69	Circle
Deering 33-1H_Sec. 32 N Half 460' Setback	0.00	40.07	0.00	Polygon
Stroh_Stroh 38-28R	-31.00	2,448.57	4,754.64	Circle
Stroh_Koester 3-33-21_BHL	-63.00	1,031.46	2,147.99	Circle
Stroh_Stroh 33-1	-31.00	1,661.57	4,171.60	Circle
Deering 33-1H_Sec. 32 N Half Lines	0.00	40.07	0.00	Polygon
Deering_Camenisch 9-32-40R	0.00	-998.17	-996.27	Circle
Stroh_Frank 1	-31.00	1,976.40	1,642.11	Circle
Deering 33-3H_RevA0_BHL Tgt	7,066.00	841.95	4,512.18	Point
Stroh_Stroh 28-33R	-31.00	2,175.01	2,466.64	Circle
Stroh_Sunmarke 19-28-13_BHL	-84.00	3,010.85	269.98	Circle
Stroh_Koester 18-33-4_BHL	-31.00	1,720.02	347.46	Circle
Stroh 28-1H_Sec. 33 460' Setback	-31.00	2,594.30	4,768.56	Polygon
Stroh_Stroh 1	-31.00	637.75	3,298.35	Circle
Deering_Camenisch 7-32-25R	0.00	229.62	-2,408.23	Circle
Stroh_Koester 18-33-5_BHL	-30.00	294.65	231.53	Circle
Stroh_Stroh 15-28	-31.00	2,954.67	2,943.69	Circle
Stroh_Koester 18-33-22_BHL	-31.00	-90.34	995.48	Circle
Stroh_Stroh 41-33R	-31.00	816.49	4,766.12	Circle
Stroh_Koester 3-33-29_BHL	-65.00	2,174.73	983.27	Circle
Deering_Hepp 32-6	0.00	499.34	-3,502.08	Circle
Deering_Camenisch 41-32	0.00	266.05	-2,369.16	Circle
Stroh_Stroh 28-9	-31.00	4,273.65	4,288.35	Circle

North Reference Sheet for Sec. 33-T4N-R67W (Deering 33H Pad) - Deering 33-3H - 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 GL @ 4905.00ft (Ground Level). Northing and Easting are relative to Deering 33-3H - Slot A3

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.50°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 47' 0.000 N°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995690

Grid Coordinates of Well: 1,341,830.79 ft N, 3,166,345.03 ft E

Geographical Coordinates of Well: 40° 16' 12.68" N, 104° 54' 13.93" W

Grid Convergence at Surface is: 0.39°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,913.55ft the Bottom Hole Displacement is 4,737.34ft in the Direction of 79.78° (True).

Magnetic Convergence at surface is: -8.29° (24 July 2013, , BGGM2013)

