



Laramie Energy, LLC

**Mesa County, CO
Currier 0993-16-07 Pad
Currier 0993-16-03M**

**OH
Design #2**

KLX Anticollision Report

19 September, 2025





Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference	Design #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	9/19/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	7,952.1	Design #2 (OH)	OWSG (REV5) MWD HD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Currier 0993-16-07 Pad						
(Offset) Buzzard Creek 15-12 - Wellbore #1 - Wellbore #	147.7	7.3	2,727.7	2,726.6	2,383.754	CC
(Offset) Buzzard Creek 15-12 - Wellbore #1 - Wellbore #	300.0	151.2	2,728.0	2,725.2	950.516	ES
(Offset) Buzzard Creek 15-12 - Wellbore #1 - Wellbore #	7,952.1	7,904.4	4,042.1	3,985.3	71.181	SF
(Offset) Buzzard Creek 16-1 - Wellbore #1 - Wellbore #1	7,952.1	7,961.1	1,932.7	1,880.4	36.971	CC, ES, SF
(Offset) Buzzard Creek 16-10 - Wellbore #1 - Wellbore #	6,905.4	6,914.6	2,441.3	2,377.7	38.382	CC, ES
(Offset) Buzzard Creek 16-10 - Wellbore #1 - Wellbore #	7,952.1	7,976.1	2,445.0	2,379.3	37.257	SF
(Offset) Buzzard Creek 16-12 - Wellbore #1 - Wellbore #	212.8	0.0	2,585.4	2,584.0	1,777.733	CC
(Offset) Buzzard Creek 16-12 - Wellbore #1 - Wellbore #	400.0	145.8	2,587.2	2,581.1	424.428	ES
(Offset) Buzzard Creek 16-12 - Wellbore #1 - Wellbore #	7,952.1	7,639.0	3,029.1	2,965.3	47.459	SF
(Offset) Buzzard Creek 16-8 - Wellbore #1 - Wellbore #1	2,749.1	2,782.9	1,887.9	1,867.9	94.409	CC
(Offset) Buzzard Creek 16-8 - Wellbore #1 - Wellbore #1	2,800.0	2,824.2	1,888.1	1,867.8	92.991	ES
(Offset) Buzzard Creek 16-8 - Wellbore #1 - Wellbore #1	7,900.0	7,820.0	2,148.4	2,098.2	42.831	SF
(Offset) Buzzard Creek 21-1 - Wellbore #1 - Wellbore #1	140.0	0.0	2,699.8	2,698.7	2,593.233	CC
(Offset) Buzzard Creek 21-1 - Wellbore #1 - Wellbore #1	300.0	130.0	2,700.2	2,697.7	1,101.186	ES
(Offset) Buzzard Creek 21-1 - Wellbore #1 - Wellbore #1	6,000.0	4,424.6	4,976.9	4,928.0	101.744	SF
(Offset) Currier 9-15 - Wellbore #1 - Wellbore #1	2,304.7	2,051.4	881.7	863.0	47.129	CC, ES
(Offset) Currier 9-15 - Wellbore #1 - Wellbore #1	7,300.0	7,374.9	1,712.9	1,652.6	28.394	SF
(Offset) Currier Family 16-3 - Wellbore #1 - Wellbore #1	5,217.6	5,039.9	574.5	527.0	12.096	CC
(Offset) Currier Family 16-3 - Wellbore #1 - Wellbore #1	5,300.0	5,123.1	574.6	526.5	11.934	ES
(Offset) Currier Family 16-3 - Wellbore #1 - Wellbore #1	7,952.1	7,870.1	751.9	687.3	11.639	SF
Currier 0993-16-01M - OH - Design #2	200.0	200.0	10.0	7.2	3.532	CC, ES
Currier 0993-16-01M - OH - Design #2	500.0	498.7	17.7	10.7	2.515	SF
Currier 0993-16-04M - OH - Design #3	300.0	300.0	10.0	6.6	2.960	CC
Currier 0993-16-04M - OH - Design #3	400.0	400.1	10.8	6.6	2.558	ES, SF
Currier BCU 0993-16-05M - OH - Design #2	200.0	200.0	30.0	27.2	10.603	CC
Currier BCU 0993-16-05M - OH - Design #2	300.0	300.0	30.0	26.4	8.358	ES
Currier BCU 0993-16-05M - OH - Design #2	800.0	804.5	56.5	47.2	6.116	SF
Currier BCU 0993-16-06W - OH - Design #2	200.0	200.0	40.0	37.2	14.142	CC
Currier BCU 0993-16-06W - OH - Design #2	300.0	300.0	40.0	36.5	11.144	ES
Currier BCU 0993-16-06W - OH - Design #2	600.0	598.7	52.9	46.4	8.165	SF
Currier BCU 0993-16-07M - OH - Design #2	200.0	200.0	50.0	47.2	17.674	CC
Currier BCU 0993-16-07M - OH - Design #2	300.0	300.0	50.0	46.4	13.924	ES
Currier BCU 0993-16-07M - OH - Design #2	600.0	596.9	65.4	58.6	9.673	SF
Currier BCU 0993-16-08M - OH - Design #2	200.0	200.0	70.0	67.2	24.747	CC
Currier BCU 0993-16-08M - OH - Design #2	300.0	300.0	70.1	66.5	19.493	ES
Currier BCU 0993-16-08M - OH - Design #2	700.0	698.5	90.7	83.1	11.943	SF
Currier BCU 0993-16-09M - OH - Design #2	200.0	200.0	51.0	48.2	18.024	CC

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



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Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
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Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Currier 0993-16-07 Pad						
Currier BCU 0993-16-09M - OH - Design #2	300.0	299.5	51.2	47.8	15.075	ES
Currier BCU 0993-16-09M - OH - Design #2	500.0	494.9	66.1	59.4	9.758	SF
Currier BCU 0993-16-11E - OH - Design #2	200.0	200.0	14.1	11.3	4.994	CC, ES
Currier BCU 0993-16-11E - OH - Design #2	400.0	398.3	22.9	17.0	3.853	SF
Currier BCU 0993-16-13E - OH - Design #2	200.0	200.0	10.0	7.2	3.534	CC
Currier BCU 0993-16-13E - OH - Design #2	204.4	204.4	10.0	7.1	3.504	ES
Currier BCU 0993-16-13E - OH - Design #2	300.0	299.8	10.6	7.2	3.139	SF
Currier BCU 0993-16-13W - OH - Design #2	200.0	200.0	60.8	58.0	21.505	CC
Currier BCU 0993-16-13W - OH - Design #2	204.4	204.4	60.8	58.0	21.347	ES
Currier BCU 0993-16-13W - OH - Design #2	500.0	491.2	81.7	74.1	10.851	SF
Currier BCU 0993-16-14E - OH - Design #2	108.3	108.3	14.1	12.5	8.418	CC
Currier BCU 0993-16-14E - OH - Design #2	200.0	199.9	14.2	11.6	5.365	ES
Currier BCU 0993-16-14E - OH - Design #2	400.0	397.9	26.2	19.8	4.128	SF
Currier BCU 0993-16-14W - OH - Design #2	200.0	200.0	41.2	38.4	14.577	CC, ES
Currier BCU 0993-16-14W - OH - Design #2	500.0	492.7	65.4	57.7	8.524	SF
Currier BCU 0993-16-15E - OH - Design #2	200.0	200.0	22.4	19.5	7.905	CC, ES
Currier BCU 0993-16-15E - OH - Design #2	400.0	397.9	31.4	25.5	5.371	SF
Currier BCU 0993-16-15W - OH - Design #2	113.0	113.0	31.6	29.9	18.180	CC
Currier BCU 0993-16-15W - OH - Design #2	200.0	199.9	31.6	28.9	11.578	ES
Currier BCU 0993-16-15W - OH - Design #2	500.0	493.9	56.3	47.9	6.694	SF
Currier BCU Fed 0993-16-12W - OH - Design #2	113.0	113.0	70.7	69.0	40.660	CC
Currier BCU Fed 0993-16-12W - OH - Design #2	200.0	199.8	70.7	68.0	25.886	ES
Currier BCU Fed 0993-16-12W - OH - Design #2	500.0	491.2	91.8	85.1	13.740	SF

Offset Design											Offset Site Error:	0.0 usft
Currier 0993-16-07 Pad - (Offset) Buzzard Creek 15-12 - Wellbore #1 - Wellbore #1											Offset Well Error:	0.0 usft
Survey Program: 219-OWSG (REV5) MWD HDGM Standard												
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	134.85	-1,923.6	1,933.9	2,731.3			
100.0	100.0	0.0	0.0	0.8	0.0	134.85	-1,923.6	1,933.9	2,728.0	2,727.2	3,441.358	
147.7	147.7	7.3	7.3	1.1	0.1	134.85	-1,923.6	1,933.9	2,727.7	2,726.6	2,383.754	CC
200.0	200.0	56.7	56.7	1.4	0.4	134.85	-1,923.7	1,934.0	2,727.7	2,725.9	1,479.741	
300.0	300.0	151.2	151.2	1.7	1.1	147.39	-1,923.9	1,934.0	2,728.0	2,725.2	950.516	ES
400.0	400.0	239.4	239.4	2.5	1.8	147.39	-1,924.3	1,934.2	2,730.5	2,726.4	653.767	
500.0	499.8	313.8	313.8	3.6	2.2	147.37	-1,924.7	1,935.1	2,736.8	2,731.4	503.094	
600.0	599.3	490.5	490.5	4.5	2.9	147.43	-1,922.9	1,935.8	2,743.7	2,736.9	400.968	
700.0	698.5	546.9	546.8	5.3	3.0	147.37	-1,922.1	1,936.3	2,754.2	2,746.5	355.902	
800.0	797.1	625.6	625.5	6.0	3.4	147.32	-1,921.2	1,938.5	2,769.1	2,760.4	315.599	
900.0	895.2	735.6	735.4	6.7	3.9	147.26	-1,918.2	1,942.6	2,786.5	2,776.7	283.241	
1,000.0	992.4	814.7	814.4	7.3	4.1	147.15	-1,915.7	1,946.2	2,807.1	2,796.6	265.642	
1,100.0	1,089.1	898.9	898.4	7.6	4.2	147.21	-1,913.2	1,950.8	2,830.7	2,819.7	257.463	
1,200.0	1,185.6	1,004.1	1,003.4	7.9	4.4	147.36	-1,909.2	1,957.4	2,854.3	2,842.8	247.584	
1,300.0	1,282.2	1,101.9	1,100.8	8.2	4.7	147.50	-1,905.3	1,963.5	2,877.8	2,865.7	237.966	
1,400.0	1,378.8	1,196.6	1,195.4	8.6	5.0	147.63	-1,901.5	1,969.3	2,901.4	2,888.7	230.003	
1,500.0	1,475.4	1,315.8	1,314.1	8.9	5.4	147.78	-1,896.4	1,976.9	2,924.8	2,911.6	221.270	
1,600.0	1,571.9	1,437.4	1,435.3	9.3	5.9	147.90	-1,888.8	1,984.8	2,946.9	2,933.1	212.335	
1,700.0	1,668.5	1,519.2	1,516.7	9.7	6.2	147.98	-1,884.0	1,990.1	2,969.3	2,954.8	205.517	
1,800.0	1,765.1	1,627.6	1,624.7	10.1	6.6	148.09	-1,877.6	1,997.1	2,991.7	2,976.6	198.142	
1,900.0	1,861.7	1,728.5	1,725.2	10.5	7.0	148.18	-1,871.4	2,003.6	3,013.9	2,998.2	191.598	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



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Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 219-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
2,000.0	1,958.3	1,820.3	1,816.7	10.9	7.4	148.27	-1,865.6	2,009.6	3,036.1	3,019.7	185.786		
2,100.0	2,054.8	1,908.8	1,904.8	11.3	7.8	148.34	-1,860.2	2,015.5	3,058.6	3,041.6	180.462		
2,200.0	2,151.4	2,004.1	1,999.7	11.8	8.1	148.43	-1,854.5	2,022.1	3,081.2	3,063.6	175.291		
2,300.0	2,248.0	2,089.3	2,084.5	12.2	8.5	148.50	-1,849.5	2,028.2	3,104.1	3,085.9	170.738		
2,400.0	2,344.6	2,176.3	2,171.2	12.6	8.8	148.57	-1,844.6	2,034.6	3,127.3	3,108.5	166.434		
2,500.0	2,441.1	2,263.0	2,257.5	13.1	9.2	148.64	-1,840.0	2,041.0	3,150.8	3,131.4	162.397		
2,600.0	2,537.7	2,352.1	2,346.2	13.5	9.5	148.72	-1,835.4	2,047.7	3,174.6	3,154.5	158.557		
2,700.0	2,634.3	2,470.0	2,463.7	14.0	10.0	148.81	-1,829.4	2,056.8	3,198.4	3,177.7	154.318		
2,800.0	2,730.9	2,581.7	2,574.9	14.4	10.4	148.90	-1,822.8	2,064.9	3,221.4	3,200.0	150.440		
2,900.0	2,827.4	2,676.2	2,669.0	14.9	10.8	148.97	-1,817.2	2,071.7	3,244.3	3,222.3	147.120		
3,000.0	2,924.0	2,765.2	2,757.5	15.3	11.2	149.03	-1,811.8	2,078.4	3,267.4	3,244.8	144.094		
3,100.0	3,020.6	2,863.6	2,855.4	15.8	11.6	149.09	-1,805.9	2,086.0	3,290.7	3,267.3	141.054		
3,200.0	3,117.2	2,960.8	2,952.1	16.2	12.0	149.15	-1,800.0	2,093.5	3,313.9	3,289.9	138.179		
3,300.0	3,213.7	3,063.5	3,054.3	16.7	12.4	149.20	-1,793.3	2,101.9	3,337.1	3,312.4	135.458		
3,400.0	3,310.3	3,166.9	3,157.0	17.2	12.8	149.24	-1,785.8	2,110.8	3,360.0	3,334.7	132.938		
3,500.0	3,406.9	3,257.0	3,246.5	17.6	13.1	149.26	-1,778.6	2,119.4	3,382.9	3,357.0	130.582		
3,600.0	3,503.5	3,349.4	3,338.1	18.1	13.5	149.26	-1,771.0	2,128.7	3,406.2	3,379.6	128.282		
3,700.0	3,600.0	3,472.2	3,459.7	18.6	14.0	149.25	-1,760.0	2,141.7	3,429.2	3,401.9	125.725		
3,800.0	3,696.6	3,561.5	3,548.0	19.1	14.4	149.22	-1,750.8	2,151.6	3,451.6	3,423.7	123.671		
3,900.0	3,793.2	3,645.7	3,630.9	19.5	14.8	149.16	-1,741.2	2,162.7	3,474.6	3,446.1	121.724		
4,000.0	3,889.8	3,727.8	3,711.3	20.0	15.2	149.07	-1,730.7	2,175.1	3,497.8	3,468.6	119.819		
4,100.0	3,986.3	3,784.0	3,766.1	20.5	15.5	148.98	-1,722.8	2,184.8	3,521.8	3,492.0	118.358		
4,200.0	4,082.9	3,846.3	3,826.6	21.0	15.9	148.87	-1,713.9	2,196.8	3,546.8	3,516.4	116.766		
4,300.0	4,179.5	3,907.1	3,885.3	21.4	16.2	148.75	-1,705.1	2,209.8	3,573.0	3,542.0	115.273		
4,400.0	4,276.1	3,970.0	3,945.7	21.9	16.6	148.60	-1,695.4	2,224.5	3,599.9	3,568.3	113.797		
4,500.0	4,372.7	4,062.8	4,034.2	22.4	17.0	148.34	-1,680.2	2,248.0	3,627.5	3,595.1	111.904		
4,600.0	4,469.2	4,179.0	4,144.1	22.9	17.6	147.99	-1,658.8	2,279.1	3,654.7	3,621.4	109.519		
4,700.0	4,565.8	4,261.1	4,221.0	23.4	18.1	147.70	-1,642.3	2,302.5	3,682.1	3,647.9	107.727		
4,800.0	4,662.4	4,341.0	4,295.7	23.8	18.5	147.42	-1,626.2	2,325.8	3,709.9	3,674.9	106.016		
4,900.0	4,759.0	4,426.7	4,375.9	24.3	18.9	147.13	-1,609.1	2,351.0	3,738.2	3,702.3	104.232		
5,000.0	4,855.5	4,565.3	4,505.3	24.8	19.6	146.65	-1,580.8	2,391.6	3,766.3	3,729.2	101.536		
5,100.0	4,952.1	4,701.9	4,632.5	25.3	20.3	146.17	-1,550.7	2,431.1	3,793.1	3,754.8	98.954		
5,200.0	5,048.7	4,776.3	4,701.7	25.8	20.7	145.91	-1,533.9	2,452.7	3,819.8	3,780.6	97.534		
5,300.0	5,145.3	4,838.0	4,759.1	26.2	21.0	145.81	-1,520.2	2,471.0	3,847.0	3,807.1	96.442		
5,400.0	5,242.6	4,897.3	4,814.2	26.8	21.3	145.89	-1,507.4	2,488.9	3,873.0	3,832.4	95.298		
5,500.0	5,340.7	4,961.0	4,873.2	27.3	21.6	145.92	-1,494.1	2,508.6	3,897.3	3,855.9	94.071		
5,600.0	5,439.3	5,048.0	4,953.8	27.8	22.0	145.80	-1,476.2	2,536.0	3,919.5	3,877.1	92.502		
5,700.0	5,538.5	5,145.1	5,043.8	28.3	22.5	145.60	-1,456.1	2,566.3	3,938.8	3,895.5	90.866		
5,800.0	5,638.1	5,301.0	5,188.1	28.8	23.3	145.04	-1,422.5	2,615.2	3,955.4	3,910.6	88.424		
5,900.0	5,737.9	5,488.6	5,361.9	29.2	24.3	144.25	-1,379.0	2,670.4	3,966.5	3,920.2	85.695		
6,000.0	5,837.9	5,577.0	5,443.9	29.6	24.7	143.89	-1,357.8	2,695.9	3,974.5	3,927.5	84.511		
6,100.0	5,937.9	5,656.7	5,517.9	29.6	25.1	130.94	-1,339.1	2,718.8	3,981.2	3,933.7	83.846		
6,200.0	6,037.9	5,739.0	5,594.8	29.7	25.6	130.53	-1,321.0	2,742.0	3,988.6	3,940.6	83.200		
6,300.0	6,137.9	5,831.1	5,681.3	29.7	26.1	130.08	-1,301.8	2,767.0	3,996.3	3,947.9	82.469		
6,400.0	6,237.9	5,934.1	5,778.8	29.8	26.7	129.62	-1,282.1	2,793.6	4,004.3	3,955.3	81.653		
6,500.0	6,337.9	6,034.6	5,874.7	29.8	27.3	129.21	-1,264.6	2,817.9	4,012.3	3,962.7	80.940		
6,600.0	6,437.9	6,135.8	5,972.0	29.8	27.8	128.82	-1,248.5	2,841.2	4,020.4	3,970.3	80.316		
6,700.0	6,537.9	6,305.2	6,136.0	29.9	28.6	128.25	-1,224.9	2,875.8	4,028.1	3,977.2	79.156		
6,800.0	6,637.9	6,443.7	6,270.8	29.9	29.3	127.80	-1,205.3	2,901.2	4,033.8	3,982.3	78.315		
6,900.0	6,737.9	6,590.9	6,415.0	29.9	30.0	127.40	-1,186.9	2,924.2	4,038.7	3,986.6	77.537		
7,000.0	6,837.9	6,714.9	6,537.1	30.0	30.5	127.10	-1,173.5	2,941.2	4,043.0	3,990.5	76.986		
7,100.0	6,937.9	6,901.5	6,721.5	30.0	31.3	126.71	-1,154.5	2,962.1	4,045.9	3,992.8	76.144		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Currier 0993-16-07 Pad - (Offset) Buzzard Creek 15-12 - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 usft	
Survey Program: 219-OWSG (REV5) MWD HDGM Standard														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning		
7,200.0	7,037.9	7,060.3	6,879.0	30.1	32.1	126.42	-1,139.3	2,975.7	4,047.1	3,993.5	75.460			
7,300.0	7,137.9	7,167.9	6,985.9	30.1	32.7	126.24	-1,129.5	2,983.3	4,047.4	3,993.4	74.886			
7,400.0	7,237.9	7,271.1	7,088.6	30.1	33.2	126.10	-1,121.4	2,989.6	4,047.7	3,993.2	74.326			
7,500.0	7,337.9	7,374.5	7,191.6	30.2	33.7	125.98	-1,114.6	2,994.8	4,047.9	3,993.0	73.770			
7,600.0	7,437.9	7,500.9	7,317.7	30.2	34.4	125.86	-1,107.7	2,999.7	4,047.8	3,992.4	73.098			
7,700.0	7,537.9	7,637.8	7,454.5	30.3	35.1	125.76	-1,101.1	3,002.8	4,046.9	3,990.9	72.370			
7,800.0	7,637.9	7,774.9	7,591.4	30.3	35.8	125.68	-1,095.4	3,003.8	4,045.0	3,988.5	71.642			
7,900.0	7,737.9	7,857.7	7,674.1	30.3	36.0	125.65	-1,092.6	3,003.8	4,043.0	3,986.3	71.350			
7,952.1	7,790.0	7,904.4	7,720.9	30.4	36.1	125.64	-1,091.3	3,003.6	4,042.1	3,985.3	71.181	SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 200-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	67.13	771.6	1,829.0	1,985.1				
100.0	100.0	91.8	91.8	0.8	0.7	67.12	771.7	1,829.0	1,985.1	1,983.6	1,376.581		
200.0	200.0	192.8	192.8	1.4	1.4	67.11	771.9	1,828.8	1,985.0	1,982.2	714.343		
300.0	300.0	292.8	292.8	1.7	2.3	79.64	772.3	1,828.5	1,984.9	1,980.9	491.229		
400.0	400.0	392.8	392.8	2.5	3.4	79.71	772.7	1,828.3	1,984.4	1,978.9	364.013		
500.0	499.8	493.3	493.3	3.6	5.4	79.89	773.1	1,828.0	1,983.2	1,975.3	251.708		
600.0	599.3	593.5	593.5	4.5	7.5	80.17	773.6	1,827.6	1,981.4	1,971.2	193.069		
700.0	698.5	693.4	693.4	5.3	9.6	80.57	774.3	1,827.1	1,979.1	1,966.5	156.826		
800.0	797.1	792.9	792.9	6.0	11.6	81.06	775.1	1,826.6	1,976.2	1,961.3	132.086		
900.0	895.2	891.8	891.8	6.7	13.6	81.66	776.0	1,825.9	1,972.9	1,955.6	114.048		
1,000.0	992.4	989.5	989.5	7.3	15.4	82.35	777.0	1,825.2	1,969.3	1,950.0	101.912		
1,100.0	1,089.1	1,082.0	1,082.0	7.6	15.6	83.03	777.7	1,824.7	1,965.7	1,945.9	99.472		
1,200.0	1,185.6	1,176.4	1,176.3	7.9	15.8	83.72	778.3	1,824.4	1,962.5	1,942.2	96.771		
1,300.0	1,282.2	1,269.1	1,269.1	8.2	15.9	84.40	779.1	1,824.3	1,959.8	1,939.0	94.132		
1,400.0	1,378.8	1,365.4	1,365.3	8.6	16.2	85.10	780.1	1,824.2	1,957.7	1,936.3	91.470		
1,500.0	1,475.4	1,468.6	1,468.6	8.9	16.5	85.85	781.3	1,823.9	1,955.6	1,933.5	88.665		
1,600.0	1,571.9	1,571.9	1,571.9	9.3	16.7	86.59	782.5	1,823.3	1,953.5	1,930.8	85.996		
1,700.0	1,668.5	1,669.1	1,669.0	9.7	17.0	87.29	783.8	1,822.4	1,951.6	1,928.2	83.476		
1,800.0	1,765.1	1,765.5	1,765.4	10.1	17.3	87.98	785.2	1,821.6	1,950.0	1,925.9	81.095		
1,900.0	1,861.7	1,862.1	1,862.0	10.5	17.6	88.67	786.6	1,820.7	1,948.7	1,924.0	78.850		
2,000.0	1,958.3	1,959.2	1,959.1	10.9	17.9	89.36	788.3	1,819.8	1,947.7	1,922.4	76.743		
2,100.0	2,054.8	2,056.3	2,056.2	11.3	18.2	90.05	790.1	1,818.9	1,947.1	1,921.0	74.744		
2,200.0	2,151.4	2,152.7	2,152.5	11.8	18.5	90.72	792.1	1,817.9	1,946.7	1,920.0	72.874		
2,257.8	2,207.2	2,208.2	2,208.0	12.0	18.7	91.11	793.3	1,817.4	1,946.6	1,919.5	71.842		
2,300.0	2,248.0	2,248.7	2,248.5	12.2	18.8	91.39	794.2	1,817.0	1,946.7	1,919.3	71.109		
2,400.0	2,344.6	2,344.5	2,344.3	12.6	19.1	92.05	796.5	1,816.1	1,947.0	1,918.9	69.436		
2,500.0	2,441.1	2,438.2	2,437.9	13.1	19.3	92.70	798.7	1,815.3	1,947.7	1,919.0	67.883		
2,600.0	2,537.7	2,531.8	2,531.5	13.5	19.6	93.35	800.9	1,814.8	1,948.9	1,919.6	66.409		
2,700.0	2,634.3	2,626.0	2,625.7	14.0	19.9	94.00	803.0	1,814.4	1,950.5	1,920.5	65.009		
2,800.0	2,730.9	2,721.0	2,720.6	14.4	20.2	94.67	805.2	1,814.1	1,952.6	1,921.9	63.676		
2,900.0	2,827.4	2,815.9	2,815.6	14.9	20.5	95.32	807.3	1,813.9	1,955.0	1,923.7	62.407		
3,000.0	2,924.0	2,913.6	2,913.3	15.3	20.7	96.00	809.5	1,813.8	1,957.8	1,925.9	61.265		
3,100.0	3,020.6	3,012.0	3,011.6	15.8	20.9	96.69	811.5	1,813.6	1,960.8	1,928.3	60.187		
3,200.0	3,117.2	3,113.9	3,113.4	16.2	21.1	97.39	813.8	1,813.3	1,964.0	1,930.9	59.261		
3,300.0	3,213.7	3,221.3	3,220.8	16.7	21.4	98.06	818.4	1,812.4	1,967.1	1,933.4	58.445		
3,400.0	3,310.3	3,333.8	3,332.8	17.2	21.7	98.63	827.7	1,810.4	1,969.8	1,935.6	57.644		
3,500.0	3,406.9	3,447.7	3,445.8	17.6	22.0	99.07	842.1	1,807.1	1,971.8	1,937.1	56.840		
3,600.0	3,503.5	3,537.8	3,534.7	18.1	22.3	99.32	856.3	1,804.3	1,973.8	1,938.6	56.080		
3,700.0	3,600.0	3,641.8	3,636.8	18.6	22.5	99.54	875.5	1,801.1	1,976.0	1,940.3	55.331		
3,800.0	3,696.6	3,769.0	3,760.6	19.1	23.0	99.64	904.3	1,795.9	1,977.4	1,941.1	54.546		
3,900.0	3,793.2	3,878.1	3,865.9	19.5	23.3	99.63	932.5	1,790.0	1,977.7	1,940.9	53.754		
4,000.0	3,889.8	3,988.8	3,971.9	20.0	23.6	99.54	963.6	1,783.7	1,977.7	1,940.3	52.958		
4,100.0	3,986.3	4,084.3	4,062.7	20.5	23.9	99.39	992.6	1,777.8	1,977.4	1,939.5	52.172		
4,200.0	4,082.9	4,190.5	4,163.3	21.0	24.2	99.18	1,026.3	1,771.3	1,977.2	1,938.7	51.381		
4,300.0	4,179.5	4,288.7	4,255.8	21.4	24.4	98.97	1,058.2	1,765.0	1,976.9	1,937.8	50.598		
4,400.0	4,276.1	4,392.9	4,354.1	21.9	24.7	98.73	1,092.4	1,758.5	1,976.7	1,937.0	49.813		
4,500.0	4,372.7	4,506.9	4,461.8	22.4	25.1	98.50	1,128.7	1,750.0	1,975.1	1,934.8	48.954		
4,562.5	4,433.0	4,547.4	4,500.1	22.7	25.2	98.42	1,141.6	1,747.3	1,974.8	1,934.0	48.486		
4,600.0	4,469.2	4,579.8	4,530.7	22.9	25.3	98.35	1,152.1	1,745.4	1,974.8	1,933.9	48.207		
4,700.0	4,565.8	4,699.6	4,643.6	23.4	25.7	98.09	1,191.2	1,737.6	1,974.4	1,932.8	47.421		
4,800.0	4,662.4	4,809.4	4,747.2	23.8	26.0	97.84	1,227.0	1,729.7	1,973.4	1,931.1	46.644		
4,900.0	4,759.0	4,921.5	4,852.8	24.3	26.4	97.59	1,263.5	1,721.0	1,971.8	1,928.8	45.858		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Currier 0993-16-07 Pad - (Offset) Buzzard Creek 16-1 - Wellbore #1 - Wellbore #1 **Offset Site Error:** 0.0 usft
Survey Program: 200-OWSG (REV5) MWD HDGM Standard **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
5,000.0	4,855.5	5,027.2	4,952.4	24.8	26.8	97.35	1,297.8	1,712.2	1,969.8	1,926.1	45.082	
5,100.0	4,952.1	5,118.3	5,038.6	25.3	27.1	97.18	1,326.4	1,704.8	1,967.8	1,923.4	44.353	
5,200.0	5,048.7	5,197.0	5,113.7	25.8	27.4	97.09	1,349.1	1,699.2	1,966.7	1,921.7	43.694	
5,300.0	5,145.3	5,284.2	5,197.6	26.2	27.7	97.05	1,372.2	1,694.0	1,966.4	1,920.8	43.086	
5,367.7	5,211.1	5,344.6	5,256.1	26.6	27.9	97.03	1,386.9	1,690.8	1,966.4	1,920.3	42.711	
5,400.0	5,242.6	5,371.0	5,281.8	26.8	28.0	97.02	1,392.9	1,689.5	1,966.4	1,920.2	42.540	
5,500.0	5,340.7	5,465.9	5,374.6	27.3	28.5	96.99	1,412.1	1,685.4	1,966.4	1,919.6	42.056	
5,600.0	5,439.3	5,563.9	5,471.2	27.8	28.9	96.96	1,428.3	1,681.7	1,966.2	1,919.0	41.642	
5,700.0	5,538.5	5,650.0	5,556.4	28.3	29.2	96.91	1,440.7	1,678.8	1,965.9	1,918.3	41.310	
5,799.9	5,638.0	5,741.0	5,646.6	28.8	29.4	96.80	1,452.7	1,676.4	1,965.6	1,917.7	41.038	
5,800.0	5,638.1	5,741.0	5,646.6	28.8	29.4	96.80	1,452.7	1,676.4	1,965.6	1,917.7	41.038	
5,900.0	5,737.9	5,819.9	5,724.9	29.2	29.7	96.65	1,462.4	1,675.2	1,966.0	1,917.9	40.860	
6,000.0	5,837.9	5,914.4	5,818.8	29.6	30.0	96.43	1,472.5	1,674.5	1,966.7	1,918.4	40.727	
6,100.0	5,937.9	6,002.5	5,906.6	29.6	30.2	83.67	1,480.2	1,674.4	1,967.5	1,919.1	40.659	
6,200.0	6,037.9	6,100.1	6,004.0	29.7	30.5	83.51	1,485.8	1,675.0	1,968.7	1,920.2	40.599	
6,300.0	6,137.9	6,226.8	6,130.7	29.7	30.8	83.41	1,489.2	1,675.2	1,969.2	1,920.6	40.503	
6,367.9	6,205.7	6,292.5	6,196.4	29.7	31.0	83.37	1,490.6	1,675.0	1,969.1	1,920.5	40.453	
6,400.0	6,237.9	6,320.8	6,224.6	29.8	31.0	83.35	1,491.3	1,674.9	1,969.2	1,920.5	40.433	
6,500.0	6,337.9	6,415.4	6,319.2	29.8	31.2	83.29	1,493.5	1,675.2	1,969.7	1,920.8	40.344	
6,600.0	6,437.9	6,535.4	6,439.2	29.8	31.6	83.20	1,496.5	1,674.8	1,969.6	1,920.5	40.114	
6,700.0	6,537.9	6,655.4	6,559.2	29.9	32.0	83.11	1,499.5	1,673.2	1,968.6	1,919.2	39.871	
6,800.0	6,637.9	6,765.8	6,669.5	29.9	32.3	83.02	1,502.4	1,670.7	1,966.7	1,917.1	39.639	
6,900.0	6,737.9	6,869.5	6,773.1	29.9	32.6	82.93	1,504.9	1,668.2	1,964.6	1,914.7	39.421	
7,000.0	6,837.9	6,963.7	6,867.2	30.0	32.9	82.87	1,507.0	1,665.9	1,962.4	1,912.4	39.218	
7,100.0	6,937.9	7,055.6	6,959.1	30.0	33.1	82.81	1,508.6	1,664.0	1,960.7	1,910.4	39.028	
7,200.0	7,037.9	7,150.0	7,053.4	30.1	33.3	82.78	1,509.7	1,662.6	1,959.3	1,908.9	38.854	
7,300.0	7,137.9	7,254.6	7,158.1	30.1	33.5	82.77	1,509.6	1,661.2	1,957.9	1,907.4	38.705	
7,400.0	7,237.9	7,366.2	7,269.7	30.1	33.7	82.82	1,507.7	1,659.5	1,956.3	1,905.5	38.534	
7,500.0	7,337.9	7,493.5	7,396.9	30.2	34.1	82.80	1,507.9	1,655.9	1,953.5	1,902.5	38.316	
7,600.0	7,437.9	7,611.3	7,514.5	30.2	34.5	82.71	1,510.6	1,650.8	1,949.5	1,898.2	38.008	
7,700.0	7,537.9	7,722.5	7,625.6	30.3	34.9	82.65	1,511.9	1,645.4	1,944.8	1,893.1	37.638	
7,800.0	7,637.9	7,821.8	7,724.7	30.3	35.2	82.62	1,512.0	1,640.3	1,939.7	1,887.7	37.336	
7,900.0	7,737.9	7,913.3	7,816.2	30.3	35.4	82.59	1,512.5	1,635.9	1,935.0	1,882.8	37.089	
7,952.1	7,790.0	7,961.1	7,863.9	30.4	35.4	82.57	1,513.0	1,633.7	1,932.7	1,880.4	36.971	CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 157-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	135.14	-1,923.6	1,914.1	2,717.3				
100.0	100.0	0.0	0.0	0.8	0.0	135.14	-1,923.6	1,914.1	2,714.0	2,713.2	3,423.647		
156.5	156.5	16.8	16.8	1.1	0.1	135.14	-1,923.6	1,914.1	2,713.7	2,712.4	2,176.976		
200.0	200.0	61.1	61.1	1.4	0.4	135.14	-1,923.7	1,914.1	2,713.7	2,711.9	1,517.184		
267.2	267.2	129.5	129.5	1.6	0.8	147.69	-1,923.8	1,913.8	2,713.8	2,711.4	1,122.764		
300.0	300.0	162.7	162.7	1.7	1.0	147.69	-1,924.0	1,913.7	2,713.7	2,710.9	997.059		
400.0	400.0	274.7	274.7	2.5	1.6	147.72	-1,924.2	1,913.2	2,715.6	2,711.6	675.376		
500.0	499.8	408.6	408.5	3.6	2.2	147.79	-1,923.8	1,910.9	2,719.1	2,713.7	499.578		
600.0	599.3	526.4	526.3	4.5	2.6	147.90	-1,923.6	1,907.6	2,725.0	2,718.5	413.374		
700.0	698.5	663.0	662.8	5.3	3.1	148.06	-1,921.8	1,903.1	2,732.6	2,724.9	354.635		
800.0	797.1	784.0	783.7	6.0	3.5	148.21	-1,919.3	1,898.4	2,742.4	2,733.7	314.095		
900.0	895.2	913.5	913.0	6.7	3.9	148.39	-1,915.5	1,892.7	2,754.2	2,744.5	282.084		
1,000.0	992.4	1,064.7	1,063.9	7.3	4.5	148.71	-1,910.5	1,883.5	2,767.6	2,756.7	253.033		
1,100.0	1,089.1	1,255.3	1,253.5	7.6	5.4	149.34	-1,903.0	1,866.1	2,781.0	2,768.9	231.342		
1,200.0	1,185.6	1,404.2	1,401.2	7.9	6.0	149.90	-1,895.0	1,848.8	2,791.7	2,778.7	215.132		
1,300.0	1,282.2	1,516.3	1,512.2	8.2	6.5	150.30	-1,887.6	1,834.9	2,801.1	2,787.3	202.780		
1,400.0	1,378.8	1,598.0	1,593.1	8.6	6.9	150.61	-1,882.7	1,824.8	2,811.1	2,796.6	193.417		
1,500.0	1,475.4	1,739.0	1,732.6	8.9	7.5	151.14	-1,874.4	1,806.2	2,820.9	2,805.5	182.457		
1,600.0	1,571.9	1,964.3	1,954.5	9.3	8.5	151.99	-1,855.8	1,771.5	2,827.3	2,810.5	168.008		
1,700.0	1,668.5	2,236.2	2,219.1	9.7	9.9	153.05	-1,823.7	1,718.7	2,828.3	2,809.8	152.524		
1,800.0	1,765.1	2,442.9	2,417.9	10.1	10.9	153.90	-1,793.6	1,670.5	2,825.2	2,805.2	141.761		
1,900.0	1,861.7	2,679.8	2,642.4	10.5	12.1	154.93	-1,752.6	1,607.1	2,817.5	2,796.0	130.980		
2,000.0	1,958.3	2,877.7	2,826.6	10.9	13.1	155.89	-1,714.6	1,545.6	2,805.6	2,782.6	122.238		
2,100.0	2,054.8	3,035.9	2,971.9	11.3	13.9	156.72	-1,682.4	1,491.7	2,790.9	2,766.8	115.420		
2,200.0	2,151.4	3,135.5	3,062.9	11.8	14.4	157.27	-1,662.2	1,456.8	2,776.2	2,751.0	110.326		
2,300.0	2,248.0	3,242.5	3,160.5	12.2	15.0	157.87	-1,640.5	1,418.9	2,761.5	2,735.3	105.443		
2,400.0	2,344.6	3,334.1	3,244.1	12.6	15.4	158.38	-1,621.5	1,386.5	2,746.7	2,719.5	101.117		
2,500.0	2,441.1	3,415.8	3,318.7	13.1	15.8	158.85	-1,605.2	1,357.3	2,732.6	2,704.5	97.223		
2,600.0	2,537.7	3,502.3	3,397.6	13.5	16.3	159.37	-1,588.6	1,326.2	2,719.2	2,690.1	93.515		
2,700.0	2,634.3	3,601.9	3,488.5	14.0	16.8	159.99	-1,570.0	1,289.8	2,706.2	2,676.0	89.861		
2,800.0	2,730.9	3,718.8	3,594.8	14.4	17.3	160.73	-1,548.1	1,246.3	2,693.0	2,661.7	86.202		
2,900.0	2,827.4	3,812.8	3,680.0	14.9	17.8	161.34	-1,530.1	1,211.2	2,679.6	2,647.4	83.016		
3,000.0	2,924.0	3,904.0	3,762.8	15.3	18.3	161.93	-1,512.9	1,176.9	2,666.7	2,633.4	80.048		
3,100.0	3,020.6	4,000.5	3,850.2	15.8	18.8	162.58	-1,495.1	1,140.1	2,654.2	2,619.8	77.193		
3,200.0	3,117.2	4,082.2	3,924.3	16.2	19.2	163.14	-1,480.2	1,109.0	2,642.2	2,606.8	74.650		
3,300.0	3,213.7	4,177.7	4,010.9	16.7	19.7	163.80	-1,463.0	1,072.7	2,630.9	2,594.4	72.124		
3,400.0	3,310.3	4,275.8	4,099.8	17.2	20.2	164.48	-1,445.4	1,035.1	2,619.7	2,582.1	69.711		
3,500.0	3,406.9	4,369.2	4,184.3	17.6	20.7	165.14	-1,428.7	999.2	2,608.9	2,570.2	67.436		
3,600.0	3,503.5	4,441.3	4,249.7	18.1	21.2	165.66	-1,416.1	971.3	2,598.8	2,559.1	65.504		
3,700.0	3,600.0	4,481.0	4,285.7	18.6	21.5	165.95	-1,409.5	956.0	2,590.3	2,549.8	63.960		
3,800.0	3,696.6	4,574.0	4,370.7	19.1	22.2	166.63	-1,395.5	920.9	2,583.5	2,541.9	62.094		
3,900.0	3,793.2	4,628.1	4,420.4	19.5	22.6	167.03	-1,388.0	901.1	2,578.3	2,535.8	60.670		
4,000.0	3,889.8	4,728.0	4,512.4	20.0	23.3	167.74	-1,373.7	864.9	2,573.8	2,530.2	58.991		
4,100.0	3,986.3	4,837.6	4,613.8	20.5	24.1	168.48	-1,356.6	826.9	2,569.3	2,524.5	57.340		
4,200.0	4,082.9	4,938.4	4,707.2	21.0	24.8	169.13	-1,339.9	792.8	2,564.7	2,518.8	55.834		
4,300.0	4,179.5	5,041.2	4,802.7	21.4	25.5	169.78	-1,322.1	759.1	2,560.3	2,513.2	54.402		
4,400.0	4,276.1	5,131.0	4,886.1	21.9	26.1	170.34	-1,306.5	729.7	2,556.1	2,507.9	53.110		
4,500.0	4,372.7	5,216.4	4,965.5	22.4	26.7	170.87	-1,291.8	702.0	2,552.5	2,503.3	51.912		
4,600.0	4,469.2	5,303.3	5,046.7	22.9	27.2	171.39	-1,276.7	675.0	2,549.6	2,499.4	50.780		
4,700.0	4,565.8	5,400.4	5,137.7	23.4	27.8	171.94	-1,259.6	645.7	2,547.2	2,495.9	49.658		
4,800.0	4,662.4	5,503.8	5,234.7	23.8	28.5	172.52	-1,240.9	615.1	2,544.8	2,492.4	48.557		
4,900.0	4,759.0	5,597.0	5,322.2	24.3	29.1	173.04	-1,223.8	587.8	2,542.6	2,489.1	47.551		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Currier 0993-16-07 Pad - (Offset) Buzzard Creek 16-10 - Wellbore #1 - Wellbore #1 **Offset Site Error:** 0.0 usft
Survey Program: 157-OWSG (REV5) MWD HDGM Standard **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
5,000.0	4,855.5	5,679.8	5,399.9	24.8	29.6	173.50	-1,209.0	563.4	2,540.9	2,486.4	46.635	
5,100.0	4,952.1	5,772.9	5,487.2	25.3	30.2	174.04	-1,193.0	535.4	2,539.9	2,484.4	45.718	
5,154.8	5,005.0	5,808.4	5,520.5	25.6	30.4	174.25	-1,187.0	524.8	2,539.7	2,483.6	45.304	
5,200.0	5,048.7	5,834.0	5,544.7	25.8	30.6	174.39	-1,182.9	517.2	2,539.8	2,483.4	44.993	
5,300.0	5,145.3	5,878.0	5,586.2	26.2	30.8	174.65	-1,176.1	504.4	2,541.4	2,484.2	44.418	
5,400.0	5,242.6	5,970.0	5,673.8	26.8	31.3	175.13	-1,162.6	479.6	2,541.6	2,483.3	43.606	
5,500.0	5,340.7	6,020.0	5,721.7	27.3	31.6	175.36	-1,155.6	467.4	2,539.8	2,480.7	42.961	
5,600.0	5,439.3	6,091.0	5,790.1	27.8	32.0	175.68	-1,146.4	450.6	2,536.2	2,476.1	42.239	
5,700.0	5,538.5	6,155.0	5,852.0	28.3	32.2	175.95	-1,138.7	436.0	2,530.4	2,469.5	41.590	
5,800.0	5,638.1	6,218.0	5,913.0	28.8	32.5	176.20	-1,131.7	422.1	2,522.3	2,460.7	40.960	
5,900.0	5,737.9	6,277.0	5,970.5	29.2	32.8	176.42	-1,125.7	410.3	2,512.5	2,450.2	40.376	
6,000.0	5,837.9	6,347.2	6,039.3	29.6	33.0	176.64	-1,119.0	397.9	2,500.6	2,437.7	39.793	
6,100.0	5,937.9	6,412.2	6,103.2	29.6	33.2	164.28	-1,113.1	387.9	2,487.6	2,424.5	39.427	
6,200.0	6,037.9	6,464.0	6,154.3	29.7	33.4	164.41	-1,108.9	380.9	2,476.1	2,412.9	39.164	
6,300.0	6,137.9	6,526.0	6,215.7	29.7	33.5	164.55	-1,104.6	373.5	2,466.4	2,403.0	38.912	
6,400.0	6,237.9	6,586.5	6,275.8	29.8	33.6	164.67	-1,101.4	367.3	2,458.4	2,394.9	38.716	
6,500.0	6,337.9	6,647.0	6,336.0	29.8	33.7	164.77	-1,098.6	362.0	2,451.8	2,388.2	38.561	
6,600.0	6,437.9	6,715.9	6,404.8	29.8	33.8	164.87	-1,096.2	357.2	2,446.6	2,382.9	38.417	
6,700.0	6,537.9	6,772.1	6,460.8	29.9	33.9	164.92	-1,094.9	354.4	2,443.1	2,379.5	38.381	
6,800.0	6,637.9	6,834.0	6,522.7	29.9	34.0	164.97	-1,094.5	352.2	2,441.5	2,377.9	38.378	
6,865.2	6,703.1	6,877.8	6,566.5	29.9	34.0	165.00	-1,094.8	351.0	2,441.3	2,377.7	38.400	
6,900.0	6,737.9	6,909.7	6,598.3	29.9	34.1	165.01	-1,094.9	350.2	2,441.3	2,377.7	38.384	
6,905.4	6,743.3	6,914.6	6,603.3	29.9	34.1	165.02	-1,095.0	350.1	2,441.3	2,377.7	38.382	CC, ES
7,000.0	6,837.9	7,001.2	6,689.9	30.0	34.2	165.05	-1,095.5	348.6	2,441.4	2,377.8	38.342	
7,100.0	6,937.9	7,095.5	6,784.2	30.0	34.3	165.09	-1,096.3	347.3	2,441.9	2,378.1	38.294	
7,200.0	7,037.9	7,190.6	6,879.2	30.1	34.5	165.15	-1,097.5	345.1	2,442.6	2,378.7	38.246	
7,300.0	7,137.9	7,285.8	6,974.4	30.1	34.8	165.23	-1,099.2	342.0	2,443.4	2,379.5	38.205	
7,400.0	7,237.9	7,381.6	7,070.1	30.1	35.0	165.31	-1,101.0	339.0	2,444.5	2,380.4	38.176	
7,500.0	7,337.9	7,483.3	7,171.8	30.2	35.3	165.38	-1,103.0	336.5	2,445.7	2,381.5	38.108	
7,600.0	7,437.9	7,600.4	7,288.8	30.2	35.7	165.45	-1,104.6	333.5	2,446.4	2,381.9	37.931	
7,700.0	7,537.9	7,717.5	7,405.8	30.3	36.1	165.53	-1,105.5	330.2	2,446.4	2,381.6	37.746	
7,800.0	7,637.9	7,824.3	7,512.6	30.3	36.5	165.61	-1,105.7	327.0	2,445.9	2,380.7	37.551	
7,900.0	7,737.9	7,924.1	7,612.3	30.3	36.9	165.67	-1,105.8	324.2	2,445.3	2,379.8	37.354	
7,952.1	7,790.0	7,976.1	7,664.4	30.4	37.1	165.70	-1,105.9	322.8	2,445.0	2,379.3	37.257	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 920-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-108.15	-805.4	-2,456.8	2,594.2					
100.0	100.0	0.0	0.0	0.8	0.0	-108.15	-805.4	-2,456.8	2,587.9	2,587.1	3,244.315			
200.0	200.0	0.0	0.0	1.4	0.0	-108.15	-805.4	-2,456.8	2,585.5	2,584.0	1,827.636			
212.8	212.8	0.0	0.0	1.5	0.0	-95.61	-805.4	-2,456.8	2,585.4	2,584.0	1,777.733 CC			
300.0	300.0	0.0	0.0	1.7	0.0	-95.60	-805.4	-2,456.8	2,586.9	2,585.2	1,498.461			
400.0	400.0	145.8	145.8	2.5	4.0	-95.63	-805.9	-2,457.8	2,587.2	2,581.1	424.428 ES			
500.0	499.8	223.6	223.5	3.6	6.1	-95.68	-806.6	-2,459.3	2,589.8	2,581.2	302.544			
600.0	599.3	301.1	301.0	4.5	8.2	-95.77	-807.5	-2,461.3	2,593.6	2,582.6	236.042			
700.0	698.5	378.2	378.1	5.3	10.3	-95.90	-808.8	-2,463.9	2,598.6	2,585.2	194.018			
800.0	797.1	454.8	454.6	6.0	12.4	-96.05	-810.3	-2,467.1	2,605.0	2,589.2	164.989			
900.0	895.2	530.7	530.4	6.7	14.5	-96.24	-812.0	-2,470.8	2,612.6	2,594.5	143.697			
1,000.0	992.4	605.9	605.5	7.3	16.5	-96.45	-814.0	-2,475.0	2,621.7	2,601.1	127.394			
1,100.0	1,089.1	680.4	679.8	7.6	18.6	-96.82	-816.3	-2,479.8	2,632.0	2,609.1	114.969			
1,200.0	1,185.6	754.8	753.9	7.9	20.6	-97.24	-818.8	-2,485.1	2,643.4	2,618.1	104.498			
1,300.0	1,282.2	920.0	918.4	8.2	25.1	-98.19	-825.3	-2,498.8	2,657.9	2,627.7	88.014			
1,400.0	1,378.8	920.0	918.4	8.6	25.1	-98.19	-825.3	-2,498.8	2,669.4	2,638.8	87.221			
1,500.0	1,475.4	984.1	982.2	8.9	25.4	-98.57	-829.0	-2,504.4	2,683.8	2,652.5	85.851			
1,600.0	1,571.9	1,072.9	1,070.3	9.3	25.8	-99.17	-837.2	-2,511.2	2,698.9	2,667.0	84.570			
1,700.0	1,668.5	1,171.4	1,168.1	9.7	25.9	-99.84	-847.1	-2,518.2	2,714.2	2,681.8	83.778			
1,800.0	1,765.1	1,269.3	1,265.2	10.1	25.9	-100.49	-856.5	-2,525.2	2,729.9	2,697.0	83.005			
1,900.0	1,861.7	1,379.4	1,374.6	10.5	26.0	-101.22	-867.2	-2,532.6	2,745.5	2,712.1	82.198			
2,000.0	1,958.3	1,476.9	1,471.4	10.9	26.0	-101.86	-876.5	-2,538.8	2,761.1	2,727.2	81.427			
2,100.0	2,054.8	1,605.2	1,599.0	11.3	26.0	-102.70	-889.0	-2,546.0	2,776.4	2,741.9	80.561			
2,200.0	2,151.4	1,717.4	1,710.5	11.8	26.1	-103.46	-900.6	-2,550.5	2,791.1	2,756.1	79.751			
2,300.0	2,248.0	1,829.3	1,821.6	12.2	26.2	-104.23	-913.0	-2,554.0	2,805.7	2,770.1	78.949			
2,400.0	2,344.6	1,981.2	1,972.5	12.6	26.3	-105.30	-930.7	-2,555.5	2,819.2	2,783.1	78.042			
2,500.0	2,441.1	2,119.6	2,109.9	13.1	26.4	-106.30	-947.0	-2,554.4	2,831.8	2,795.1	77.197			
2,600.0	2,537.7	2,253.1	2,242.4	13.5	26.6	-107.27	-962.7	-2,550.4	2,843.1	2,805.9	76.376			
2,700.0	2,634.3	2,394.1	2,382.4	14.0	26.7	-108.30	-978.8	-2,544.5	2,853.7	2,815.9	75.578			
2,800.0	2,730.9	2,512.7	2,500.2	14.4	26.9	-109.15	-990.9	-2,538.2	2,863.3	2,825.0	74.808			
2,900.0	2,827.4	2,644.3	2,630.9	14.9	27.0	-110.07	-1,003.0	-2,530.5	2,872.3	2,833.5	74.058			
3,000.0	2,924.0	2,783.4	2,769.2	15.3	27.1	-111.04	-1,014.7	-2,520.6	2,880.4	2,841.1	73.327			
3,100.0	3,020.6	2,909.2	2,894.2	15.8	27.3	-111.90	-1,024.2	-2,510.2	2,887.4	2,847.7	72.616			
3,200.0	3,117.2	3,016.0	3,000.4	16.2	27.4	-112.63	-1,031.7	-2,500.8	2,894.4	2,854.1	71.884			
3,300.0	3,213.7	3,117.3	3,101.1	16.7	27.5	-113.32	-1,038.5	-2,491.6	2,901.2	2,860.5	71.175			
3,400.0	3,310.3	3,215.4	3,198.5	17.2	27.6	-113.98	-1,045.2	-2,482.5	2,908.4	2,867.2	70.480			
3,500.0	3,406.9	3,326.4	3,308.9	17.6	27.7	-114.72	-1,051.7	-2,472.5	2,915.7	2,873.9	69.816			
3,600.0	3,503.5	3,454.6	3,436.3	18.1	27.8	-115.54	-1,057.6	-2,460.5	2,922.3	2,880.1	69.173			
3,700.0	3,600.0	3,539.0	3,520.3	18.6	27.9	-116.07	-1,061.1	-2,452.7	2,929.0	2,886.3	68.476			
3,800.0	3,696.6	3,638.8	3,619.6	19.1	28.0	-116.69	-1,065.2	-2,443.7	2,936.3	2,893.1	67.824			
3,900.0	3,793.2	3,751.3	3,731.5	19.5	28.1	-117.38	-1,069.0	-2,433.2	2,943.3	2,899.5	67.193			
4,000.0	3,889.8	3,842.0	3,821.8	20.0	28.2	-117.93	-1,071.8	-2,424.8	2,950.6	2,906.3	66.571			
4,100.0	3,986.3	3,934.9	3,914.3	20.5	28.3	-118.48	-1,074.6	-2,416.6	2,958.2	2,913.4	65.968			
4,200.0	4,082.9	4,055.5	4,034.3	21.0	28.5	-119.19	-1,077.6	-2,405.8	2,966.0	2,920.6	65.412			
4,300.0	4,179.5	4,154.7	4,133.2	21.4	28.5	-119.76	-1,079.5	-2,396.7	2,973.4	2,927.5	64.855			
4,400.0	4,276.1	4,271.7	4,249.6	21.9	28.7	-120.43	-1,081.1	-2,385.5	2,980.5	2,934.2	64.318			
4,500.0	4,372.7	4,350.0	4,327.5	22.4	28.7	-120.88	-1,082.3	-2,378.1	2,988.1	2,941.2	63.766			
4,600.0	4,469.2	4,480.4	4,457.3	22.9	28.9	-121.62	-1,084.0	-2,365.4	2,995.6	2,948.2	63.260			
4,700.0	4,565.8	4,580.1	4,556.5	23.4	28.9	-122.18	-1,084.5	-2,355.3	3,002.7	2,954.8	62.737			
4,800.0	4,662.4	4,677.6	4,653.5	23.8	29.0	-122.72	-1,084.9	-2,345.7	3,010.1	2,961.7	62.223			
4,900.0	4,759.0	4,770.5	4,746.0	24.3	29.1	-123.23	-1,084.9	-2,336.8	3,017.7	2,968.8	61.720			
5,000.0	4,855.5	4,863.5	4,838.6	24.8	29.2	-123.72	-1,084.7	-2,328.2	3,025.7	2,976.3	61.234			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Currier 0993-16-07 Pad - (Offset) Buzzard Creek 16-12 - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 usft	
Survey Program: 920-OWSG (REV5) MWD HDGM Standard														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
5,100.0	4,952.1	4,964.4	4,939.0	25.3	29.3	-124.27	-1,085.0	-2,318.3	3,033.9	2,984.0	60.758			
5,200.0	5,048.7	5,054.2	5,028.4	25.8	29.4	-124.76	-1,085.2	-2,309.5	3,042.3	2,991.9	60.287			
5,300.0	5,145.3	5,144.0	5,117.8	26.2	29.5	-125.28	-1,085.4	-2,301.1	3,051.2	3,000.2	59.854			
5,400.0	5,242.6	5,228.9	5,202.4	26.8	29.6	-125.81	-1,085.4	-2,293.6	3,058.8	3,007.3	59.415			
5,500.0	5,340.7	5,324.9	5,298.0	27.3	29.7	-126.31	-1,085.6	-2,285.4	3,065.0	3,013.0	58.974			
5,600.0	5,439.3	5,424.6	5,397.3	27.8	29.9	-126.74	-1,085.7	-2,276.8	3,069.0	3,016.6	58.545			
5,700.0	5,538.5	5,518.3	5,490.6	28.3	30.0	-127.08	-1,086.1	-2,268.5	3,071.2	3,018.4	58.136			
5,800.0	5,638.1	5,598.8	5,570.8	28.8	30.1	-127.29	-1,086.1	-2,261.9	3,071.7	3,018.5	57.755			
5,900.0	5,737.9	5,671.1	5,643.1	29.2	30.2	-127.41	-1,086.3	-2,257.0	3,071.0	3,017.5	57.422			
6,000.0	5,837.9	5,773.6	5,745.3	29.6	30.3	-127.50	-1,086.4	-2,250.5	3,068.3	3,014.6	57.120			
6,100.0	5,937.9	5,854.2	5,825.7	29.6	30.4	-140.10	-1,086.6	-2,245.9	3,064.8	3,011.1	56.983			
6,200.0	6,037.9	5,948.2	5,919.6	29.7	30.5	-140.16	-1,086.4	-2,241.4	3,061.6	3,007.8	56.840			
6,300.0	6,137.9	6,035.6	6,007.0	29.7	30.6	-140.21	-1,086.1	-2,237.8	3,058.7	3,004.8	56.697			
6,400.0	6,237.9	6,126.7	6,098.1	29.8	30.8	-140.25	-1,085.7	-2,234.7	3,056.2	3,002.2	56.559			
6,500.0	6,337.9	6,221.6	6,192.9	29.8	30.9	-140.29	-1,085.3	-2,231.8	3,053.9	2,999.8	56.426			
6,600.0	6,437.9	6,322.5	6,293.7	29.8	31.0	-140.33	-1,084.9	-2,228.7	3,051.6	2,997.4	56.301			
6,700.0	6,537.9	6,415.3	6,386.5	29.9	31.1	-140.36	-1,084.7	-2,225.9	3,049.5	2,995.2	56.176			
6,800.0	6,637.9	6,499.5	6,470.7	29.9	31.2	-140.40	-1,084.6	-2,223.6	3,047.7	2,993.4	56.072			
6,900.0	6,737.9	6,593.4	6,564.6	29.9	31.3	-140.42	-1,084.5	-2,221.7	3,046.4	2,991.9	55.960			
7,000.0	6,837.9	6,701.1	6,672.2	30.0	31.5	-140.45	-1,084.2	-2,219.7	3,045.0	2,990.3	55.691			
7,100.0	6,937.9	6,808.7	6,779.8	30.0	31.8	-140.47	-1,083.5	-2,217.7	3,043.3	2,988.4	55.420			
7,200.0	7,037.9	6,916.4	6,887.4	30.1	32.0	-140.48	-1,082.4	-2,215.8	3,041.3	2,986.2	55.147			
7,300.0	7,137.9	7,014.7	6,985.8	30.1	32.9	-140.49	-1,081.2	-2,214.1	3,039.3	2,983.1	54.143			
7,400.0	7,237.9	7,110.5	7,081.6	30.1	33.9	-140.50	-1,080.1	-2,212.5	3,037.3	2,980.0	52.984			
7,500.0	7,337.9	7,206.3	7,177.3	30.2	35.0	-140.52	-1,079.1	-2,210.9	3,035.5	2,977.0	51.878			
7,600.0	7,437.9	7,302.1	7,273.1	30.2	36.1	-140.53	-1,078.3	-2,209.5	3,033.9	2,974.2	50.822			
7,700.0	7,537.9	7,397.9	7,368.9	30.3	37.1	-140.54	-1,077.5	-2,208.1	3,032.4	2,971.5	49.811			
7,800.0	7,637.9	7,493.7	7,464.7	30.3	38.2	-140.55	-1,076.9	-2,206.7	3,031.0	2,968.9	48.844			
7,900.0	7,737.9	7,589.5	7,560.5	30.3	39.3	-140.56	-1,076.4	-2,205.5	3,029.7	2,966.5	47.917			
7,952.1	7,790.0	7,639.0	7,610.0	30.4	39.9	-140.57	-1,076.2	-2,204.8	3,029.1	2,965.3	47.459	SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 184-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	67.67	753.4	1,834.7	1,983.4				
100.0	100.0	94.2	94.2	0.8	0.6	67.68	753.3	1,834.6	1,983.3	1,981.8	1,389.224		
200.0	200.0	196.9	196.9	1.4	1.3	67.68	753.1	1,834.4	1,983.0	1,980.3	719.836		
300.0	300.0	294.2	294.2	1.7	2.1	80.23	752.7	1,834.4	1,982.8	1,979.0	520.144		
400.0	400.0	397.9	397.9	2.5	2.7	80.33	752.1	1,834.4	1,982.2	1,977.4	412.447		
500.0	499.8	504.9	504.9	3.6	3.2	80.55	751.8	1,833.9	1,980.6	1,975.0	351.552		
600.0	599.3	607.1	607.1	4.5	3.6	80.88	751.2	1,833.3	1,978.3	1,971.9	308.863		
700.0	698.5	703.2	703.2	5.3	4.0	81.31	750.2	1,832.8	1,975.5	1,968.4	277.855		
800.0	797.1	796.3	796.3	6.0	4.4	81.82	749.7	1,832.5	1,972.5	1,964.7	253.330		
900.0	895.2	893.0	893.0	6.7	4.8	86.65	749.4	1,832.2	1,969.4	1,960.9	232.362		
1,000.0	992.4	989.3	989.2	7.3	5.2	83.14	749.3	1,831.9	1,966.0	1,956.9	214.332		
1,100.0	1,089.1	1,086.4	1,086.4	7.6	5.4	83.88	749.4	1,831.5	1,962.7	1,953.0	202.611		
1,200.0	1,185.6	1,192.3	1,192.3	7.9	5.6	84.69	749.0	1,831.1	1,959.5	1,949.3	191.389		
1,300.0	1,282.2	1,314.6	1,314.6	8.2	5.9	85.65	747.1	1,829.7	1,955.7	1,944.8	180.506		
1,400.0	1,378.8	1,432.8	1,432.7	8.6	6.2	86.65	743.1	1,827.8	1,951.3	1,939.8	170.581		
1,500.0	1,475.4	1,557.5	1,557.2	8.9	6.5	87.74	736.8	1,824.4	1,945.8	1,933.7	161.149		
1,600.0	1,571.9	1,652.3	1,651.7	9.3	6.7	88.62	730.6	1,821.5	1,940.1	1,927.4	153.196		
1,700.0	1,668.5	1,777.1	1,776.0	9.7	7.1	89.84	720.2	1,817.4	1,934.3	1,920.9	145.079		
1,800.0	1,765.1	1,889.9	1,888.2	10.1	7.5	90.97	709.5	1,812.4	1,927.8	1,913.8	137.780		
1,900.0	1,861.7	1,992.7	1,990.3	10.5	7.9	92.06	698.1	1,807.4	1,921.1	1,906.5	131.282		
2,000.0	1,958.3	2,099.8	2,096.3	10.9	8.2	93.25	684.3	1,802.2	1,914.8	1,899.5	125.282		
2,100.0	2,054.8	2,202.6	2,197.9	11.3	8.6	94.43	669.8	1,796.5	1,908.4	1,892.5	119.762		
2,200.0	2,151.4	2,302.4	2,296.5	11.8	9.0	95.60	655.2	1,790.7	1,902.4	1,885.9	114.684		
2,300.0	2,248.0	2,387.2	2,380.1	12.2	9.3	96.62	641.8	1,785.8	1,897.2	1,880.0	110.241		
2,400.0	2,344.6	2,468.3	2,460.0	12.6	9.6	97.60	629.0	1,781.6	1,893.3	1,875.4	106.266		
2,500.0	2,441.1	2,557.3	2,547.7	13.1	10.0	98.70	614.7	1,777.3	1,890.6	1,872.2	102.542		
2,600.0	2,537.7	2,646.0	2,635.3	13.5	10.3	99.78	600.6	1,773.0	1,888.8	1,869.7	99.105		
2,700.0	2,634.3	2,736.0	2,724.0	14.0	10.6	100.88	586.3	1,768.9	1,888.0	1,868.3	95.920		
2,749.1	2,681.7	2,782.9	2,770.4	14.2	10.8	101.45	579.2	1,766.7	1,887.9	1,867.9	94.409	CC	
2,800.0	2,730.9	2,824.2	2,811.1	14.4	11.0	101.95	573.0	1,764.9	1,888.1	1,867.8	92.991	ES	
2,900.0	2,827.4	2,913.7	2,899.4	14.9	11.3	103.04	559.0	1,761.1	1,889.4	1,868.4	90.278		
3,000.0	2,924.0	3,007.0	2,991.5	15.3	11.7	104.17	544.5	1,756.9	1,891.2	1,869.7	87.699		
3,100.0	3,020.6	3,094.6	3,078.0	15.8	12.0	105.21	531.4	1,753.2	1,894.2	1,872.0	85.375		
3,200.0	3,117.2	3,191.1	3,173.3	16.2	12.4	106.36	517.1	1,749.1	1,897.9	1,875.1	83.119		
3,300.0	3,213.7	3,287.9	3,269.0	16.7	12.8	107.49	503.3	1,744.7	1,902.2	1,878.7	80.994		
3,400.0	3,310.3	3,374.5	3,354.7	17.2	13.1	108.50	490.7	1,740.7	1,907.2	1,883.1	79.102		
3,500.0	3,406.9	3,457.0	3,436.2	17.6	13.5	109.46	478.9	1,737.4	1,913.5	1,888.8	77.400		
3,600.0	3,503.5	3,550.0	3,528.3	18.1	13.8	110.53	465.5	1,733.9	1,920.7	1,895.4	75.720		
3,700.0	3,600.0	3,647.4	3,624.6	18.6	14.2	111.63	451.9	1,730.0	1,928.5	1,902.5	74.097		
3,800.0	3,696.6	3,743.6	3,719.9	19.1	14.6	112.69	439.5	1,726.1	1,936.9	1,910.2	72.584		
3,900.0	3,793.2	3,835.5	3,811.0	19.5	15.0	113.68	427.8	1,722.4	1,945.8	1,918.5	71.195		
4,000.0	3,889.8	3,926.3	3,900.9	20.0	15.4	114.66	416.0	1,718.7	1,955.5	1,927.6	69.894		
4,100.0	3,986.3	4,021.7	3,995.4	20.5	15.7	115.69	403.4	1,714.8	1,965.9	1,937.2	68.620		
4,200.0	4,082.9	4,124.7	4,097.4	21.0	16.2	116.79	389.8	1,710.4	1,976.7	1,947.4	67.335		
4,300.0	4,179.5	4,224.4	4,196.1	21.4	16.6	117.85	376.7	1,705.3	1,987.5	1,957.5	66.114		
4,400.0	4,276.1	4,307.1	4,277.9	21.9	16.9	118.73	365.5	1,701.2	1,999.2	1,968.5	65.093		
4,500.0	4,372.7	4,384.8	4,354.8	22.4	17.2	119.55	354.5	1,697.7	2,012.1	1,980.7	64.193		
4,600.0	4,469.2	4,468.0	4,437.2	22.9	17.6	120.40	343.3	1,694.7	2,026.3	1,994.3	63.327		
4,700.0	4,565.8	4,564.5	4,532.6	23.4	18.0	121.39	330.0	1,691.1	2,041.0	2,008.3	62.398		
4,800.0	4,662.4	4,646.0	4,613.5	23.8	18.3	122.20	319.3	1,688.5	2,056.6	2,023.3	61.644		
4,900.0	4,759.0	4,736.3	4,702.9	24.3	18.7	123.09	307.1	1,685.8	2,073.1	2,039.1	60.868		
5,000.0	4,855.5	4,828.9	4,794.6	24.8	19.1	124.00	294.3	1,682.9	2,090.2	2,055.4	60.101		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design											Currier 0993-16-07 Pad - (Offset) Buzzard Creek 16-8 - Wellbore #1 - Wellbore #1	Offset Site Error:	0.0 usft
Survey Program: 184-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,935.6	4,900.2	25.3	19.5	125.01	279.9	1,679.5	2,107.7	2,072.1	59.257		
5,200.0	5,048.7	5,082.6	5,045.9	25.8	20.1	126.37	261.9	1,672.9	2,124.2	2,087.6	58.128		
5,300.0	5,145.3	5,205.4	5,168.0	26.2	20.6	127.50	249.9	1,666.0	2,139.0	2,101.6	57.238		
5,400.0	5,242.6	5,282.2	5,244.6	26.8	20.9	128.24	245.3	1,663.0	2,152.5	2,114.5	56.731		
5,500.0	5,340.7	5,361.8	5,324.0	27.3	21.3	128.88	241.1	1,660.8	2,164.8	2,126.3	56.213		
5,600.0	5,439.3	5,458.6	5,420.6	27.8	22.0	129.53	235.4	1,658.4	2,175.6	2,136.0	54.987		
5,700.0	5,538.5	5,561.6	5,523.4	28.3	22.7	130.09	229.7	1,655.9	2,184.2	2,143.4	53.599		
5,800.0	5,638.1	5,665.3	5,627.0	28.8	23.5	130.54	224.4	1,653.3	2,190.4	2,148.5	52.288		
5,900.0	5,737.9	5,769.6	5,731.1	29.2	24.3	130.86	219.5	1,650.7	2,194.1	2,151.2	51.051		
6,000.0	5,837.9	5,874.2	5,835.6	29.6	25.1	131.06	215.0	1,648.0	2,195.5	2,151.5	49.901		
6,100.0	5,937.9	5,978.3	5,939.6	29.6	25.6	118.63	211.5	1,645.7	2,195.1	2,150.5	49.191		
6,200.0	6,037.9	6,082.5	6,043.7	29.7	26.2	118.71	209.3	1,643.7	2,194.5	2,149.2	48.490		
6,300.0	6,137.9	6,186.3	6,147.5	29.7	26.8	118.75	208.3	1,642.3	2,193.7	2,147.9	47.841		
6,400.0	6,237.9	6,287.1	6,248.3	29.8	27.2	118.78	207.6	1,640.9	2,192.9	2,146.6	47.446		
6,500.0	6,337.9	6,387.9	6,349.1	29.8	27.6	118.83	206.4	1,639.2	2,192.0	2,145.4	47.054		
6,600.0	6,437.9	6,489.8	6,451.0	29.8	27.9	118.89	204.8	1,637.2	2,191.0	2,144.1	46.716		
6,700.0	6,537.9	6,594.2	6,555.4	29.9	28.1	118.93	204.1	1,635.5	2,189.9	2,142.8	46.484		
6,800.0	6,637.9	6,698.6	6,659.8	29.9	28.3	118.93	204.7	1,634.3	2,188.6	2,141.3	46.254		
6,900.0	6,737.9	6,814.1	6,775.2	29.9	28.4	118.91	206.3	1,632.9	2,186.9	2,139.3	45.970		
7,000.0	6,837.9	6,935.0	6,896.0	30.0	28.5	118.91	207.8	1,630.2	2,184.3	2,136.5	45.643		
7,100.0	6,937.9	7,049.7	7,010.7	30.0	28.7	118.94	208.9	1,626.2	2,180.9	2,132.7	45.301		
7,200.0	7,037.9	7,161.1	7,122.0	30.1	29.0	118.99	209.4	1,621.4	2,176.8	2,128.4	44.949		
7,300.0	7,137.9	7,263.8	7,224.6	30.1	29.3	119.05	209.5	1,616.2	2,172.4	2,123.7	44.594		
7,400.0	7,237.9	7,355.0	7,315.7	30.1	29.6	119.12	209.1	1,611.6	2,168.2	2,119.2	44.252		
7,500.0	7,337.9	7,446.2	7,406.8	30.2	29.9	119.19	208.3	1,607.2	2,164.4	2,115.1	43.922		
7,600.0	7,437.9	7,544.6	7,505.1	30.2	30.2	119.28	207.1	1,602.7	2,160.9	2,111.4	43.592		
7,700.0	7,537.9	7,659.0	7,619.3	30.3	30.4	119.35	207.1	1,597.6	2,157.1	2,107.2	43.237		
7,800.0	7,637.9	7,773.4	7,733.6	30.3	30.7	119.37	209.0	1,592.8	2,152.5	2,102.3	42.877		
7,900.0	7,737.9	7,820.0	7,780.1	30.3	30.7	119.36	210.2	1,590.8	2,148.4	2,098.2	42.831 SF		
7,951.3	7,789.1	7,820.0	7,780.1	30.4	30.7	119.36	210.2	1,590.8	2,147.8	2,097.7	42.895		
7,952.1	7,790.0	7,820.0	7,780.1	30.4	30.7	119.36	210.2	1,590.8	2,147.8	2,097.7	42.897		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 130-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	135.44	-1,923.6	1,894.3	2,703.4				
100.0	100.0	0.0	0.0	0.8	0.0	135.44	-1,923.6	1,894.3	2,700.1	2,699.3	3,406.051		
140.0	140.0	0.0	0.0	1.0	0.0	135.44	-1,923.6	1,894.3	2,699.8	2,698.7	2,593.233	CC	
200.0	200.0	56.3	56.3	1.4	0.3	135.44	-1,923.7	1,894.3	2,699.8	2,698.1	1,562.054		
204.4	204.4	60.4	60.4	1.4	0.3	147.98	-1,923.7	1,894.3	2,699.8	2,698.0	1,529.195		
300.0	300.0	130.0	130.0	1.7	0.7	147.99	-1,924.1	1,894.2	2,700.2	2,697.7	1,101.186	ES	
400.0	400.0	219.0	219.0	2.5	1.5	148.00	-1,925.6	1,894.2	2,703.5	2,699.7	703.634		
500.0	499.8	293.3	293.2	3.6	2.0	148.01	-1,928.1	1,894.1	2,710.8	2,705.6	526.217		
600.0	599.3	357.2	357.1	4.5	2.3	148.01	-1,931.0	1,893.8	2,721.8	2,715.6	439.259		
700.0	698.5	419.7	419.5	5.3	2.6	147.99	-1,934.8	1,894.0	2,737.2	2,730.0	383.658		
800.0	797.1	490.0	489.6	6.0	3.0	147.97	-1,939.9	1,894.4	2,756.6	2,748.6	342.709		
900.0	895.2	561.8	561.1	6.7	3.3	147.97	-1,946.1	1,894.6	2,779.9	2,771.0	311.799		
1,000.0	992.4	635.4	634.3	7.3	3.7	147.98	-1,953.7	1,894.4	2,806.9	2,797.2	287.428		
1,100.0	1,089.1	708.2	706.6	7.6	4.0	148.21	-1,962.1	1,894.1	2,837.0	2,826.6	275.132		
1,200.0	1,185.6	778.9	776.8	7.9	4.3	148.55	-1,971.2	1,893.5	2,868.0	2,857.1	263.344		
1,300.0	1,282.2	858.0	855.0	8.2	4.7	148.94	-1,982.4	1,892.8	2,899.9	2,888.4	251.005		
1,400.0	1,378.8	911.5	907.8	8.6	5.0	149.21	-1,990.7	1,892.1	2,932.8	2,920.7	242.045		
1,500.0	1,475.4	990.2	985.4	8.9	5.4	149.62	-2,003.9	1,891.0	2,966.7	2,953.9	231.701		
1,600.0	1,571.9	1,080.2	1,074.1	9.3	5.8	150.10	-2,019.5	1,888.9	3,000.7	2,987.2	221.745		
1,700.0	1,668.5	1,151.9	1,144.5	9.7	6.1	150.49	-2,032.8	1,886.8	3,035.3	3,021.1	214.099		
1,800.0	1,765.1	1,216.5	1,207.8	10.1	6.4	150.85	-2,045.5	1,884.7	3,070.8	3,056.0	207.340		
1,900.0	1,861.7	1,282.1	1,271.9	10.5	6.7	151.22	-2,059.3	1,882.3	3,107.2	3,091.7	200.804		
2,000.0	1,958.3	1,348.7	1,336.7	10.9	7.0	151.61	-2,074.0	1,879.7	3,144.5	3,128.4	194.711		
2,100.0	2,054.8	1,419.0	1,405.1	11.3	7.3	152.02	-2,090.3	1,876.8	3,182.7	3,165.8	188.946		
2,200.0	2,151.4	1,511.5	1,495.0	11.8	7.7	152.54	-2,111.6	1,873.3	3,221.2	3,203.5	182.670		
2,300.0	2,248.0	1,593.9	1,575.2	12.2	8.1	152.99	-2,130.4	1,870.6	3,259.9	3,241.5	177.218		
2,400.0	2,344.6	1,674.2	1,653.4	12.6	8.4	153.42	-2,149.0	1,867.9	3,299.1	3,280.0	172.198		
2,500.0	2,441.1	1,759.0	1,735.8	13.1	8.8	153.87	-2,168.4	1,865.0	3,338.4	3,318.5	167.309		
2,600.0	2,537.7	1,833.9	1,808.6	13.5	9.2	154.26	-2,185.9	1,862.5	3,378.2	3,357.5	163.199		
2,700.0	2,634.3	1,892.4	1,865.3	14.0	9.5	154.56	-2,200.1	1,860.5	3,418.9	3,397.5	160.046		
2,800.0	2,730.9	1,946.0	1,917.1	14.4	9.7	154.84	-2,213.8	1,858.5	3,460.5	3,438.5	157.308		
2,900.0	2,827.4	2,024.4	1,992.7	14.9	10.1	155.26	-2,234.4	1,855.6	3,502.9	3,480.1	153.628		
3,000.0	2,924.0	2,090.4	2,056.2	15.3	10.4	155.60	-2,252.1	1,853.3	3,545.8	3,522.3	150.771		
3,100.0	3,020.6	2,151.0	2,114.5	15.8	10.7	155.92	-2,268.7	1,851.1	3,589.5	3,565.3	148.306		
3,200.0	3,117.2	2,205.8	2,166.9	16.2	11.0	156.21	-2,284.3	1,849.1	3,634.1	3,609.2	146.193		
3,300.0	3,213.7	2,275.8	2,233.8	16.7	11.3	156.58	-2,304.9	1,846.4	3,679.4	3,653.8	143.598		
3,400.0	3,310.3	2,346.7	2,301.3	17.2	11.7	156.95	-2,326.1	1,843.4	3,725.2	3,698.8	141.133		
3,500.0	3,406.9	2,410.0	2,361.6	17.6	12.0	157.28	-2,345.4	1,840.6	3,771.6	3,744.5	139.124		
3,600.0	3,503.5	2,472.8	2,421.1	18.1	12.3	157.61	-2,365.1	1,837.8	3,818.7	3,790.9	137.239		
3,700.0	3,600.0	2,528.7	2,474.0	18.6	12.6	157.91	-2,383.1	1,835.0	3,866.5	3,838.0	135.692		
3,800.0	3,696.6	2,597.0	2,538.3	19.1	12.9	158.28	-2,405.9	1,831.6	3,915.3	3,886.0	133.776		
3,900.0	3,793.2	2,634.8	2,573.8	19.5	13.1	158.48	-2,418.8	1,829.7	3,964.7	3,934.9	133.046		
4,000.0	3,889.8	2,690.0	2,625.5	20.0	13.4	158.77	-2,437.9	1,827.0	4,014.9	3,984.4	131.769		
4,100.0	3,986.3	2,764.7	2,695.4	20.5	13.8	159.16	-2,464.0	1,823.3	4,065.6	4,034.3	129.921		
4,200.0	4,082.9	2,831.2	2,757.5	21.0	14.1	159.50	-2,487.5	1,820.1	4,116.7	4,084.7	128.445		
4,300.0	4,179.5	2,912.1	2,832.9	21.4	14.5	159.92	-2,516.6	1,815.9	4,168.3	4,135.4	126.584		
4,400.0	4,276.1	3,001.2	2,916.1	21.9	15.0	160.36	-2,548.3	1,811.1	4,219.8	4,185.9	124.558		
4,500.0	4,372.7	3,067.7	2,978.1	22.4	15.3	160.69	-2,572.1	1,807.7	4,271.6	4,237.0	123.320		
4,600.0	4,469.2	3,137.4	3,043.0	22.9	15.7	161.02	-2,597.1	1,804.3	4,323.9	4,288.5	122.049		
4,700.0	4,565.8	3,202.5	3,103.7	23.4	16.0	161.32	-2,620.6	1,801.4	4,376.5	4,340.4	120.973		
4,800.0	4,662.4	3,295.0	3,189.8	23.8	16.5	161.74	-2,654.0	1,797.6	4,429.5	4,392.4	119.195		
4,900.0	4,759.0	3,452.3	3,336.8	24.3	17.3	162.43	-2,709.4	1,790.0	4,481.7	4,443.0	115.826		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Currier 0993-16-07 Pad - (Offset) Buzzard Creek 21-1 - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 usft	
Survey Program: 130-OWSG (REV5) MWD HDGM Standard														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning		
5,000.0	4,855.5	3,543.2	3,422.2	24.8	17.7	162.81	-2,740.3	1,785.8	4,533.1	4,493.5	114.314			
5,100.0	4,952.1	3,615.0	3,489.7	25.3	18.1	163.09	-2,764.6	1,783.3	4,584.9	4,544.5	113.325			
5,200.0	5,048.7	3,684.9	3,555.5	25.8	18.4	163.35	-2,788.2	1,781.3	4,637.0	4,595.8	112.430			
5,300.0	5,145.3	3,766.3	3,632.1	26.2	18.9	163.77	-2,815.7	1,779.0	4,689.1	4,647.0	111.347			
5,400.0	5,242.6	3,832.7	3,694.5	26.8	19.2	164.32	-2,838.3	1,777.1	4,739.0	4,696.2	110.507			
5,500.0	5,340.7	3,893.0	3,751.1	27.3	19.5	164.80	-2,859.1	1,775.4	4,786.7	4,743.0	109.707			
5,600.0	5,439.3	4,009.6	3,860.6	27.8	20.1	165.39	-2,899.0	1,772.5	4,831.3	4,786.4	107.735			
5,700.0	5,538.5	4,097.3	3,943.0	28.3	20.5	165.85	-2,928.9	1,770.2	4,872.7	4,826.9	106.425			
5,800.0	5,638.1	4,213.6	4,052.4	28.8	21.1	166.34	-2,968.3	1,767.1	4,910.9	4,864.0	104.617			
5,900.0	5,737.9	4,318.6	4,151.3	29.2	21.7	166.75	-3,003.3	1,764.1	4,945.5	4,897.5	103.109			
6,000.0	5,837.9	4,424.6	4,251.3	29.6	22.2	167.12	-3,038.4	1,761.7	4,976.9	4,928.0	101.744	SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 162-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	3.41	1,194.0	71.2	1,196.2				
100.0	100.0	99.3	99.3	0.8	0.6	3.41	1,194.1	71.1	1,196.2	1,194.8	857.663		
200.0	200.0	198.2	198.2	1.4	1.3	3.40	1,194.3	70.9	1,196.4	1,193.7	435.261		
300.0	300.0	298.4	298.4	1.7	2.3	15.91	1,194.6	70.4	1,196.6	1,192.6	296.883		
400.0	400.0	397.1	397.1	2.5	3.1	15.92	1,194.9	69.7	1,194.5	1,188.9	214.255		
500.0	499.8	494.6	494.6	3.6	3.8	15.96	1,195.4	68.4	1,189.2	1,181.9	163.550		
600.0	599.3	590.1	590.1	4.5	4.3	16.05	1,196.1	66.7	1,180.8	1,172.2	136.788		
700.0	698.5	684.7	684.7	5.3	4.8	16.19	1,197.2	65.1	1,169.5	1,159.7	118.829		
800.0	797.1	788.5	788.5	6.0	5.1	16.43	1,198.5	63.6	1,154.9	1,144.2	107.087		
900.0	895.2	899.7	899.6	6.7	5.3	16.86	1,198.8	63.6	1,136.2	1,124.7	98.193		
1,000.0	992.4	1,004.4	1,004.3	7.3	5.4	17.50	1,197.9	65.9	1,113.3	1,101.0	90.254		
1,100.0	1,089.1	1,101.1	1,101.0	7.6	5.5	18.15	1,196.6	69.4	1,087.8	1,075.1	85.666		
1,200.0	1,185.6	1,199.1	1,198.8	7.9	5.5	18.84	1,195.2	73.6	1,062.1	1,049.0	81.095		
1,300.0	1,282.2	1,294.2	1,293.8	8.2	5.6	19.56	1,193.6	78.1	1,036.3	1,022.8	76.657		
1,400.0	1,378.8	1,384.9	1,384.4	8.6	5.8	20.20	1,192.5	81.2	1,011.1	997.1	72.440		
1,500.0	1,475.4	1,470.6	1,470.1	8.9	5.9	20.80	1,192.2	83.5	986.7	972.2	68.388		
1,600.0	1,571.9	1,550.7	1,550.1	9.3	6.0	21.39	1,193.1	85.9	963.9	949.0	64.621		
1,700.0	1,668.5	1,624.0	1,623.4	9.7	6.0	21.94	1,195.2	88.2	943.0	927.6	61.405		
1,800.0	1,765.1	1,695.2	1,694.5	10.1	6.0	22.50	1,199.3	90.9	925.0	909.1	58.455		
1,900.0	1,861.7	1,764.6	1,763.5	10.5	6.1	23.06	1,205.3	93.9	910.1	893.8	55.806		
2,000.0	1,958.3	1,830.9	1,829.3	10.9	6.2	23.57	1,213.5	96.6	898.8	882.0	53.473		
2,100.0	2,054.8	1,912.0	1,909.4	11.3	6.4	24.13	1,225.7	99.2	890.4	873.0	51.352		
2,200.0	2,151.4	1,987.1	1,983.3	11.8	6.5	24.61	1,238.8	101.2	884.2	866.3	49.455		
2,300.0	2,248.0	2,048.6	2,043.4	12.2	6.9	24.93	1,251.8	102.3	881.7	863.0	47.238		
2,304.7	2,252.5	2,051.4	2,046.1	12.2	6.9	24.94	1,252.5	102.3	881.7	863.0	47.129	CC, ES	
2,400.0	2,344.6	2,104.0	2,096.9	12.6	7.4	25.15	1,266.1	102.7	883.8	864.2	45.170		
2,500.0	2,441.1	2,176.9	2,166.4	13.1	8.3	25.36	1,288.0	102.8	889.9	869.0	42.544		
2,600.0	2,537.7	2,246.3	2,231.8	13.5	9.0	25.52	1,311.2	102.9	899.5	877.5	40.987		
2,700.0	2,634.3	2,318.0	2,298.5	14.0	9.4	25.68	1,337.4	103.4	912.3	889.6	40.111		
2,800.0	2,730.9	2,391.0	2,365.7	14.4	9.6	25.83	1,366.1	104.5	928.2	904.9	39.870		
2,900.0	2,827.4	2,463.9	2,431.8	14.9	9.8	26.07	1,396.5	107.4	947.1	923.3	39.778		
3,000.0	2,924.0	2,565.8	2,524.4	15.3	10.0	26.46	1,438.9	112.9	966.5	941.9	39.299		
3,100.0	3,020.6	2,666.0	2,615.4	15.8	10.3	26.84	1,480.3	118.2	985.6	960.2	38.822		
3,200.0	3,117.2	2,757.0	2,698.0	16.2	10.6	27.15	1,518.4	123.0	1,005.3	979.2	38.467		
3,300.0	3,213.7	2,879.7	2,809.7	16.7	11.1	27.58	1,568.7	129.3	1,024.2	997.0	37.599		
3,400.0	3,310.3	2,982.9	2,904.2	17.2	11.5	27.89	1,609.7	133.8	1,041.5	1,013.3	36.953		
3,500.0	3,406.9	3,082.7	2,995.9	17.6	11.9	28.15	1,649.1	137.4	1,058.4	1,029.3	36.337		
3,600.0	3,503.5	3,167.0	3,072.9	18.1	12.3	28.37	1,683.2	140.6	1,076.2	1,046.3	35.951		
3,700.0	3,600.0	3,253.7	3,151.9	18.6	12.7	28.64	1,718.7	145.4	1,095.2	1,064.5	35.609		
3,800.0	3,696.6	3,368.1	3,256.3	19.1	13.1	29.05	1,764.7	152.6	1,113.8	1,082.0	34.992		
3,900.0	3,793.2	3,455.0	3,335.6	19.5	13.5	29.36	1,799.9	158.2	1,132.5	1,099.9	34.673		
4,000.0	3,889.8	3,576.6	3,447.1	20.0	14.1	29.81	1,847.6	166.3	1,150.3	1,116.4	33.921		
4,100.0	3,986.3	3,658.1	3,521.9	20.5	14.6	30.10	1,879.6	171.7	1,168.0	1,133.3	33.608		
4,200.0	4,082.9	3,750.3	3,606.1	21.0	15.0	30.39	1,916.7	177.5	1,186.7	1,151.1	33.282		
4,300.0	4,179.5	3,848.5	3,695.8	21.4	15.4	30.70	1,956.4	184.0	1,205.7	1,169.0	32.934		
4,400.0	4,276.1	3,944.5	3,783.4	21.9	15.9	31.00	1,995.0	190.4	1,224.6	1,187.1	32.617		
4,500.0	4,372.7	4,029.0	3,860.1	22.4	16.4	31.23	2,030.0	195.8	1,244.5	1,206.1	32.417		
4,600.0	4,469.2	4,149.3	3,969.7	22.9	17.1	31.53	2,079.1	202.8	1,263.8	1,224.1	31.890		
4,700.0	4,565.8	4,243.2	4,055.4	23.4	17.7	31.71	2,117.4	207.4	1,282.6	1,242.0	31.605		
4,800.0	4,662.4	4,341.2	4,144.8	23.8	18.3	31.90	2,157.1	212.0	1,301.1	1,259.6	31.304		
4,900.0	4,759.0	4,424.2	4,220.3	24.3	18.8	32.07	2,191.4	216.5	1,320.8	1,278.4	31.139		
5,000.0	4,855.5	4,557.3	4,341.8	24.8	19.7	32.36	2,245.0	223.9	1,339.4	1,295.7	30.601		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 162-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,677.9	4,453.1	25.3	20.4	32.64	2,291.2	230.3	1,356.0	1,311.0	30.161		
5,200.0	5,048.7	4,801.0	4,567.4	25.8	21.2	32.95	2,336.3	236.7	1,371.0	1,324.9	29.708		
5,300.0	5,145.3	4,889.0	4,649.2	26.2	21.7	33.23	2,368.3	241.5	1,386.0	1,338.9	29.465		
5,400.0	5,242.6	4,950.2	4,705.8	26.8	22.1	33.54	2,391.6	244.7	1,404.7	1,357.0	29.426		
5,500.0	5,340.7	5,027.0	4,776.0	27.3	22.6	33.85	2,422.3	249.1	1,428.5	1,379.9	29.401		
5,600.0	5,439.3	5,145.6	4,884.5	27.8	23.3	34.11	2,469.9	255.7	1,455.3	1,405.5	29.217		
5,700.0	5,538.5	5,275.1	5,004.0	28.3	24.2	34.27	2,519.2	261.6	1,482.4	1,431.3	29.024		
5,800.0	5,638.1	5,384.4	5,105.5	28.8	24.8	34.37	2,559.6	265.7	1,510.8	1,458.7	29.003		
5,900.0	5,737.9	5,503.0	5,216.1	29.2	25.5	34.44	2,602.1	271.1	1,541.4	1,488.2	29.005		
6,000.0	5,837.9	5,677.2	5,381.1	29.6	26.4	34.37	2,657.4	278.9	1,570.6	1,516.1	28.799		
6,100.0	5,937.9	5,763.9	5,463.9	29.6	26.9	21.71	2,682.7	284.2	1,599.9	1,544.8	29.061		
6,200.0	6,037.9	5,845.0	5,541.0	29.7	27.3	21.57	2,707.1	289.7	1,630.3	1,574.8	29.370		
6,300.0	6,137.9	6,122.9	5,809.9	29.7	28.5	21.00	2,775.9	299.6	1,653.2	1,596.2	28.981		
6,400.0	6,237.9	6,284.7	5,968.6	29.8	29.0	20.68	2,806.9	301.6	1,671.8	1,614.2	28.994		
6,500.0	6,337.9	6,485.8	6,167.9	29.8	29.5	20.40	2,833.6	303.0	1,684.0	1,625.8	28.957		
6,600.0	6,437.9	6,647.7	6,329.2	29.8	29.7	20.25	2,847.5	303.3	1,692.1	1,633.7	28.956		
6,700.0	6,537.9	6,766.8	6,448.1	29.9	29.9	20.16	2,855.2	303.5	1,698.2	1,639.4	28.901		
6,800.0	6,637.9	6,949.5	6,630.6	29.9	30.1	20.11	2,860.5	303.7	1,700.8	1,642.2	29.010		
6,889.9	6,727.8	7,047.7	6,728.8	29.9	30.3	20.06	2,861.0	302.5	1,700.8	1,642.1	28.974		
6,900.0	6,737.9	7,055.2	6,736.4	29.9	30.3	20.06	2,861.0	302.4	1,700.8	1,642.1	28.959		
7,000.0	6,837.9	7,128.3	6,809.4	30.0	30.4	20.04	2,861.8	302.0	1,701.7	1,642.6	28.790		
7,100.0	6,937.9	7,200.8	6,881.9	30.0	30.6	20.03	2,863.6	302.5	1,704.3	1,644.8	28.628		
7,200.0	7,037.9	7,283.0	6,964.1	30.1	30.8	20.03	2,866.7	303.5	1,708.2	1,648.3	28.491		
7,300.0	7,137.9	7,374.9	7,055.9	30.1	31.1	20.05	2,870.5	305.7	1,712.9	1,652.6	28.394 SF		
7,400.0	7,237.9	7,668.0	7,348.5	30.1	31.1	19.90	2,865.7	299.2	1,707.7	1,649.0	29.072		
7,500.0	7,337.9	7,736.1	7,416.4	30.2	31.1	19.81	2,862.5	295.2	1,701.5	1,642.5	28.826		
7,600.0	7,437.9	7,797.3	7,477.6	30.2	31.0	19.76	2,861.2	293.1	1,698.3	1,638.9	28.599		
7,700.0	7,537.9	7,874.1	7,554.3	30.3	31.0	19.68	2,860.9	290.4	1,696.8	1,637.2	28.471		
7,800.0	7,637.9	8,035.0	7,715.1	30.3	31.2	19.48	2,860.5	284.0	1,695.9	1,636.8	28.722		
7,900.0	7,737.9	8,130.6	7,810.5	30.3	31.3	19.40	2,857.1	280.1	1,691.1	1,632.2	28.678		
7,952.1	7,790.0	8,183.2	7,863.1	30.4	31.3	19.36	2,855.3	278.5	1,689.0	1,630.1	28.689		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 130-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	2.90	1,183.1	59.8	1,184.6				
100.0	100.0	99.0	99.0	0.8	0.6	2.90	1,183.1	59.9	1,184.7	1,183.3	881.267		
200.0	200.0	198.9	198.9	1.4	1.2	2.90	1,183.2	60.0	1,184.8	1,182.2	457.067		
300.0	300.0	294.5	294.5	1.7	1.7	15.43	1,183.5	59.8	1,184.9	1,181.5	350.179		
400.0	400.0	385.6	385.6	2.5	2.2	15.39	1,184.3	58.1	1,183.4	1,178.7	254.117		
500.0	499.8	477.4	477.3	3.6	2.6	15.31	1,185.9	54.7	1,179.2	1,173.2	194.409		
600.0	599.3	572.2	571.9	4.5	3.0	15.21	1,188.2	49.7	1,172.3	1,165.1	162.874		
700.0	698.5	665.6	665.0	5.3	3.5	15.06	1,190.9	42.6	1,162.4	1,154.2	141.398		
800.0	797.1	754.4	753.3	6.0	4.0	14.88	1,194.2	34.1	1,149.9	1,140.8	125.378		
900.0	895.2	844.9	843.1	6.7	4.5	14.65	1,198.4	23.6	1,135.0	1,124.9	112.617		
1,000.0	992.4	944.5	941.6	7.3	5.1	14.29	1,203.3	9.3	1,117.0	1,106.0	101.254		
1,100.0	1,089.1	1,033.7	1,029.4	7.6	5.5	13.83	1,208.0	-5.6	1,096.8	1,085.2	94.462		
1,200.0	1,185.6	1,122.1	1,116.2	7.9	5.9	13.23	1,213.4	-21.8	1,077.3	1,065.1	88.060		
1,300.0	1,282.2	1,209.3	1,201.5	8.2	6.3	12.59	1,219.4	-38.5	1,058.8	1,046.0	82.162		
1,400.0	1,378.8	1,304.9	1,295.0	8.6	6.6	11.87	1,226.8	-56.9	1,041.3	1,027.7	76.584		
1,500.0	1,475.4	1,400.6	1,388.7	8.9	7.0	11.13	1,234.1	-75.1	1,023.8	1,009.5	71.447		
1,600.0	1,571.9	1,490.8	1,477.0	9.3	7.3	10.41	1,241.4	-92.2	1,007.0	991.9	66.827		
1,700.0	1,668.5	1,591.6	1,575.7	9.7	7.7	9.62	1,250.1	-110.6	990.8	975.0	62.485		
1,800.0	1,765.1	1,705.2	1,687.1	10.1	8.2	8.74	1,258.7	-130.8	973.8	957.1	58.265		
1,900.0	1,861.7	1,816.7	1,796.6	10.5	8.7	7.78	1,265.0	-151.3	955.0	937.5	54.274		
2,000.0	1,958.3	1,905.2	1,883.5	10.9	9.0	7.04	1,270.1	-166.8	936.6	918.2	50.951		
2,100.0	2,054.8	2,010.9	1,987.5	11.3	9.5	6.17	1,276.5	-184.6	918.6	899.3	47.802		
2,200.0	2,151.4	2,118.3	2,093.1	11.8	9.9	5.18	1,281.0	-203.4	898.9	878.8	44.711		
2,300.0	2,248.0	2,204.0	2,177.3	12.2	10.3	4.32	1,285.1	-219.1	880.1	859.2	42.049		
2,400.0	2,344.6	2,299.7	2,271.3	12.6	10.7	3.36	1,290.7	-236.0	862.6	840.9	39.623		
2,500.0	2,441.1	2,405.5	2,375.2	13.1	11.1	2.22	1,295.7	-255.3	844.4	821.8	37.270		
2,600.0	2,537.7	2,499.9	2,468.0	13.5	11.6	1.15	1,300.1	-272.4	826.4	802.9	35.145		
2,700.0	2,634.3	2,596.9	2,563.4	14.0	12.0	0.07	1,305.0	-289.3	809.0	784.6	33.197		
2,800.0	2,730.9	2,701.0	2,665.7	14.4	12.4	-1.21	1,309.7	-308.1	791.4	766.1	31.332		
2,900.0	2,827.4	2,801.3	2,764.0	14.9	12.9	-2.60	1,313.0	-327.4	773.4	747.2	29.566		
3,000.0	2,924.0	2,893.2	2,854.3	15.3	13.3	-3.87	1,316.3	-344.4	755.9	728.9	27.954		
3,100.0	3,020.6	2,993.0	2,952.4	15.8	13.7	-5.26	1,320.6	-362.1	739.2	711.3	26.464		
3,200.0	3,117.2	3,093.6	3,051.3	16.2	14.1	-6.77	1,324.0	-380.5	722.4	693.5	25.052		
3,300.0	3,213.7	3,177.8	3,134.0	16.7	14.5	-8.07	1,327.4	-395.7	706.5	676.8	23.749		
3,400.0	3,310.3	3,274.3	3,228.7	17.2	15.0	-9.58	1,332.6	-413.3	692.4	661.7	22.557		
3,500.0	3,406.9	3,362.9	3,315.7	17.6	15.3	-11.00	1,337.7	-429.3	679.2	647.5	21.469		
3,600.0	3,503.5	3,452.8	3,404.0	18.1	15.8	-12.35	1,344.7	-444.6	667.7	635.1	20.492		
3,700.0	3,600.0	3,550.7	3,500.2	18.6	16.2	-13.78	1,353.4	-460.5	657.4	623.9	19.598		
3,800.0	3,696.6	3,649.7	3,597.5	19.1	16.6	-15.35	1,361.6	-477.5	647.3	612.8	18.760		
3,900.0	3,793.2	3,749.4	3,695.3	19.5	17.1	-17.05	1,369.2	-495.1	637.5	602.1	17.975		
4,000.0	3,889.8	3,841.5	3,785.6	20.0	17.5	-18.69	1,376.3	-511.8	628.6	592.1	17.260		
4,100.0	3,986.3	3,947.2	3,889.0	20.5	18.0	-20.77	1,383.4	-532.0	620.0	582.6	16.569		
4,200.0	4,082.9	4,037.5	3,977.4	21.0	18.4	-22.64	1,389.1	-549.8	612.2	573.8	15.952		
4,300.0	4,179.5	4,132.4	4,070.3	21.4	18.8	-24.58	1,396.2	-568.3	605.9	566.6	15.406		
4,400.0	4,276.1	4,227.3	4,163.0	21.9	19.3	-26.57	1,403.4	-587.2	600.8	560.6	14.919		
4,500.0	4,372.7	4,326.5	4,259.9	22.4	19.7	-28.66	1,411.2	-606.8	596.7	555.4	14.476		
4,600.0	4,469.2	4,428.9	4,360.1	22.9	20.2	-30.84	1,418.7	-626.5	592.6	550.4	14.056		
4,700.0	4,565.8	4,532.6	4,461.7	23.4	20.7	-33.07	1,426.0	-646.0	588.8	545.7	13.665		
4,800.0	4,662.4	4,639.7	4,566.9	23.8	21.2	-35.45	1,431.8	-665.0	584.0	540.0	13.272		
4,900.0	4,759.0	4,734.5	4,660.2	24.3	21.6	-37.57	1,436.7	-681.3	579.5	534.6	12.918		
5,000.0	4,855.5	4,827.5	4,751.5	24.8	22.1	-39.67	1,442.1	-697.8	576.7	531.0	12.621		
5,100.0	4,952.1	4,925.1	4,847.3	25.3	22.5	-41.88	1,448.0	-715.5	575.3	528.8	12.363		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 130-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,200.0	5,048.7	5,022.9	4,943.4	25.8	22.9	-44.03	1,454.5	-732.5	574.5	527.1	12.132		
5,217.6	5,065.7	5,039.9	4,960.1	25.9	23.0	-44.40	1,455.7	-735.5	574.5	527.0	12.096	CC	
5,300.0	5,145.3	5,123.1	5,041.9	26.2	23.4	-46.20	1,461.2	-749.9	574.6	526.5	11.934	ES	
5,400.0	5,242.6	5,221.8	5,138.9	26.8	23.9	-48.15	1,467.9	-766.4	576.9	528.0	11.789		
5,500.0	5,340.7	5,327.7	5,243.2	27.3	24.3	-49.90	1,475.5	-783.3	581.6	531.9	11.693		
5,600.0	5,439.3	5,428.9	5,343.0	27.8	24.8	-51.26	1,482.8	-798.3	588.0	537.5	11.645		
5,700.0	5,538.5	5,518.0	5,430.8	28.3	25.2	-52.30	1,489.1	-812.2	597.3	546.1	11.672		
5,800.0	5,638.1	5,611.6	5,522.9	28.8	25.6	-53.23	1,495.6	-828.0	610.1	558.2	11.770		
5,900.0	5,737.9	5,720.7	5,630.1	29.2	26.1	-54.10	1,501.9	-846.6	624.6	572.1	11.893		
6,000.0	5,837.9	5,818.6	5,726.5	29.6	26.5	-54.73	1,506.6	-863.0	640.6	587.4	12.062		
6,100.0	5,937.9	5,914.7	5,821.1	29.6	27.0	-67.53	1,510.9	-879.6	658.2	604.6	12.288		
6,200.0	6,037.9	6,021.9	5,926.7	29.7	27.5	-67.72	1,515.9	-897.6	675.6	621.5	12.496		
6,300.0	6,137.9	6,147.3	6,050.7	29.7	28.1	-67.84	1,521.7	-915.2	690.3	635.7	12.641		
6,400.0	6,237.9	6,261.1	6,163.8	29.8	28.6	-67.84	1,526.5	-927.3	701.8	646.7	12.739		
6,500.0	6,337.9	6,388.6	6,290.8	29.8	29.1	-67.80	1,531.2	-937.5	710.6	655.1	12.811		
6,600.0	6,437.9	6,508.0	6,410.0	29.8	29.5	-67.85	1,532.8	-942.9	715.2	659.4	12.821		
6,700.0	6,537.9	6,609.5	6,511.4	29.9	29.9	-67.86	1,534.1	-946.5	719.0	662.8	12.800		
6,800.0	6,637.9	6,711.0	6,612.8	29.9	30.3	-67.85	1,535.7	-949.8	722.6	666.0	12.774		
6,900.0	6,737.9	6,815.2	6,717.0	29.9	30.7	-67.82	1,537.2	-952.8	725.8	668.7	12.726		
7,000.0	6,837.9	6,919.7	6,821.5	30.0	31.2	-67.84	1,538.0	-955.4	728.3	670.8	12.668		
7,100.0	6,937.9	7,024.3	6,926.0	30.0	31.7	-67.90	1,538.1	-957.5	730.3	672.3	12.601		
7,200.0	7,037.9	7,124.8	7,026.5	30.1	32.3	-67.98	1,537.7	-959.2	731.7	673.1	12.489		
7,300.0	7,137.9	7,221.8	7,123.5	30.1	33.0	-68.04	1,537.6	-961.1	733.5	674.1	12.352		
7,400.0	7,237.9	7,318.8	7,220.5	30.1	33.7	-68.08	1,537.8	-963.3	735.6	675.5	12.226		
7,500.0	7,337.9	7,415.8	7,317.4	30.2	34.5	-68.11	1,538.5	-965.7	738.2	677.2	12.109		
7,600.0	7,437.9	7,512.7	7,414.4	30.2	35.2	-68.11	1,539.5	-968.4	741.2	679.4	12.001		
7,700.0	7,537.9	7,611.1	7,512.7	30.3	36.0	-68.09	1,541.0	-971.4	744.5	682.0	11.901		
7,800.0	7,637.9	7,713.8	7,615.3	30.3	36.7	-68.05	1,542.8	-974.2	747.7	684.4	11.799		
7,900.0	7,737.9	7,816.6	7,718.0	30.3	37.5	-67.97	1,544.7	-976.5	750.6	686.4	11.694		
7,952.1	7,790.0	7,870.1	7,771.5	30.4	37.9	-67.92	1,545.8	-977.6	751.9	687.3	11.639	SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	43.72	7.2	6.9	10.0				
100.0	100.0	100.0	100.0	0.8	0.8	43.72	7.2	6.9	10.0	8.4	6.308		
200.0	200.0	200.0	200.0	1.4	1.4	43.72	7.2	6.9	10.0	7.2	3.532	CC, ES	
300.0	300.0	299.7	299.7	1.7	2.3	51.07	8.9	7.1	11.4	7.5	2.914		
400.0	400.0	399.3	399.1	2.5	3.5	47.08	14.1	7.5	14.2	8.7	2.570		
500.0	499.8	498.7	498.2	3.6	4.4	47.22	22.7	8.3	17.7	10.7	2.515	SF	
600.0	599.3	598.0	596.8	4.5	5.1	49.47	34.7	9.3	21.9	13.7	2.670		
700.0	698.5	697.4	695.0	5.3	5.8	51.76	50.1	10.1	26.4	17.2	2.887		
800.0	797.1	796.8	792.5	6.0	6.4	53.19	68.7	9.9	30.7	20.7	3.073		
900.0	895.2	896.1	889.4	6.7	7.0	54.09	90.6	8.8	34.9	24.0	3.219		
1,000.0	992.4	995.3	985.4	7.3	7.6	54.65	115.6	6.7	38.9	27.2	3.326		
1,100.0	1,089.1	1,094.5	1,080.4	7.6	8.2	54.13	143.8	3.8	43.1	30.7	3.462		
1,200.0	1,185.6	1,193.4	1,174.1	7.9	8.8	50.53	175.1	-0.1	49.2	35.5	3.602		
1,300.0	1,282.2	1,291.7	1,266.3	8.2	9.3	45.10	209.2	-4.9	57.6	42.6	3.820		
1,400.0	1,378.8	1,389.4	1,356.5	8.6	9.9	39.13	246.1	-10.5	69.0	52.4	4.168		
1,500.0	1,475.4	1,486.4	1,444.8	8.9	10.3	33.47	285.6	-17.0	83.4	65.6	4.684		
1,600.0	1,571.9	1,584.8	1,533.9	9.3	10.6	29.03	326.8	-23.9	99.5	80.6	5.257		
1,700.0	1,668.5	1,683.2	1,623.1	9.7	11.0	25.84	368.0	-30.7	116.1	96.1	5.814		
1,800.0	1,765.1	1,781.7	1,712.3	10.1	11.4	23.45	409.2	-37.6	132.9	111.9	6.345		
1,900.0	1,861.7	1,880.1	1,801.4	10.5	11.8	21.60	450.4	-44.5	149.8	127.9	6.842		
2,000.0	1,958.3	1,978.6	1,890.6	10.9	12.2	20.13	491.5	-51.4	166.9	144.1	7.306		
2,100.0	2,054.8	2,077.0	1,979.7	11.3	12.6	18.92	532.7	-58.2	184.1	160.3	7.737		
2,200.0	2,151.4	2,175.5	2,068.9	11.8	13.0	17.93	573.9	-65.1	201.3	176.6	8.137		
2,300.0	2,248.0	2,273.9	2,158.0	12.2	13.4	17.09	615.1	-72.0	218.6	192.9	8.507		
2,400.0	2,344.6	2,372.4	2,247.2	12.6	13.9	16.37	656.3	-78.9	236.0	209.3	8.851		
2,500.0	2,441.1	2,470.8	2,336.3	13.1	14.3	15.75	697.5	-85.7	253.3	225.7	9.169		
2,600.0	2,537.7	2,569.3	2,425.5	13.5	14.8	15.22	738.7	-92.6	270.7	242.1	9.465		
2,700.0	2,634.3	2,667.7	2,514.6	14.0	15.3	14.74	779.8	-99.5	288.1	258.5	9.740		
2,800.0	2,730.9	2,766.2	2,603.8	14.4	15.8	14.32	821.0	-106.4	305.5	275.0	9.995		
2,900.0	2,827.4	2,864.6	2,692.9	14.9	16.3	13.95	862.2	-113.2	323.0	291.4	10.234		
3,000.0	2,924.0	2,963.1	2,782.1	15.3	16.9	13.61	903.4	-120.1	340.4	307.9	10.456		
3,100.0	3,020.6	3,061.5	2,871.3	15.8	17.5	13.31	944.6	-127.0	357.9	324.3	10.664		
3,200.0	3,117.2	3,160.0	2,960.4	16.2	18.2	13.03	985.8	-133.9	375.4	340.8	10.859		
3,300.0	3,213.7	3,258.4	3,049.6	16.7	18.8	12.78	1,026.9	-140.7	392.8	357.3	11.041		
3,400.0	3,310.3	3,356.8	3,138.7	17.2	19.5	12.55	1,068.1	-147.6	410.3	373.7	11.213		
3,500.0	3,406.9	3,455.3	3,227.9	17.6	20.2	12.34	1,109.3	-154.5	427.8	390.2	11.374		
3,600.0	3,503.5	3,553.7	3,317.0	18.1	20.9	12.15	1,150.5	-161.4	445.3	406.7	11.526		
3,700.0	3,600.0	3,652.2	3,406.2	18.6	21.6	11.97	1,191.7	-168.2	462.8	423.1	11.669		
3,800.0	3,696.6	3,750.6	3,495.3	19.1	22.3	11.80	1,232.9	-175.1	480.3	439.6	11.804		
3,900.0	3,793.2	3,849.1	3,584.5	19.5	22.9	11.65	1,274.0	-182.0	497.8	456.1	11.931		
4,000.0	3,889.8	3,947.5	3,673.6	20.0	23.6	11.51	1,315.2	-188.9	515.3	472.6	12.052		
4,100.0	3,986.3	4,046.0	3,762.8	20.5	24.3	11.37	1,356.4	-195.7	532.8	489.0	12.166		
4,200.0	4,082.9	4,144.4	3,851.9	21.0	25.0	11.24	1,397.6	-202.6	550.4	505.5	12.275		
4,300.0	4,179.5	4,242.9	3,941.1	21.4	25.7	11.13	1,438.8	-209.5	567.9	522.0	12.378		
4,400.0	4,276.1	4,341.3	4,030.3	21.9	26.4	11.01	1,480.0	-216.4	585.4	538.5	12.476		
4,500.0	4,372.7	4,439.8	4,119.4	22.4	27.1	10.91	1,521.2	-223.2	602.9	554.9	12.569		
4,600.0	4,469.2	4,538.2	4,208.6	22.9	27.8	10.81	1,562.3	-230.1	620.4	571.4	12.658		
4,700.0	4,565.8	4,636.7	4,297.7	23.4	28.6	10.72	1,603.5	-237.0	638.0	587.9	12.743		
4,800.0	4,662.4	4,735.1	4,386.9	23.8	29.3	10.63	1,644.7	-243.9	655.5	604.4	12.824		
4,900.0	4,759.0	4,833.6	4,476.0	24.3	30.0	10.55	1,685.9	-250.7	673.0	620.9	12.901		
5,000.0	4,855.5	4,932.0	4,565.2	24.8	30.7	10.47	1,727.1	-257.6	690.6	637.3	12.975		
5,100.0	4,952.1	5,036.0	4,659.4	25.3	31.4	10.39	1,770.5	-264.9	708.0	653.7	13.026		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,200.0	5,048.7	5,167.5	4,780.1	25.8	32.3	10.33	1,821.9	-273.4	722.5	666.7	12.936		
5,300.0	5,145.3	5,300.4	4,904.5	26.2	33.1	10.35	1,868.2	-281.2	732.7	675.5	12.794		
5,400.0	5,242.6	5,434.2	5,031.7	26.8	33.8	10.40	1,909.0	-288.0	741.0	682.5	12.649		
5,500.0	5,340.7	5,568.6	5,161.3	27.3	34.4	10.44	1,944.1	-293.8	748.2	688.4	12.513		
5,600.0	5,439.3	5,703.5	5,292.9	27.8	34.9	10.47	1,973.2	-298.7	754.0	693.2	12.399		
5,700.0	5,538.5	5,838.8	5,426.2	28.3	35.3	10.49	1,996.2	-302.5	758.7	697.0	12.307		
5,800.0	5,638.1	5,974.5	5,560.7	28.8	35.6	10.51	2,013.1	-305.4	762.1	699.8	12.238		
5,900.0	5,737.9	6,110.3	5,696.2	29.2	35.8	10.52	2,023.6	-307.1	764.2	701.5	12.194		
6,000.0	5,837.9	6,246.3	5,832.1	29.6	35.9	10.53	2,027.8	-307.8	765.0	702.3	12.203		
6,100.0	5,937.9	6,352.1	5,937.9	29.6	35.9	-2.01	2,027.9	-307.8	765.0	702.4	12.207		
6,200.0	6,037.9	6,452.1	6,037.9	29.7	36.0	-2.01	2,027.9	-307.8	765.0	702.3	12.194		
6,300.0	6,137.9	6,552.1	6,137.9	29.7	36.0	-2.01	2,027.9	-307.8	765.0	702.2	12.180		
6,400.0	6,237.9	6,652.1	6,237.9	29.8	36.0	-2.01	2,027.9	-307.8	765.0	702.1	12.166		
6,500.0	6,337.9	6,752.1	6,337.9	29.8	36.0	-2.01	2,027.9	-307.8	765.0	702.1	12.152		
6,600.0	6,437.9	6,852.1	6,437.9	29.8	36.1	-2.01	2,027.9	-307.8	765.0	702.0	12.138		
6,700.0	6,537.9	6,952.1	6,537.9	29.9	36.1	-2.01	2,027.9	-307.8	765.0	701.9	12.124		
6,800.0	6,637.9	7,052.1	6,637.9	29.9	36.1	-2.01	2,027.9	-307.8	765.0	701.9	12.110		
6,900.0	6,737.9	7,152.1	6,737.9	29.9	36.1	-2.01	2,027.9	-307.8	765.0	701.8	12.096		
7,000.0	6,837.9	7,252.1	6,837.9	30.0	36.2	-2.01	2,027.9	-307.8	765.0	701.7	12.082		
7,100.0	6,937.9	7,352.1	6,937.9	30.0	36.2	-2.01	2,027.9	-307.8	765.0	701.6	12.068		
7,200.0	7,037.9	7,452.1	7,037.9	30.1	36.2	-2.01	2,027.9	-307.8	765.0	701.6	12.053		
7,300.0	7,137.9	7,552.1	7,137.9	30.1	36.2	-2.01	2,027.9	-307.8	765.0	701.5	12.039		
7,400.0	7,237.9	7,652.1	7,237.9	30.1	36.3	-2.01	2,027.9	-307.8	765.0	701.4	12.025		
7,500.0	7,337.9	7,752.1	7,337.9	30.2	36.3	-2.01	2,027.9	-307.8	765.0	701.3	12.011		
7,600.0	7,437.9	7,852.1	7,437.9	30.2	36.3	-2.01	2,027.9	-307.8	765.0	701.3	11.996		
7,700.0	7,537.9	7,952.1	7,537.9	30.3	36.3	-2.01	2,027.9	-307.8	765.0	701.2	11.982		
7,800.0	7,637.9	8,052.1	7,637.9	30.3	36.4	-2.01	2,027.9	-307.8	765.0	701.1	11.968		
7,900.0	7,737.9	8,152.1	7,737.9	30.3	36.4	-2.01	2,027.9	-307.8	765.0	701.0	11.953		
7,952.1	7,790.0	8,204.2	7,790.0	30.4	36.4	-2.01	2,027.9	-307.8	765.0	701.0	11.947		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-136.16	-7.2	-6.9	10.0				
100.0	100.0	100.0	100.0	0.8	0.8	-136.16	-7.2	-6.9	10.0	8.4	6.321		
200.0	200.0	200.0	200.0	1.4	1.4	-136.16	-7.2	-6.9	10.0	7.2	3.539		
267.3	267.3	267.3	267.3	1.6	1.6	-124.37	-7.2	-6.9	10.1	6.9	3.122		
300.0	300.0	300.0	300.0	1.7	1.7	-122.75	-7.0	-7.1	10.0	6.6	2.960	CC	
400.0	400.0	400.1	400.0	2.5	2.5	-118.16	-4.6	-8.8	10.8	6.6	2.558	ES, SF	
500.0	499.8	500.1	499.8	3.6	3.7	-112.86	0.7	-12.5	13.1	8.0	2.595		
600.0	599.3	600.2	599.5	4.5	4.0	-108.98	9.1	-17.5	16.0	10.3	2.819		
700.0	698.5	700.5	698.9	5.3	4.7	-106.99	20.9	-22.7	18.4	12.1	2.903		
800.0	797.1	800.8	797.9	6.0	5.4	-106.07	36.3	-28.0	20.3	13.3	2.909		
900.0	895.2	901.1	896.2	6.7	6.2	-105.88	55.1	-33.5	21.5	13.9	2.811		
1,000.0	992.4	1,001.1	993.9	7.3	6.6	-109.65	75.8	-39.0	22.9	14.4	2.681		
1,100.0	1,089.1	1,101.0	1,091.5	7.6	6.9	-118.50	96.4	-44.5	25.6	15.8	2.605		
1,200.0	1,185.6	1,200.9	1,189.1	7.9	7.3	-125.86	117.1	-50.0	28.8	17.6	2.577		
1,300.0	1,282.2	1,300.8	1,286.6	8.2	7.6	-131.65	137.8	-55.5	32.5	20.0	2.601		
1,400.0	1,378.8	1,400.6	1,384.2	8.6	8.0	-136.25	158.4	-61.0	36.3	22.7	2.658		
1,500.0	1,475.4	1,500.5	1,481.8	8.9	8.3	-139.94	179.1	-66.5	40.4	25.6	2.731		
1,600.0	1,571.9	1,600.4	1,579.3	9.3	8.7	-142.94	199.8	-72.0	44.6	28.7	2.811		
1,700.0	1,668.5	1,700.3	1,676.9	9.7	9.1	-145.43	220.5	-77.4	48.9	32.0	2.894		
1,800.0	1,765.1	1,800.2	1,774.5	10.1	9.5	-147.50	241.1	-82.9	53.3	35.4	2.976		
1,900.0	1,861.7	1,900.1	1,872.0	10.5	9.9	-149.26	261.8	-88.4	57.8	38.9	3.056		
2,000.0	1,958.3	2,000.0	1,969.6	10.9	10.4	-150.77	282.5	-93.9	62.2	42.4	3.131		
2,100.0	2,054.8	2,099.8	2,067.2	11.3	10.8	-152.07	303.1	-99.4	66.8	45.9	3.203		
2,200.0	2,151.4	2,199.7	2,164.8	11.8	11.2	-153.21	323.8	-104.9	71.3	49.5	3.270		
2,300.0	2,248.0	2,299.6	2,262.3	12.2	11.6	-154.21	344.5	-110.4	75.9	53.1	3.334		
2,400.0	2,344.6	2,399.5	2,359.9	12.6	12.1	-155.10	365.2	-115.9	80.5	56.8	3.393		
2,500.0	2,441.1	2,499.4	2,457.5	13.1	12.5	-155.89	385.8	-121.4	85.1	60.5	3.449		
2,600.0	2,537.7	2,599.3	2,555.0	13.5	12.9	-156.59	406.5	-126.9	89.8	64.1	3.501		
2,700.0	2,634.3	2,699.2	2,652.6	14.0	13.4	-157.23	427.2	-132.4	94.4	67.8	3.549		
2,800.0	2,730.9	2,799.1	2,750.2	14.4	13.8	-157.81	447.8	-137.9	99.1	71.5	3.595		
2,900.0	2,827.4	2,898.9	2,847.7	14.9	14.3	-158.34	468.5	-143.4	103.8	75.2	3.638		
3,000.0	2,924.0	2,998.8	2,945.3	15.3	14.7	-158.82	489.2	-148.9	108.4	79.0	3.678		
3,100.0	3,020.6	3,098.7	3,042.9	15.8	15.2	-159.26	509.9	-154.4	113.1	82.7	3.716		
3,200.0	3,117.2	3,198.6	3,140.5	16.2	15.6	-159.67	530.5	-159.9	117.8	86.4	3.752		
3,300.0	3,213.7	3,298.5	3,238.0	16.7	16.1	-160.04	551.2	-165.4	122.5	90.1	3.785		
3,400.0	3,310.3	3,398.4	3,335.6	17.2	16.5	-160.39	571.9	-170.9	127.2	93.9	3.817		
3,500.0	3,406.9	3,498.3	3,433.2	17.6	17.0	-160.71	592.5	-176.4	131.9	97.6	3.846		
3,600.0	3,503.5	3,598.1	3,530.7	18.1	17.4	-161.01	613.2	-181.9	136.6	101.4	3.874		
3,700.0	3,600.0	3,698.0	3,628.3	18.6	17.9	-161.30	633.9	-187.4	141.3	105.1	3.901		
3,800.0	3,696.6	3,797.9	3,725.9	19.1	18.3	-161.56	654.6	-192.9	146.0	108.8	3.926		
3,900.0	3,793.2	3,897.8	3,823.4	19.5	18.8	-161.80	675.2	-198.4	150.8	112.6	3.950		
4,000.0	3,889.8	3,997.7	3,921.0	20.0	19.3	-162.03	695.9	-203.9	155.5	116.3	3.973		
4,100.0	3,986.3	4,097.6	4,018.6	20.5	19.7	-162.25	716.6	-209.3	160.2	120.1	3.995		
4,200.0	4,082.9	4,197.5	4,116.1	21.0	20.2	-162.46	737.2	-214.8	164.9	123.8	4.015		
4,300.0	4,179.5	4,297.4	4,213.7	21.4	20.6	-162.65	757.9	-220.3	169.6	127.6	4.035		
4,400.0	4,276.1	4,397.2	4,311.3	21.9	21.1	-162.83	778.6	-225.8	174.4	131.4	4.053		
4,500.0	4,372.7	4,497.1	4,408.9	22.4	21.6	-163.01	799.2	-231.3	179.1	135.1	4.071		
4,600.0	4,469.2	4,597.0	4,506.4	22.9	22.0	-163.17	819.9	-236.8	183.8	138.9	4.088		
4,700.0	4,565.8	4,696.9	4,604.0	23.4	22.5	-163.33	840.6	-242.3	188.6	142.6	4.104		
4,800.0	4,662.4	4,796.8	4,701.6	23.8	23.0	-163.48	861.3	-247.8	193.3	146.4	4.120		
4,900.0	4,759.0	4,896.7	4,799.1	24.3	23.4	-163.62	881.9	-253.3	198.0	150.1	4.135		
5,000.0	4,855.5	4,996.6	4,896.7	24.8	23.9	-163.75	902.6	-258.8	202.8	153.9	4.149		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	5,096.4	4,994.3	25.3	24.4	-163.88	923.3	-264.3	207.5	157.7	4.162		
5,200.0	5,048.7	5,196.3	5,091.8	25.8	24.8	-164.01	943.9	-269.8	212.3	161.4	4.175		
5,300.0	5,145.3	5,296.2	5,189.4	26.2	25.3	-164.11	964.6	-275.3	216.8	165.0	4.185		
5,400.0	5,242.6	5,393.3	5,284.3	26.8	25.7	-164.05	984.4	-280.6	218.9	166.2	4.151		
5,500.0	5,340.7	5,486.5	5,375.9	27.3	26.2	-163.97	1,001.0	-285.0	220.3	166.7	4.105		
5,600.0	5,439.3	5,579.6	5,468.0	27.8	26.7	-163.90	1,014.7	-288.6	221.5	166.9	4.060		
5,700.0	5,538.5	5,672.8	5,560.4	28.3	27.2	-163.84	1,025.5	-291.5	222.3	167.0	4.019		
5,800.0	5,638.1	5,765.9	5,653.2	28.8	27.6	-163.79	1,033.4	-293.6	222.9	166.9	3.982		
5,900.0	5,737.9	5,859.0	5,746.2	29.2	28.0	-163.76	1,038.4	-294.9	223.3	166.7	3.951		
6,000.0	5,837.9	5,952.2	5,839.3	29.6	28.3	-163.74	1,040.5	-295.5	223.3	166.5	3.932		
6,063.2	5,901.1	6,014.0	5,901.1	29.6	28.3	-163.76	1,040.5	-295.5	223.5	166.7	3.934		
6,100.0	5,937.9	6,050.8	5,937.9	29.6	28.3	-176.28	1,040.5	-295.5	223.3	166.5	3.929		
6,200.0	6,037.9	6,150.8	6,037.9	29.7	28.4	-176.28	1,040.5	-295.5	223.3	166.4	3.923		
6,300.0	6,137.9	6,250.8	6,137.9	29.7	28.4	-176.28	1,040.5	-295.5	223.3	166.3	3.918		
6,400.0	6,237.9	6,350.8	6,237.9	29.8	28.5	-176.28	1,040.5	-295.5	223.3	166.2	3.913		
6,500.0	6,337.9	6,450.8	6,337.9	29.8	28.5	-176.28	1,040.5	-295.5	223.3	166.1	3.907		
6,600.0	6,437.9	6,550.8	6,437.9	29.8	28.5	-176.28	1,040.5	-295.5	223.3	166.1	3.902		
6,700.0	6,537.9	6,650.8	6,537.9	29.9	28.6	-176.28	1,040.5	-295.5	223.3	166.0	3.896		
6,800.0	6,637.9	6,750.8	6,637.9	29.9	28.6	-176.28	1,040.5	-295.5	223.3	165.9	3.891		
6,900.0	6,737.9	6,850.8	6,737.9	29.9	28.7	-176.28	1,040.5	-295.5	223.3	165.8	3.885		
7,000.0	6,837.9	6,950.8	6,837.9	30.0	28.7	-176.28	1,040.5	-295.5	223.3	165.7	3.880		
7,100.0	6,937.9	7,050.8	6,937.9	30.0	28.7	-176.28	1,040.5	-295.5	223.3	165.7	3.874		
7,200.0	7,037.9	7,150.8	7,037.9	30.1	28.8	-176.28	1,040.5	-295.5	223.3	165.6	3.868		
7,300.0	7,137.9	7,250.8	7,137.9	30.1	28.8	-176.28	1,040.5	-295.5	223.3	165.5	3.863		
7,400.0	7,237.9	7,350.8	7,237.9	30.1	28.9	-176.28	1,040.5	-295.5	223.3	165.4	3.857		
7,500.0	7,337.9	7,450.8	7,337.9	30.2	28.9	-176.28	1,040.5	-295.5	223.3	165.3	3.852		
7,600.0	7,437.9	7,550.8	7,437.9	30.2	28.9	-176.28	1,040.5	-295.5	223.3	165.2	3.846		
7,700.0	7,537.9	7,650.8	7,537.9	30.3	29.0	-176.28	1,040.5	-295.5	223.3	165.2	3.841		
7,800.0	7,637.9	7,750.8	7,637.9	30.3	29.0	-176.28	1,040.5	-295.5	223.3	165.1	3.835		
7,900.0	7,737.9	7,850.8	7,737.9	30.3	29.1	-176.28	1,040.5	-295.5	223.3	165.0	3.830		
7,952.1	7,790.0	7,902.9	7,790.0	30.4	29.1	-176.28	1,040.5	-295.5	223.3	164.9	3.827		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-136.24	-21.7	-20.7	30.0					
100.0	100.0	100.0	100.0	0.8	0.8	-136.24	-21.7	-20.7	30.0	28.4	18.936			
200.0	200.0	200.0	200.0	1.4	1.4	-136.24	-21.7	-20.7	30.0	27.2	10.603	CC		
202.8	202.8	202.8	202.8	1.4	1.4	-123.70	-21.7	-20.7	30.0	27.1	10.523			
300.0	300.0	300.0	300.0	1.7	1.9	-123.81	-21.7	-20.7	30.0	26.4	8.358	ES		
400.0	400.0	400.0	400.0	2.5	2.2	-127.48	-21.7	-20.7	31.5	26.9	6.965			
500.0	499.8	499.8	499.8	3.6	2.5	-135.06	-21.7	-20.7	35.4	29.7	6.250			
600.0	599.3	599.3	599.3	4.5	2.8	-143.94	-21.7	-20.7	42.6	35.7	6.224			
700.0	698.5	701.8	701.8	5.3	3.1	-151.69	-20.9	-21.0	53.0	45.0	6.674			
800.0	797.1	804.5	803.5	6.0	4.0	-151.60	-8.0	-25.7	56.5	47.2	6.116	SF		
900.0	895.2	904.3	902.4	6.7	4.2	-152.73	5.1	-30.4	62.7	52.5	6.171			
1,000.0	992.4	1,003.8	1,000.9	7.3	4.5	-154.86	18.1	-35.2	72.0	60.9	6.464			
1,100.0	1,089.1	1,103.0	1,099.2	7.6	4.8	-157.26	31.1	-39.9	83.9	72.1	7.092			
1,200.0	1,185.6	1,202.3	1,197.4	7.9	5.1	-159.13	44.0	-44.6	96.0	83.5	7.655			
1,300.0	1,282.2	1,301.5	1,295.7	8.2	5.5	-160.57	57.0	-49.3	108.3	95.0	8.152			
1,400.0	1,378.8	1,400.7	1,393.9	8.6	5.8	-161.72	70.0	-54.0	120.6	106.5	8.593			
1,500.0	1,475.4	1,499.9	1,492.2	8.9	6.2	-162.66	83.0	-58.7	132.9	118.1	8.983			
1,600.0	1,571.9	1,599.1	1,590.4	9.3	6.5	-163.44	95.9	-63.4	145.2	129.7	9.328			
1,700.0	1,668.5	1,698.3	1,688.7	9.7	6.9	-164.09	108.9	-68.1	157.6	141.2	9.634			
1,800.0	1,765.1	1,797.6	1,786.9	10.1	7.3	-164.66	121.9	-72.8	170.0	152.8	9.905			
1,900.0	1,861.7	1,896.8	1,885.2	10.5	7.7	-165.14	134.9	-77.6	182.4	164.4	10.148			
2,000.0	1,958.3	1,996.0	1,983.4	10.9	8.1	-165.56	147.9	-82.3	194.8	176.0	10.364			
2,100.0	2,054.8	2,095.2	2,081.7	11.3	8.5	-165.94	160.8	-87.0	207.3	187.6	10.558			
2,200.0	2,151.4	2,194.4	2,179.9	11.8	8.9	-166.27	173.8	-91.7	219.7	199.2	10.733			
2,300.0	2,248.0	2,293.6	2,278.2	12.2	9.3	-166.56	186.8	-96.4	232.1	210.8	10.890			
2,400.0	2,344.6	2,392.9	2,376.4	12.6	9.7	-166.82	199.8	-101.1	244.6	222.4	11.033			
2,500.0	2,441.1	2,492.1	2,474.7	13.1	10.1	-167.06	212.7	-105.8	257.0	234.0	11.162			
2,600.0	2,537.7	2,591.3	2,573.0	13.5	10.5	-167.28	225.7	-110.5	269.5	245.6	11.280			
2,700.0	2,634.3	2,690.5	2,671.2	14.0	10.9	-167.48	238.7	-115.2	281.9	257.2	11.388			
2,800.0	2,730.9	2,789.7	2,769.5	14.4	11.3	-167.66	251.7	-119.9	294.4	268.8	11.486			
2,900.0	2,827.4	2,888.9	2,867.7	14.9	11.7	-167.83	264.6	-124.6	306.9	280.4	11.577			
3,000.0	2,924.0	2,988.2	2,966.0	15.3	12.1	-167.98	277.6	-129.3	319.3	291.9	11.660			
3,100.0	3,020.6	3,087.4	3,064.2	15.8	12.5	-168.12	290.6	-134.1	331.8	303.5	11.737			
3,200.0	3,117.2	3,186.6	3,162.5	16.2	12.9	-168.25	303.6	-138.8	344.3	315.1	11.808			
3,300.0	3,213.7	3,285.8	3,260.7	16.7	13.4	-168.38	316.6	-143.5	356.7	326.7	11.873			
3,400.0	3,310.3	3,385.0	3,359.0	17.2	13.8	-168.49	329.5	-148.2	369.2	338.3	11.934			
3,500.0	3,406.9	3,484.2	3,457.2	17.6	14.2	-168.60	342.5	-152.9	381.7	349.9	11.991			
3,600.0	3,503.5	3,583.4	3,555.5	18.1	14.6	-168.70	355.5	-157.6	394.2	361.4	12.044			
3,700.0	3,600.0	3,682.7	3,653.7	18.6	15.0	-168.79	368.5	-162.3	406.6	373.0	12.094			
3,800.0	3,696.6	3,781.9	3,752.0	19.1	15.5	-168.88	381.4	-167.0	419.1	384.6	12.140			
3,900.0	3,793.2	3,881.1	3,850.2	19.5	15.9	-168.96	394.4	-171.7	431.6	396.2	12.184			
4,000.0	3,889.8	3,980.3	3,948.5	20.0	16.3	-169.04	407.4	-176.4	444.1	407.8	12.224			
4,100.0	3,986.3	4,079.5	4,046.7	20.5	16.7	-169.11	420.4	-181.1	456.6	419.3	12.263			
4,200.0	4,082.9	4,178.7	4,145.0	21.0	17.1	-169.18	433.3	-185.9	469.0	430.9	12.299			
4,300.0	4,179.5	4,278.0	4,243.2	21.4	17.6	-169.25	446.3	-190.6	481.5	442.5	12.333			
4,400.0	4,276.1	4,377.2	4,341.5	21.9	18.0	-169.31	459.3	-195.3	494.0	454.1	12.365			
4,500.0	4,372.7	4,476.4	4,439.7	22.4	18.4	-169.37	472.3	-200.0	506.5	465.6	12.395			
4,600.0	4,469.2	4,575.6	4,538.0	22.9	18.8	-169.43	485.3	-204.7	519.0	477.2	12.424			
4,700.0	4,565.8	4,674.8	4,636.2	23.4	19.3	-169.49	498.2	-209.4	531.5	488.8	12.452			
4,800.0	4,662.4	4,774.0	4,734.5	23.8	19.7	-169.54	511.2	-214.1	544.0	500.4	12.477			
4,900.0	4,759.0	4,873.3	4,832.7	24.3	20.1	-169.59	524.2	-218.8	556.4	511.9	12.502			
5,000.0	4,855.5	4,972.5	4,931.0	24.8	20.5	-169.63	537.2	-223.5	568.9	523.5	12.525			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Currier 0993-16-07 Pad - Currier BCU 0993-16-05M - OH - Design #2	Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
5,100.0	4,952.1	5,071.7	5,029.2	25.3	21.0	-169.68	550.1	-228.2	581.4	535.1	12.548			
5,200.0	5,048.7	5,170.9	5,127.5	25.8	21.4	-169.72	563.1	-232.9	593.9	546.6	12.569			
5,300.0	5,145.3	5,270.2	5,225.8	26.2	21.8	-169.78	576.1	-237.7	606.2	558.0	12.588			
5,400.0	5,242.6	5,369.7	5,324.3	26.8	22.2	-169.80	589.1	-242.4	615.7	566.6	12.543			
5,500.0	5,340.7	5,469.5	5,423.2	27.3	22.7	-169.76	602.2	-247.1	621.9	571.8	12.424			
5,600.0	5,439.3	5,559.8	5,512.6	27.8	23.1	-169.67	613.6	-251.3	625.0	574.1	12.278			
5,700.0	5,538.5	5,642.5	5,594.9	28.3	23.4	-169.60	622.1	-254.3	627.2	575.6	12.143			
5,800.0	5,638.1	5,725.2	5,677.3	28.8	23.8	-169.55	628.3	-256.6	628.7	576.4	12.013			
5,900.0	5,737.9	5,800.0	5,752.0	29.2	24.2	-169.51	632.0	-257.9	629.6	576.8	11.926			
6,000.0	5,837.9	5,890.6	5,842.6	29.6	24.5	-169.49	634.0	-258.7	629.7	576.4	11.809			
6,081.0	5,918.9	5,966.9	5,918.9	29.6	24.6	-169.49	634.1	-258.7	629.9	576.5	11.801			
6,100.0	5,937.9	5,985.9	5,937.9	29.6	24.6	177.97	634.1	-258.7	629.7	576.3	11.793			
6,200.0	6,037.9	6,085.9	6,037.9	29.7	24.6	177.97	634.1	-258.7	629.7	576.2	11.775			
6,300.0	6,137.9	6,185.9	6,137.9	29.7	24.7	177.97	634.1	-258.7	629.7	576.1	11.756			
6,400.0	6,237.9	6,285.9	6,237.9	29.8	24.7	177.97	634.1	-258.7	629.7	576.0	11.737			
6,500.0	6,337.9	6,385.9	6,337.9	29.8	24.8	177.97	634.1	-258.7	629.7	575.9	11.719			
6,600.0	6,437.9	6,485.9	6,437.9	29.8	24.8	177.97	634.1	-258.7	629.7	575.8	11.700			
6,700.0	6,537.9	6,585.9	6,537.9	29.9	24.9	177.97	634.1	-258.7	629.7	575.8	11.681			
6,800.0	6,637.9	6,685.9	6,637.9	29.9	24.9	177.97	634.1	-258.7	629.7	575.7	11.662			
6,900.0	6,737.9	6,785.9	6,737.9	29.9	24.9	177.97	634.1	-258.7	629.7	575.6	11.644			
7,000.0	6,837.9	6,885.9	6,837.9	30.0	25.0	177.97	634.1	-258.7	629.7	575.5	11.625			
7,100.0	6,937.9	6,985.9	6,937.9	30.0	25.0	177.97	634.1	-258.7	629.7	575.4	11.606			
7,200.0	7,037.9	7,085.9	7,037.9	30.1	25.1	177.97	634.1	-258.7	629.7	575.3	11.587			
7,300.0	7,137.9	7,185.9	7,137.9	30.1	25.1	177.97	634.1	-258.7	629.7	575.2	11.568			
7,400.0	7,237.9	7,285.9	7,237.9	30.1	25.2	177.97	634.1	-258.7	629.7	575.1	11.549			
7,500.0	7,337.9	7,385.9	7,337.9	30.2	25.2	177.97	634.1	-258.7	629.7	575.0	11.530			
7,600.0	7,437.9	7,485.9	7,437.9	30.2	25.3	177.97	634.1	-258.7	629.7	575.0	11.512			
7,700.0	7,537.9	7,585.9	7,537.9	30.3	25.3	177.97	634.1	-258.7	629.7	574.9	11.493			
7,800.0	7,637.9	7,685.9	7,637.9	30.3	25.4	177.97	634.1	-258.7	629.7	574.8	11.474			
7,900.0	7,737.9	7,785.9	7,737.9	30.3	25.4	177.97	634.1	-258.7	629.7	574.7	11.455			
7,952.1	7,790.0	7,838.1	7,790.0	30.4	25.4	177.97	634.1	-258.7	629.7	574.7	11.449			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-136.22	-28.9	-27.7	40.0					
100.0	100.0	100.0	100.0	0.8	0.8	-136.22	-28.9	-27.7	40.0	38.4	25.257			
200.0	200.0	200.0	200.0	1.4	1.4	-136.22	-28.9	-27.7	40.0	37.2	14.142	CC		
202.8	202.8	202.8	202.8	1.4	1.4	-123.68	-28.9	-27.7	40.0	37.2	14.036			
300.0	300.0	300.0	300.0	1.7	1.9	-123.76	-28.9	-27.7	40.0	36.5	11.144	ES		
400.0	400.0	400.0	400.0	2.5	2.2	-126.54	-28.9	-27.7	41.5	36.9	9.191			
500.0	499.8	499.6	499.6	3.6	2.4	-132.19	-28.8	-27.9	45.3	39.9	8.334			
600.0	599.3	598.7	598.7	4.5	3.1	-136.45	-28.0	-30.9	52.9	46.4	8.165	SF		
700.0	698.5	697.6	697.3	5.3	4.0	-138.59	-26.3	-37.2	64.0	56.6	8.596			
800.0	797.1	796.0	795.2	6.0	4.8	-139.18	-23.6	-46.6	78.6	70.2	9.443			
900.0	895.2	893.7	892.1	6.7	5.6	-138.86	-20.1	-59.3	96.4	87.3	10.557			
1,000.0	992.4	990.7	987.6	7.3	6.2	-138.05	-15.8	-74.9	117.6	107.7	11.849			
1,100.0	1,089.1	1,087.5	1,082.6	7.6	6.5	-137.29	-10.8	-93.0	141.3	130.9	13.611			
1,200.0	1,185.6	1,184.6	1,177.9	7.9	6.8	-136.80	-5.7	-111.2	165.2	154.2	15.074			
1,300.0	1,282.2	1,281.7	1,273.1	8.2	7.1	-136.43	-0.7	-129.5	189.1	177.5	16.323			
1,400.0	1,378.8	1,378.8	1,368.3	8.6	7.4	-136.15	4.4	-147.8	213.0	200.7	17.409			
1,500.0	1,475.4	1,475.9	1,463.6	8.9	7.7	-135.92	9.5	-166.0	236.9	224.0	18.358			
1,600.0	1,571.9	1,573.0	1,558.8	9.3	8.0	-135.73	14.5	-184.3	260.8	247.2	19.191			
1,700.0	1,668.5	1,670.1	1,654.0	9.7	8.4	-135.58	19.6	-202.6	284.7	270.4	19.925			
1,800.0	1,765.1	1,767.2	1,749.3	10.1	8.8	-135.45	24.7	-220.8	308.6	293.6	20.575			
1,900.0	1,861.7	1,864.3	1,844.5	10.5	9.1	-135.34	29.7	-239.1	332.5	316.8	21.152			
2,000.0	1,958.3	1,961.4	1,939.7	10.9	9.5	-135.24	34.8	-257.4	356.4	339.9	21.667			
2,100.0	2,054.8	2,058.5	2,034.9	11.3	9.9	-135.16	39.9	-275.6	380.3	363.1	22.128			
2,200.0	2,151.4	2,155.6	2,130.2	11.8	10.3	-135.08	44.9	-293.9	404.2	386.3	22.543			
2,300.0	2,248.0	2,252.7	2,225.4	12.2	10.7	-135.02	50.0	-312.2	428.1	409.4	22.917			
2,400.0	2,344.6	2,349.8	2,320.6	12.6	11.1	-134.96	55.0	-330.4	452.0	432.6	23.257			
2,500.0	2,441.1	2,446.9	2,415.9	13.1	11.5	-134.91	60.1	-348.7	475.9	455.7	23.566			
2,600.0	2,537.7	2,544.0	2,511.1	13.5	11.9	-134.86	65.2	-367.0	499.9	478.9	23.847			
2,700.0	2,634.3	2,641.1	2,606.3	14.0	12.3	-134.81	70.2	-385.2	523.8	502.0	24.105			
2,800.0	2,730.9	2,738.2	2,701.6	14.4	12.7	-134.77	75.3	-403.5	547.7	525.2	24.342			
2,900.0	2,827.4	2,835.3	2,796.8	14.9	13.1	-134.74	80.4	-421.8	571.6	548.3	24.559			
3,000.0	2,924.0	2,932.4	2,892.0	15.3	13.5	-134.70	85.4	-440.0	595.5	571.5	24.760			
3,100.0	3,020.6	3,029.5	2,987.2	15.8	14.0	-134.67	90.5	-458.3	619.4	594.6	24.946			
3,200.0	3,117.2	3,126.6	3,082.5	16.2	14.4	-134.64	95.6	-476.6	643.3	617.7	25.119			
3,300.0	3,213.7	3,223.7	3,177.7	16.7	14.8	-134.62	100.6	-494.8	667.2	640.8	25.279			
3,400.0	3,310.3	3,320.8	3,272.9	17.2	15.2	-134.59	105.7	-513.1	691.2	664.0	25.428			
3,500.0	3,406.9	3,417.9	3,368.2	17.6	15.7	-134.57	110.8	-531.4	715.1	687.1	25.568			
3,600.0	3,503.5	3,515.0	3,463.4	18.1	16.1	-134.55	115.8	-549.6	739.0	710.2	25.698			
3,700.0	3,600.0	3,612.1	3,558.6	18.6	16.5	-134.53	120.9	-567.9	762.9	733.3	25.820			
3,800.0	3,696.6	3,709.2	3,653.9	19.1	17.0	-134.51	126.0	-586.2	786.8	756.5	25.935			
3,900.0	3,793.2	3,806.3	3,749.1	19.5	17.4	-134.49	131.0	-604.4	810.7	779.6	26.043			
4,000.0	3,889.8	3,903.4	3,844.3	20.0	17.8	-134.47	136.1	-622.7	834.6	802.7	26.145			
4,100.0	3,986.3	4,000.5	3,939.5	20.5	18.3	-134.46	141.1	-641.0	858.5	825.8	26.240			
4,200.0	4,082.9	4,097.5	4,034.8	21.0	18.7	-134.44	146.2	-659.2	882.5	848.9	26.331			
4,300.0	4,179.5	4,194.6	4,130.0	21.4	19.1	-134.43	151.3	-677.5	906.4	872.1	26.416			
4,400.0	4,276.1	4,291.7	4,225.2	21.9	19.6	-134.41	156.3	-695.8	930.3	895.2	26.497			
4,500.0	4,372.7	4,388.8	4,320.5	22.4	20.0	-134.40	161.4	-714.0	954.2	918.3	26.574			
4,600.0	4,469.2	4,485.9	4,415.7	22.9	20.5	-134.39	166.5	-732.3	978.1	941.4	26.647			
4,700.0	4,565.8	4,583.0	4,510.9	23.4	20.9	-134.38	171.5	-750.6	1,002.0	964.5	26.716			
4,800.0	4,662.4	4,680.1	4,606.2	23.8	21.3	-134.37	176.6	-768.8	1,025.9	987.6	26.782			
4,900.0	4,759.0	4,777.2	4,701.4	24.3	21.8	-134.36	181.7	-787.1	1,049.9	1,010.7	26.845			
5,000.0	4,855.5	4,874.3	4,796.6	24.8	22.2	-134.35	186.7	-805.4	1,073.8	1,033.9	26.905			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design											Currier 0993-16-07 Pad - Currier BCU 0993-16-06W - OH - Design #2	Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,971.4	4,891.8	25.3	22.7	-134.34	191.8	-823.6	1,097.7	1,057.0	26.962		
5,200.0	5,048.7	5,068.5	4,987.1	25.8	23.1	-134.33	196.9	-841.9	1,121.6	1,080.1	27.017		
5,300.0	5,145.3	5,165.7	5,082.3	26.2	23.6	-134.43	201.9	-860.2	1,145.4	1,103.1	27.076		
5,400.0	5,242.6	5,263.2	5,178.0	26.8	24.0	-134.64	207.0	-878.5	1,167.2	1,124.1	27.083		
5,500.0	5,340.7	5,361.2	5,274.1	27.3	24.4	-134.68	212.1	-896.9	1,186.7	1,142.8	27.039		
5,600.0	5,439.3	5,468.4	5,379.4	27.8	25.0	-134.59	217.5	-916.2	1,203.6	1,158.9	26.906		
5,700.0	5,538.5	5,581.4	5,491.2	28.3	25.6	-134.50	222.0	-932.7	1,217.0	1,171.5	26.736		
5,800.0	5,638.1	5,695.4	5,604.4	28.8	26.1	-134.42	225.4	-944.9	1,226.8	1,180.6	26.561		
5,900.0	5,737.9	5,809.9	5,718.6	29.2	26.7	-134.36	227.6	-952.8	1,233.0	1,186.3	26.379		
6,000.0	5,837.9	5,924.9	5,833.5	29.6	27.1	-134.33	228.6	-956.3	1,235.6	1,188.5	26.207		
6,100.0	5,937.9	6,029.2	5,937.9	29.6	27.1	-146.86	228.6	-956.5	1,235.7	1,188.5	26.153		
6,200.0	6,037.9	6,129.2	6,037.9	29.7	27.2	-146.86	228.6	-956.5	1,235.7	1,188.4	26.107		
6,300.0	6,137.9	6,229.2	6,137.9	29.7	27.2	-146.86	228.6	-956.5	1,235.7	1,188.3	26.059		
6,400.0	6,237.9	6,329.2	6,237.9	29.8	27.2	-146.86	228.6	-956.5	1,235.7	1,188.2	26.010		
6,500.0	6,337.9	6,429.2	6,337.9	29.8	27.2	-146.86	228.6	-956.5	1,235.7	1,188.1	25.962		
6,600.0	6,437.9	6,529.2	6,437.9	29.8	27.3	-146.86	228.6	-956.5	1,235.7	1,188.0	25.913		
6,700.0	6,537.9	6,629.2	6,537.9	29.9	27.3	-146.86	228.6	-956.5	1,235.7	1,187.9	25.865		
6,800.0	6,637.9	6,729.2	6,637.9	29.9	27.3	-146.86	228.6	-956.5	1,235.7	1,187.8	25.816		
6,900.0	6,737.9	6,829.2	6,737.9	29.9	27.4	-146.86	228.6	-956.5	1,235.7	1,187.7	25.768		
7,000.0	6,837.9	6,929.2	6,837.9	30.0	27.4	-146.86	228.6	-956.5	1,235.7	1,187.7	25.719		
7,100.0	6,937.9	7,029.2	6,937.9	30.0	27.4	-146.86	228.6	-956.5	1,235.7	1,187.6	25.670		
7,200.0	7,037.9	7,129.2	7,037.9	30.1	27.5	-146.86	228.6	-956.5	1,235.7	1,187.5	25.622		
7,300.0	7,137.9	7,229.2	7,137.9	30.1	27.5	-146.86	228.6	-956.5	1,235.7	1,187.4	25.573		
7,400.0	7,237.9	7,329.2	7,237.9	30.1	27.6	-146.86	228.6	-956.5	1,235.7	1,187.3	25.524		
7,500.0	7,337.9	7,429.2	7,337.9	30.2	27.6	-146.86	228.6	-956.5	1,235.7	1,187.2	25.475		
7,600.0	7,437.9	7,529.2	7,437.9	30.2	27.6	-146.86	228.6	-956.5	1,235.7	1,187.1	25.427		
7,700.0	7,537.9	7,629.2	7,537.9	30.3	27.7	-146.86	228.6	-956.5	1,235.7	1,187.0	25.378		
7,800.0	7,637.9	7,729.2	7,637.9	30.3	27.7	-146.86	228.6	-956.5	1,235.7	1,186.9	25.329		
7,900.0	7,737.9	7,829.2	7,737.9	30.3	27.7	-146.86	228.6	-956.5	1,235.7	1,186.8	25.280		
7,952.1	7,790.0	7,881.4	7,790.0	30.4	27.7	-146.86	228.6	-956.5	1,235.7	1,186.8	25.259		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-136.23	-36.1	-34.6	50.0					
100.0	100.0	100.0	100.0	0.8	0.8	-136.23	-36.1	-34.6	50.0	48.4	31.565			
200.0	200.0	200.0	200.0	1.4	1.4	-136.23	-36.1	-34.6	50.0	47.2	17.674	CC		
202.8	202.8	202.8	202.8	1.4	1.4	-123.69	-36.1	-34.6	50.0	47.2	17.542			
300.0	300.0	300.0	300.0	1.7	1.9	-123.76	-36.1	-34.6	50.0	46.4	13.924	ES		
400.0	400.0	400.0	400.0	2.5	2.2	-126.00	-36.1	-34.6	51.4	46.9	11.414			
500.0	499.8	498.6	498.6	3.6	2.8	-129.46	-36.1	-36.3	56.2	50.6	10.125			
600.0	599.3	596.9	596.8	4.5	3.8	-132.10	-36.1	-41.4	65.4	58.6	9.673	SF		
700.0	698.5	694.0	693.5	5.3	4.0	-133.95	-36.4	-49.5	79.2	71.6	10.503			
800.0	797.1	789.1	788.1	6.0	4.4	-136.30	-39.0	-59.3	98.5	90.0	11.549			
900.0	895.2	883.0	881.2	6.7	4.7	-138.75	-44.2	-70.5	123.7	114.3	13.148			
1,000.0	992.4	978.6	975.8	7.3	4.9	-141.11	-50.2	-82.4	152.6	142.4	14.880			
1,100.0	1,089.1	1,073.3	1,069.6	7.6	5.2	-143.38	-56.2	-94.1	183.8	172.9	16.887			
1,200.0	1,185.6	1,168.1	1,163.4	7.9	5.5	-145.12	-62.2	-105.8	215.3	203.8	18.658			
1,300.0	1,282.2	1,262.8	1,257.2	8.2	5.9	-146.40	-68.2	-117.6	246.9	234.7	20.234			
1,400.0	1,378.8	1,357.5	1,351.1	8.6	6.2	-147.40	-74.2	-129.3	278.7	265.8	21.642			
1,500.0	1,475.4	1,452.3	1,444.9	8.9	6.5	-148.20	-80.2	-141.1	310.5	296.9	22.901			
1,600.0	1,571.9	1,547.0	1,538.7	9.3	6.9	-148.84	-86.2	-152.8	342.3	328.1	24.029			
1,700.0	1,668.5	1,641.7	1,632.5	9.7	7.2	-149.38	-92.2	-164.6	374.2	359.2	25.042			
1,800.0	1,765.1	1,736.5	1,726.3	10.1	7.6	-149.83	-98.2	-176.3	406.1	390.4	25.953			
1,900.0	1,861.7	1,831.2	1,820.1	10.5	8.0	-150.22	-104.2	-188.0	438.0	421.6	26.776			
2,000.0	1,958.3	1,925.9	1,913.9	10.9	8.3	-150.55	-110.2	-199.8	469.9	452.8	27.521			
2,100.0	2,054.8	2,021.8	2,008.9	11.3	8.7	-150.85	-116.2	-211.7	501.8	484.0	28.194			
2,200.0	2,151.4	2,130.1	2,116.4	11.8	9.2	-151.34	-122.0	-223.0	532.4	513.7	28.489			
2,300.0	2,248.0	2,239.8	2,225.7	12.2	9.9	-152.10	-125.9	-230.7	560.5	540.9	28.587			
2,400.0	2,344.6	2,350.5	2,336.4	12.6	10.5	-153.12	-128.0	-234.7	586.3	565.9	28.642			
2,500.0	2,441.1	2,455.3	2,441.1	13.1	10.8	-154.26	-128.3	-235.3	610.1	589.0	28.889			
2,600.0	2,537.7	2,551.9	2,537.7	13.5	10.8	-155.27	-128.3	-235.3	633.8	612.1	29.300			
2,700.0	2,634.3	2,648.4	2,634.3	14.0	10.9	-156.21	-128.3	-235.3	657.5	635.4	29.702			
2,800.0	2,730.9	2,745.0	2,730.9	14.4	11.0	-157.09	-128.3	-235.3	681.5	658.8	30.084			
2,900.0	2,827.4	2,841.6	2,827.4	14.9	11.0	-157.90	-128.3	-235.3	705.6	682.4	30.450			
3,000.0	2,924.0	2,938.2	2,924.0	15.3	11.1	-158.67	-128.3	-235.3	729.8	706.1	30.798			
3,100.0	3,020.6	3,034.7	3,020.6	15.8	11.2	-159.38	-128.3	-235.3	754.1	729.9	31.132			
3,200.0	3,117.2	3,131.3	3,117.2	16.2	11.2	-160.05	-128.3	-235.3	778.6	753.8	31.450			
3,300.0	3,213.7	3,227.9	3,213.7	16.7	11.3	-160.68	-128.3	-235.3	803.1	777.8	31.755			
3,400.0	3,310.3	3,324.5	3,310.3	17.2	11.4	-161.27	-128.3	-235.3	827.7	801.9	32.046			
3,500.0	3,406.9	3,421.0	3,406.9	17.6	11.4	-161.83	-128.3	-235.3	852.4	826.0	32.325			
3,600.0	3,503.5	3,517.6	3,503.5	18.1	11.5	-162.36	-128.3	-235.3	877.2	850.2	32.592			
3,700.0	3,600.0	3,614.2	3,600.0	18.6	11.6	-162.85	-128.3	-235.3	902.0	874.5	32.849			
3,800.0	3,696.6	3,710.8	3,696.6	19.1	11.6	-163.33	-128.3	-235.3	926.9	898.9	33.094			
3,900.0	3,793.2	3,807.3	3,793.2	19.5	11.7	-163.77	-128.3	-235.3	951.8	923.3	33.330			
4,000.0	3,889.8	3,903.9	3,889.8	20.0	11.7	-164.20	-128.3	-235.3	976.8	947.7	33.557			
4,100.0	3,986.3	4,000.5	3,986.3	20.5	11.8	-164.60	-128.3	-235.3	1,001.9	972.2	33.774			
4,200.0	4,082.9	4,097.1	4,082.9	21.0	11.9	-164.98	-128.3	-235.3	1,027.0	996.7	33.984			
4,300.0	4,179.5	4,193.7	4,179.5	21.4	11.9	-165.35	-128.3	-235.3	1,052.1	1,021.3	34.185			
4,400.0	4,276.1	4,290.2	4,276.1	21.9	12.0	-165.70	-128.3	-235.3	1,077.3	1,045.9	34.379			
4,500.0	4,372.7	4,386.8	4,372.7	22.4	12.1	-166.03	-128.3	-235.3	1,102.5	1,070.6	34.566			
4,600.0	4,469.2	4,483.4	4,469.2	22.9	12.1	-166.35	-128.3	-235.3	1,127.7	1,095.3	34.746			
4,700.0	4,565.8	4,580.0	4,565.8	23.4	12.2	-166.65	-128.3	-235.3	1,153.0	1,120.0	34.920			
4,800.0	4,662.4	4,676.5	4,662.4	23.8	12.3	-166.94	-128.3	-235.3	1,178.3	1,144.7	35.088			
4,900.0	4,759.0	4,773.1	4,759.0	24.3	12.4	-167.22	-128.3	-235.3	1,203.6	1,169.5	35.250			
5,000.0	4,855.5	4,869.7	4,855.5	24.8	12.4	-167.49	-128.3	-235.3	1,229.0	1,194.3	35.407			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,966.3	4,952.1	25.3	12.5	-167.74	-128.3	-235.3	1,254.4	1,219.1	35.558		
5,200.0	5,048.7	5,062.8	5,048.7	25.8	12.6	-167.99	-128.3	-235.3	1,279.8	1,243.9	35.705		
5,300.0	5,145.3	5,159.5	5,145.3	26.2	12.6	-168.26	-128.3	-235.3	1,305.0	1,268.6	35.854		
5,400.0	5,242.6	5,256.8	5,242.6	26.8	12.7	-168.56	-128.3	-235.3	1,327.6	1,290.6	35.890		
5,500.0	5,340.7	5,354.8	5,340.7	27.3	12.8	-168.80	-128.3	-235.3	1,346.8	1,309.2	35.804		
5,600.0	5,439.3	5,453.5	5,439.3	27.8	12.8	-168.99	-128.3	-235.3	1,362.7	1,324.5	35.651		
5,700.0	5,538.5	5,552.7	5,538.5	28.3	12.9	-169.14	-128.3	-235.3	1,375.3	1,336.4	35.438		
5,800.0	5,638.1	5,652.2	5,638.1	28.8	13.0	-169.25	-128.3	-235.3	1,384.4	1,345.0	35.173		
5,900.0	5,737.9	5,752.1	5,737.9	29.2	13.0	-169.31	-128.3	-235.3	1,390.1	1,350.2	34.867		
6,000.0	5,837.9	5,852.0	5,837.9	29.6	13.1	-169.34	-128.3	-235.3	1,392.3	1,352.0	34.551		
6,100.0	5,937.9	5,952.0	5,937.9	29.6	13.2	178.12	-128.3	-235.3	1,392.4	1,351.9	34.435		
6,200.0	6,037.9	6,052.0	6,037.9	29.7	13.3	178.12	-128.3	-235.3	1,392.4	1,351.8	34.329		
6,300.0	6,137.9	6,152.0	6,137.9	29.7	13.3	178.12	-128.3	-235.3	1,392.4	1,351.7	34.223		
6,400.0	6,237.9	6,252.0	6,237.9	29.8	13.4	178.12	-128.3	-235.3	1,392.4	1,351.6	34.117		
6,500.0	6,337.9	6,352.0	6,337.9	29.8	13.5	178.12	-128.3	-235.3	1,392.4	1,351.4	34.011		
6,600.0	6,437.9	6,452.0	6,437.9	29.8	13.5	178.12	-128.3	-235.3	1,392.4	1,351.3	33.906		
6,700.0	6,537.9	6,552.0	6,537.9	29.9	13.6	178.12	-128.3	-235.3	1,392.4	1,351.2	33.802		
6,800.0	6,637.9	6,652.0	6,637.9	29.9	13.7	178.12	-128.3	-235.3	1,392.4	1,351.1	33.699		
6,900.0	6,737.9	6,752.0	6,737.9	29.9	13.8	178.12	-128.3	-235.3	1,392.4	1,350.9	33.596		
7,000.0	6,837.9	6,852.0	6,837.9	30.0	13.8	178.12	-128.3	-235.3	1,392.4	1,350.8	33.493		
7,100.0	6,937.9	6,952.0	6,937.9	30.0	13.9	178.12	-128.3	-235.3	1,392.4	1,350.7	33.391		
7,200.0	7,037.9	7,052.0	7,037.9	30.1	14.0	178.12	-128.3	-235.3	1,392.4	1,350.5	33.290		
7,300.0	7,137.9	7,152.0	7,137.9	30.1	14.1	178.12	-128.3	-235.3	1,392.4	1,350.4	33.189		
7,400.0	7,237.9	7,252.0	7,237.9	30.1	14.1	178.12	-128.3	-235.3	1,392.4	1,350.3	33.088		
7,500.0	7,337.9	7,352.0	7,337.9	30.2	14.2	178.12	-128.3	-235.3	1,392.4	1,350.2	32.989		
7,600.0	7,437.9	7,452.0	7,437.9	30.2	14.3	178.12	-128.3	-235.3	1,392.4	1,350.0	32.889		
7,700.0	7,537.9	7,552.0	7,537.9	30.3	14.3	178.12	-128.3	-235.3	1,392.4	1,349.9	32.791		
7,800.0	7,637.9	7,652.0	7,637.9	30.3	14.4	178.12	-128.3	-235.3	1,392.4	1,349.8	32.692		
7,900.0	7,737.9	7,752.0	7,737.9	30.3	14.5	178.12	-128.3	-235.3	1,392.4	1,349.7	32.595		
7,952.1	7,790.0	7,804.2	7,790.0	30.4	14.5	178.12	-128.3	-235.3	1,392.4	1,349.6	32.550		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-136.23	-50.6	-48.4	70.0					
100.0	100.0	100.0	100.0	0.8	0.8	-136.23	-50.6	-48.4	70.0	68.4	44.198			
200.0	200.0	200.0	200.0	1.4	1.4	-136.23	-50.6	-48.4	70.0	67.2	24.747	CC		
202.8	202.8	202.8	202.8	1.4	1.4	-123.69	-50.6	-48.4	70.0	67.2	24.562			
300.0	300.0	300.0	300.0	1.7	1.9	-123.74	-50.6	-48.4	70.1	66.5	19.493	ES		
400.0	400.0	400.0	400.0	2.5	2.2	-125.34	-50.6	-48.4	71.4	66.9	15.868			
500.0	499.8	499.8	499.8	3.6	2.5	-128.98	-50.6	-48.4	75.0	69.5	13.553			
600.0	599.3	599.3	599.3	4.5	2.8	-134.04	-50.6	-48.4	81.3	74.7	12.396			
700.0	698.5	698.5	698.5	5.3	3.1	-139.75	-50.6	-48.4	90.7	83.1	11.943	SF		
800.0	797.1	797.1	797.1	6.0	3.3	-145.41	-50.6	-48.4	103.8	95.2	12.019			
900.0	895.2	895.2	895.2	6.7	3.6	-150.56	-50.6	-48.4	120.7	111.0	12.513			
1,000.0	992.4	992.4	992.4	7.3	3.8	-154.98	-50.6	-48.4	141.4	130.8	13.337			
1,100.0	1,089.1	1,086.0	1,086.0	7.6	4.0	-158.22	-51.2	-49.6	166.1	154.9	14.905			
1,200.0	1,185.6	1,178.6	1,178.4	7.9	4.6	-159.95	-53.3	-53.3	193.1	181.3	16.346			
1,300.0	1,282.2	1,269.8	1,269.4	8.2	5.0	-160.62	-56.9	-59.4	222.2	209.8	18.039			
1,400.0	1,378.8	1,357.8	1,357.0	8.6	5.2	-161.11	-62.7	-65.5	253.7	240.9	19.779			
1,500.0	1,475.4	1,444.0	1,442.7	8.9	5.5	-161.68	-70.8	-70.9	287.9	274.5	21.400			
1,600.0	1,571.9	1,531.2	1,529.1	9.3	5.8	-162.30	-81.5	-75.7	324.7	310.6	22.964			
1,700.0	1,668.5	1,623.9	1,620.9	9.7	6.1	-162.85	-93.4	-80.6	362.1	347.3	24.455			
1,800.0	1,765.1	1,716.6	1,712.6	10.1	6.3	-163.31	-105.3	-85.6	399.6	384.1	25.886			
1,900.0	1,861.7	1,809.3	1,804.4	10.5	6.5	-163.68	-117.2	-90.6	437.0	421.0	27.170			
2,000.0	1,958.3	1,901.9	1,896.2	10.9	6.8	-164.00	-129.1	-95.5	474.5	457.8	28.322			
2,100.0	2,054.8	1,994.6	1,988.0	11.3	7.0	-164.27	-141.0	-100.5	512.0	494.6	29.357			
2,200.0	2,151.4	2,087.3	2,079.8	11.8	7.3	-164.50	-152.9	-105.4	549.5	531.4	30.288			
2,300.0	2,248.0	2,180.0	2,171.5	12.2	7.6	-164.71	-164.8	-110.4	587.0	568.1	31.129			
2,400.0	2,344.6	2,272.7	2,263.3	12.6	7.9	-164.89	-176.7	-115.3	624.5	604.9	31.889			
2,500.0	2,441.1	2,365.4	2,355.1	13.1	8.3	-165.04	-188.7	-120.3	662.0	641.7	32.578			
2,600.0	2,537.7	2,458.0	2,446.9	13.5	8.6	-165.19	-200.6	-125.2	699.5	678.5	33.204			
2,700.0	2,634.3	2,550.7	2,538.7	14.0	8.9	-165.31	-212.5	-130.2	737.1	715.2	33.774			
2,800.0	2,730.9	2,643.4	2,630.4	14.4	9.3	-165.43	-224.4	-135.1	774.6	752.0	34.294			
2,900.0	2,827.4	2,736.1	2,722.2	14.9	9.6	-165.53	-236.3	-140.1	812.1	788.7	34.770			
3,000.0	2,924.0	2,828.8	2,814.0	15.3	9.9	-165.63	-248.2	-145.1	849.6	825.5	35.206			
3,100.0	3,020.6	2,921.5	2,905.8	15.8	10.3	-165.71	-260.1	-150.0	887.2	862.2	35.608			
3,200.0	3,117.2	3,014.1	2,997.6	16.2	10.7	-165.79	-272.0	-155.0	924.7	899.0	35.978			
3,300.0	3,213.7	3,106.8	3,089.3	16.7	11.0	-165.87	-283.9	-159.9	962.2	935.7	36.319			
3,400.0	3,310.3	3,199.5	3,181.1	17.2	11.4	-165.94	-295.8	-164.9	999.7	972.5	36.635			
3,500.0	3,406.9	3,292.2	3,272.9	17.6	11.7	-166.00	-307.7	-169.8	1,037.3	1,009.2	36.927			
3,600.0	3,503.5	3,384.9	3,364.7	18.1	12.1	-166.06	-319.7	-174.8	1,074.8	1,045.9	37.199			
3,700.0	3,600.0	3,477.6	3,456.5	18.6	12.5	-166.11	-331.6	-179.7	1,112.3	1,082.6	37.452			
3,800.0	3,696.6	3,570.2	3,548.3	19.1	12.9	-166.17	-343.5	-184.7	1,149.9	1,119.4	37.688			
3,900.0	3,793.2	3,662.9	3,640.0	19.5	13.2	-166.21	-355.4	-189.6	1,187.4	1,156.1	37.909			
4,000.0	3,889.8	3,755.6	3,731.8	20.0	13.6	-166.26	-367.3	-194.6	1,225.0	1,192.8	38.115			
4,100.0	3,986.3	3,848.3	3,823.6	20.5	14.0	-166.30	-379.2	-199.6	1,262.5	1,229.5	38.308			
4,200.0	4,082.9	3,941.0	3,915.4	21.0	14.4	-166.34	-391.1	-204.5	1,300.0	1,266.3	38.490			
4,300.0	4,179.5	4,033.7	4,007.2	21.4	14.7	-166.38	-403.0	-209.5	1,337.6	1,303.0	38.660			
4,400.0	4,276.1	4,126.3	4,098.9	21.9	15.1	-166.41	-414.9	-214.4	1,375.1	1,339.7	38.830			
4,500.0	4,372.7	4,287.9	4,259.4	22.4	15.8	-166.54	-432.0	-221.5	1,410.6	1,373.8	38.253			
4,600.0	4,469.2	4,464.4	4,435.6	22.9	16.7	-166.82	-441.2	-225.3	1,440.9	1,402.5	37.512			
4,700.0	4,565.8	4,594.6	4,565.8	23.4	16.9	-167.12	-442.0	-225.7	1,466.7	1,427.5	37.448			
4,800.0	4,662.4	4,691.2	4,662.4	23.8	16.9	-167.34	-442.0	-225.7	1,492.1	1,452.4	37.611			
4,900.0	4,759.0	4,787.8	4,759.0	24.3	16.9	-167.56	-442.0	-225.7	1,517.4	1,477.2	37.765			
5,000.0	4,855.5	4,884.3	4,855.5	24.8	17.0	-167.76	-442.0	-225.7	1,542.8	1,502.1	37.915			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,980.9	4,952.1	25.3	17.0	-167.96	-442.0	-225.7	1,568.2	1,527.0	38.060		
5,200.0	5,048.7	5,077.5	5,048.7	25.8	17.0	-168.16	-442.0	-225.7	1,593.6	1,551.9	38.201		
5,300.0	5,145.3	5,174.1	5,145.3	26.2	17.1	-168.38	-442.0	-225.7	1,618.8	1,576.6	38.345		
5,400.0	5,242.6	5,271.4	5,242.6	26.8	17.1	-168.64	-442.0	-225.7	1,641.5	1,598.7	38.389		
5,500.0	5,340.7	5,369.5	5,340.7	27.3	17.2	-168.85	-442.0	-225.7	1,660.7	1,617.4	38.323		
5,600.0	5,439.3	5,468.1	5,439.3	27.8	17.2	-169.01	-442.0	-225.7	1,676.6	1,632.7	38.200		
5,700.0	5,538.5	5,567.3	5,538.5	28.3	17.2	-169.14	-442.0	-225.7	1,689.1	1,644.7	38.023		
5,800.0	5,638.1	5,666.9	5,638.1	28.8	17.3	-169.24	-442.0	-225.7	1,698.3	1,653.3	37.801		
5,900.0	5,737.9	5,766.7	5,737.9	29.2	17.3	-169.29	-442.0	-225.7	1,703.9	1,658.6	37.542		
6,000.0	5,837.9	5,866.7	5,837.9	29.6	17.3	-169.32	-442.0	-225.7	1,706.2	1,660.4	37.277		
6,100.0	5,937.9	5,966.7	5,937.9	29.6	17.4	178.14	-442.0	-225.7	1,706.3	1,660.4	37.204		
6,200.0	6,037.9	6,066.7	6,037.9	29.7	17.4	178.14	-442.0	-225.7	1,706.3	1,660.3	37.140		
6,300.0	6,137.9	6,166.7	6,137.9	29.7	17.5	178.14	-442.0	-225.7	1,706.3	1,660.2	37.074		
6,400.0	6,237.9	6,266.7	6,237.9	29.8	17.5	178.14	-442.0	-225.7	1,706.3	1,660.2	37.008		
6,500.0	6,337.9	6,366.7	6,337.9	29.8	17.6	178.14	-442.0	-225.7	1,706.3	1,660.1	36.943		
6,600.0	6,437.9	6,466.7	6,437.9	29.8	17.6	178.14	-442.0	-225.7	1,706.3	1,660.0	36.877		
6,700.0	6,537.9	6,566.7	6,537.9	29.9	17.6	178.14	-442.0	-225.7	1,706.3	1,659.9	36.811		
6,800.0	6,637.9	6,666.7	6,637.9	29.9	17.7	178.14	-442.0	-225.7	1,706.3	1,659.8	36.744		
6,900.0	6,737.9	6,766.7	6,737.9	29.9	17.7	178.14	-442.0	-225.7	1,706.3	1,659.7	36.678		
7,000.0	6,837.9	6,866.7	6,837.9	30.0	17.8	178.14	-442.0	-225.7	1,706.3	1,659.7	36.612		
7,100.0	6,937.9	6,966.7	6,937.9	30.0	17.8	178.14	-442.0	-225.7	1,706.3	1,659.6	36.545		
7,200.0	7,037.9	7,066.7	7,037.9	30.1	17.8	178.14	-442.0	-225.7	1,706.3	1,659.5	36.478		
7,300.0	7,137.9	7,166.7	7,137.9	30.1	17.9	178.14	-442.0	-225.7	1,706.3	1,659.4	36.411		
7,400.0	7,237.9	7,266.7	7,237.9	30.1	17.9	178.14	-442.0	-225.7	1,706.3	1,659.3	36.345		
7,500.0	7,337.9	7,366.7	7,337.9	30.2	18.0	178.14	-442.0	-225.7	1,706.3	1,659.2	36.278		
7,600.0	7,437.9	7,466.7	7,437.9	30.2	18.0	178.14	-442.0	-225.7	1,706.3	1,659.1	36.211		
7,700.0	7,537.9	7,566.7	7,537.9	30.3	18.1	178.14	-442.0	-225.7	1,706.3	1,659.1	36.144		
7,800.0	7,637.9	7,666.7	7,637.9	30.3	18.1	178.14	-442.0	-225.7	1,706.3	1,659.0	36.076		
7,900.0	7,737.9	7,766.7	7,737.9	30.3	18.2	178.14	-442.0	-225.7	1,706.3	1,658.9	36.009		
7,952.1	7,790.0	7,818.8	7,790.0	30.4	18.2	178.14	-442.0	-225.7	1,706.3	1,658.8	35.979		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-147.54	-43.0	-27.4	51.0					
100.0	100.0	100.0	100.0	0.8	0.8	-147.54	-43.0	-27.4	51.0	49.4	32.190			
200.0	200.0	200.0	200.0	1.4	1.4	-147.54	-43.0	-27.4	51.0	48.2	18.024	CC		
200.4	200.4	200.4	200.4	1.4	1.4	-147.54	-43.0	-27.4	51.0	48.2	18.006			
300.0	300.0	299.5	299.5	1.7	1.7	-135.10	-43.2	-27.4	51.2	47.8	15.075	ES		
400.0	400.0	397.6	397.6	2.5	2.5	-137.62	-45.8	-28.1	55.6	50.8	11.567			
500.0	499.8	494.9	494.7	3.6	3.6	-142.23	-51.6	-29.6	66.1	59.4	9.758	SF		
600.0	599.3	590.7	590.1	4.5	4.4	-147.04	-60.4	-32.0	83.2	74.8	9.824			
700.0	698.5	685.1	683.7	5.3	4.9	-151.06	-72.0	-35.1	106.9	97.2	11.065			
800.0	797.1	780.8	778.4	6.0	5.1	-154.25	-84.8	-38.5	135.1	124.5	12.728			
900.0	895.2	875.4	872.2	6.7	5.4	-156.75	-97.5	-41.9	166.6	155.1	14.420			
1,000.0	992.4	968.9	964.7	7.3	5.7	-158.73	-110.0	-45.2	201.5	189.0	16.150			
1,100.0	1,089.1	1,061.4	1,056.4	7.6	6.0	-160.48	-122.4	-48.5	238.8	225.8	18.261			
1,200.0	1,185.6	1,153.9	1,147.9	7.9	6.3	-161.83	-134.8	-51.8	276.5	262.8	20.162			
1,300.0	1,282.2	1,246.3	1,239.5	8.2	6.6	-162.86	-147.2	-55.1	314.3	300.0	21.866			
1,400.0	1,378.8	1,338.8	1,331.0	8.6	7.0	-163.66	-159.6	-58.4	352.2	337.2	23.399			
1,500.0	1,475.4	1,431.2	1,422.6	8.9	7.3	-164.31	-172.0	-61.7	390.1	374.4	24.776			
1,600.0	1,571.9	1,523.7	1,514.2	9.3	7.6	-164.85	-184.4	-65.0	428.1	411.6	26.016			
1,700.0	1,668.5	1,616.1	1,605.7	9.7	8.0	-165.30	-196.8	-68.3	466.1	448.9	27.134			
1,800.0	1,765.1	1,708.6	1,697.3	10.1	8.3	-165.68	-209.1	-71.6	504.1	486.2	28.144			
1,900.0	1,861.7	1,801.0	1,788.8	10.5	8.7	-166.01	-221.5	-74.9	542.1	523.4	29.058			
2,000.0	1,958.3	1,893.5	1,880.4	10.9	9.1	-166.29	-233.9	-78.2	580.1	560.7	29.887			
2,100.0	2,054.8	1,986.0	1,971.9	11.3	9.4	-166.54	-246.3	-81.5	618.1	598.0	30.641			
2,200.0	2,151.4	2,078.4	2,063.5	11.8	9.8	-166.76	-258.7	-84.8	656.2	635.3	31.329			
2,300.0	2,248.0	2,170.9	2,155.1	12.2	10.2	-166.96	-271.1	-88.1	694.3	672.5	31.958			
2,400.0	2,344.6	2,263.3	2,246.6	12.6	10.5	-167.13	-283.5	-91.4	732.3	709.8	32.535			
2,500.0	2,441.1	2,355.8	2,338.2	13.1	10.9	-167.29	-295.9	-94.7	770.4	747.1	33.064			
2,600.0	2,537.7	2,448.2	2,429.7	13.5	11.3	-167.44	-308.3	-98.0	808.5	784.4	33.552			
2,700.0	2,634.3	2,540.7	2,521.3	14.0	11.7	-167.57	-320.6	-101.3	846.5	821.6	34.003			
2,800.0	2,730.9	2,633.1	2,612.8	14.4	12.1	-167.69	-333.0	-104.6	884.6	858.9	34.419			
2,900.0	2,827.4	2,725.6	2,704.4	14.9	12.4	-167.80	-345.4	-107.9	922.7	896.2	34.805			
3,000.0	2,924.0	2,818.0	2,796.0	15.3	12.8	-167.90	-357.8	-111.2	960.8	933.5	35.164			
3,100.0	3,020.6	2,910.5	2,887.5	15.8	13.2	-167.99	-370.2	-114.5	998.9	970.7	35.498			
3,200.0	3,117.2	3,002.9	2,979.1	16.2	13.6	-168.08	-382.6	-117.8	1,037.0	1,008.0	35.810			
3,300.0	3,213.7	3,095.4	3,070.6	16.7	14.0	-168.16	-395.0	-121.1	1,075.1	1,045.3	36.101			
3,400.0	3,310.3	3,187.8	3,162.2	17.2	14.4	-168.23	-407.4	-124.4	1,113.2	1,082.5	36.373			
3,500.0	3,406.9	3,280.3	3,253.7	17.6	14.7	-168.30	-419.8	-127.7	1,151.2	1,119.8	36.629			
3,600.0	3,503.5	3,372.7	3,345.3	18.1	15.1	-168.37	-432.1	-131.0	1,189.3	1,157.1	36.869			
3,700.0	3,600.0	3,465.2	3,436.9	18.6	15.5	-168.43	-444.5	-134.3	1,227.4	1,194.4	37.094			
3,800.0	3,696.6	3,557.6	3,528.4	19.1	15.9	-168.49	-456.9	-137.6	1,265.5	1,231.6	37.306			
3,900.0	3,793.2	3,650.1	3,620.0	19.5	16.3	-168.54	-469.3	-140.9	1,303.6	1,268.9	37.507			
4,000.0	3,889.8	3,742.5	3,711.5	20.0	16.7	-168.59	-481.7	-144.2	1,341.7	1,306.2	37.696			
4,100.0	3,986.3	3,835.0	3,803.1	20.5	17.1	-168.64	-494.1	-147.5	1,379.8	1,343.4	37.875			
4,200.0	4,082.9	3,927.4	3,894.6	21.0	17.5	-168.69	-506.5	-150.8	1,418.0	1,380.7	38.044			
4,300.0	4,179.5	4,019.9	3,986.2	21.4	17.9	-168.73	-518.9	-154.1	1,456.1	1,417.9	38.205			
4,400.0	4,276.1	4,112.3	4,077.8	21.9	18.3	-168.77	-531.3	-157.4	1,494.2	1,455.2	38.358			
4,500.0	4,372.7	4,204.8	4,169.3	22.4	18.6	-168.81	-543.6	-160.7	1,532.3	1,492.5	38.502			
4,600.0	4,469.2	4,297.2	4,260.9	22.9	19.0	-168.85	-556.0	-164.0	1,570.4	1,529.7	38.640			
4,700.0	4,565.8	4,389.7	4,352.4	23.4	19.4	-168.88	-568.4	-167.3	1,608.5	1,567.0	38.771			
4,800.0	4,662.4	4,482.1	4,444.0	23.8	19.8	-168.92	-580.8	-170.6	1,646.6	1,604.3	38.896			
4,900.0	4,759.0	4,574.6	4,535.5	24.3	20.2	-168.95	-593.2	-173.9	1,684.7	1,641.5	39.015			
5,000.0	4,855.5	4,667.0	4,627.1	24.8	20.6	-168.98	-605.6	-177.2	1,722.8	1,678.8	39.129			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,759.5	4,718.7	25.3	21.0	-169.01	-618.0	-180.5	1,760.9	1,716.0	39.238		
5,200.0	5,048.7	4,851.9	4,810.2	25.8	21.4	-169.04	-630.4	-183.8	1,799.0	1,753.3	39.342		
5,300.0	5,145.3	4,944.4	4,901.8	26.2	21.8	-169.12	-642.8	-187.1	1,836.9	1,790.4	39.448		
5,400.0	5,242.6	5,038.0	4,994.5	26.8	22.2	-169.27	-655.3	-190.5	1,872.3	1,824.8	39.460		
5,500.0	5,340.7	5,132.7	5,088.2	27.3	22.6	-169.38	-668.0	-193.9	1,904.4	1,856.1	39.373		
5,600.0	5,439.3	5,228.4	5,183.0	27.8	23.0	-169.46	-680.8	-197.3	1,933.3	1,884.0	39.232		
5,700.0	5,538.5	5,325.0	5,278.8	28.3	23.4	-169.50	-693.8	-200.7	1,958.9	1,908.7	39.044		
5,800.0	5,638.1	5,422.5	5,375.3	28.8	23.8	-169.52	-706.8	-204.2	1,981.2	1,930.1	38.816		
5,900.0	5,737.9	5,520.7	5,472.5	29.2	24.3	-169.50	-720.0	-207.7	2,000.0	1,948.2	38.559		
6,000.0	5,837.9	5,745.3	5,695.7	29.6	25.2	-169.36	-744.2	-214.2	2,013.7	1,960.0	37.507		
6,100.0	5,937.9	5,987.7	5,937.9	29.6	26.0	178.16	-751.8	-216.2	2,016.1	1,961.3	36.791		
6,200.0	6,037.9	6,087.7	6,037.9	29.7	26.0	178.16	-751.8	-216.2	2,016.1	1,961.3	36.759		
6,300.0	6,137.9	6,187.7	6,137.9	29.7	26.0	178.16	-751.8	-216.2	2,016.1	1,961.2	36.723		
6,400.0	6,237.9	6,287.7	6,237.9	29.8	26.0	178.16	-751.8	-216.2	2,016.1	1,961.2	36.686		
6,500.0	6,337.9	6,387.7	6,337.9	29.8	26.0	178.16	-751.8	-216.2	2,016.1	1,961.1	36.650		
6,600.0	6,437.9	6,487.7	6,437.9	29.8	26.1	178.16	-751.8	-216.2	2,016.1	1,961.1	36.613		
6,700.0	6,537.9	6,587.7	6,537.9	29.9	26.1	178.16	-751.8	-216.2	2,016.1	1,961.0	36.576		
6,800.0	6,637.9	6,687.7	6,637.9	29.9	26.1	178.16	-751.8	-216.2	2,016.1	1,961.0	36.538		
6,900.0	6,737.9	6,787.7	6,737.9	29.9	26.1	178.16	-751.8	-216.2	2,016.1	1,960.9	36.501		
7,000.0	6,837.9	6,887.7	6,837.9	30.0	26.1	178.16	-751.8	-216.2	2,016.1	1,960.9	36.463		
7,100.0	6,937.9	6,987.7	6,937.9	30.0	26.1	178.16	-751.8	-216.2	2,016.1	1,960.8	36.425		
7,200.0	7,037.9	7,087.7	7,037.9	30.1	26.2	178.16	-751.8	-216.2	2,016.1	1,960.7	36.387		
7,300.0	7,137.9	7,187.7	7,137.9	30.1	26.2	178.16	-751.8	-216.2	2,016.1	1,960.7	36.349		
7,400.0	7,237.9	7,287.7	7,237.9	30.1	26.2	178.16	-751.8	-216.2	2,016.1	1,960.6	36.310		
7,500.0	7,337.9	7,387.7	7,337.9	30.2	26.2	178.16	-751.8	-216.2	2,016.1	1,960.6	36.272		
7,600.0	7,437.9	7,487.7	7,437.9	30.2	26.2	178.16	-751.8	-216.2	2,016.1	1,960.5	36.233		
7,700.0	7,537.9	7,587.7	7,537.9	30.3	26.3	178.16	-751.8	-216.2	2,016.1	1,960.4	36.194		
7,800.0	7,637.9	7,687.7	7,637.9	30.3	26.3	178.16	-751.8	-216.2	2,016.1	1,960.4	36.155		
7,900.0	7,737.9	7,787.7	7,737.9	30.3	26.3	178.16	-751.8	-216.2	2,016.1	1,960.3	36.115		
7,952.1	7,790.0	7,839.8	7,790.0	30.4	26.3	178.16	-751.8	-216.2	2,016.1	1,960.3	36.098		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	88.77	0.3	14.1	14.1				
100.0	100.0	100.0	100.0	0.8	0.8	88.77	0.3	14.1	14.1	12.5	8.919		
200.0	200.0	200.0	200.0	1.4	1.4	88.77	0.3	14.1	14.1	11.3	4.994	CC, ES	
300.0	300.0	299.4	299.4	1.7	2.2	106.02	-0.9	15.9	16.0	12.1	4.111		
400.0	400.0	398.3	398.1	2.5	3.8	120.03	-4.5	21.2	22.9	17.0	3.853	SF	
500.0	499.8	495.8	495.0	3.6	4.9	132.39	-10.4	29.9	37.1	29.1	4.656		
600.0	599.3	593.1	591.3	4.5	5.2	139.93	-17.9	41.0	57.7	48.7	6.388		
700.0	698.5	687.6	684.7	5.3	5.4	144.78	-25.9	52.6	82.7	72.7	8.271		
800.0	797.1	778.2	773.8	6.0	6.1	148.17	-36.3	66.0	114.5	103.3	10.169		
900.0	895.2	865.2	858.6	6.7	6.8	150.51	-48.7	81.0	153.1	140.6	12.228		
1,000.0	992.4	948.0	938.5	7.3	7.5	152.12	-62.8	97.2	198.1	184.4	14.490		
1,100.0	1,089.1	1,026.6	1,013.7	7.6	8.1	153.50	-78.2	114.4	248.4	233.9	17.183		
1,200.0	1,185.6	1,100.0	1,083.1	7.9	8.6	154.47	-94.3	131.9	301.8	286.7	19.912		
1,300.0	1,282.2	1,174.3	1,152.6	8.2	9.1	155.14	-112.3	151.2	358.0	342.1	22.511		
1,400.0	1,378.8	1,243.6	1,216.6	8.6	9.6	155.56	-130.6	170.4	416.6	400.1	25.150		
1,500.0	1,475.4	1,310.0	1,277.1	8.9	10.0	155.85	-149.5	190.1	477.7	460.5	27.830		
1,600.0	1,571.9	1,380.1	1,340.3	9.3	10.3	156.06	-170.7	211.9	540.7	523.1	30.660		
1,700.0	1,668.5	1,457.5	1,409.9	9.7	10.5	156.24	-194.3	236.1	604.1	585.9	33.138		
1,800.0	1,765.1	1,534.9	1,479.4	10.1	10.8	156.39	-217.9	260.4	667.4	648.6	35.415		
1,900.0	1,861.7	1,612.2	1,549.0	10.5	11.0	156.51	-241.6	284.6	730.8	711.3	37.505		
2,000.0	1,958.3	1,689.6	1,618.6	10.9	11.3	156.61	-265.2	308.8	794.2	774.0	39.429		
2,100.0	2,054.8	1,766.9	1,688.1	11.3	11.6	156.70	-288.8	333.1	857.5	836.7	41.202		
2,200.0	2,151.4	1,844.3	1,757.7	11.8	11.9	156.77	-312.4	357.3	920.9	899.4	42.836		
2,300.0	2,248.0	1,921.7	1,827.3	12.2	12.2	156.84	-336.0	381.5	984.3	962.1	44.344		
2,400.0	2,344.6	1,999.0	1,896.8	12.6	12.6	156.90	-359.6	405.8	1,047.6	1,024.7	45.735		
2,500.0	2,441.1	2,076.4	1,966.4	13.1	12.9	156.95	-383.2	430.0	1,111.0	1,087.4	47.025		
2,600.0	2,537.7	2,153.7	2,036.0	13.5	13.2	156.99	-406.8	454.2	1,174.4	1,150.0	48.221		
2,700.0	2,634.3	2,231.1	2,105.5	14.0	13.6	157.03	-430.4	478.5	1,237.7	1,212.6	49.331		
2,800.0	2,730.9	2,308.4	2,175.1	14.4	14.0	157.07	-454.0	502.7	1,301.1	1,275.3	50.373		
2,900.0	2,827.4	2,385.8	2,244.7	14.9	14.4	157.10	-477.6	527.0	1,364.5	1,337.9	51.298		
3,000.0	2,924.0	2,463.2	2,314.2	15.3	14.9	157.13	-501.2	551.2	1,427.8	1,400.5	52.168		
3,100.0	3,020.6	2,540.5	2,383.8	15.8	15.5	157.16	-524.8	575.4	1,491.2	1,463.1	53.010		
3,200.0	3,117.2	2,617.9	2,453.4	16.2	16.1	157.19	-548.4	599.7	1,554.6	1,525.7	53.790		
3,300.0	3,213.7	2,695.2	2,522.9	16.7	16.7	157.21	-572.1	623.9	1,617.9	1,588.3	54.516		
3,400.0	3,310.3	2,772.6	2,592.5	17.2	17.3	157.23	-595.7	648.1	1,681.3	1,650.8	55.191		
3,500.0	3,406.9	2,849.9	2,662.1	17.6	18.0	157.25	-619.3	672.4	1,744.7	1,713.4	55.826		
3,600.0	3,503.5	2,927.3	2,731.6	18.1	18.6	157.27	-642.9	696.6	1,808.0	1,776.0	56.423		
3,700.0	3,600.0	3,004.7	2,801.2	18.6	19.2	157.29	-666.5	720.8	1,871.4	1,838.6	56.985		
3,800.0	3,696.6	3,082.0	2,870.8	19.1	19.8	157.31	-690.1	745.1	1,934.8	1,901.1	57.512		
3,900.0	3,793.2	3,159.4	2,940.3	19.5	20.5	157.32	-713.7	769.3	1,998.1	1,963.7	58.008		
4,000.0	3,889.8	3,236.7	3,009.9	20.0	21.1	157.34	-737.3	793.5	2,061.5	2,026.3	58.477		
4,100.0	3,986.3	3,314.1	3,079.5	20.5	21.7	157.35	-760.9	817.8	2,124.9	2,088.8	58.920		
4,200.0	4,082.9	3,391.4	3,149.0	21.0	22.3	157.36	-784.5	842.0	2,188.3	2,151.4	59.338		
4,300.0	4,179.5	3,468.8	3,218.6	21.4	23.0	157.37	-808.1	866.2	2,251.6	2,213.9	59.733		
4,400.0	4,276.1	3,546.2	3,288.2	21.9	23.6	157.38	-831.7	890.5	2,315.0	2,276.5	60.108		
4,500.0	4,372.7	3,623.5	3,357.7	22.4	24.2	157.40	-855.3	914.7	2,378.4	2,339.0	60.464		
4,600.0	4,469.2	3,700.9	3,427.3	22.9	24.9	157.41	-878.9	938.9	2,441.7	2,401.6	60.801		
4,700.0	4,565.8	3,778.2	3,496.9	23.4	25.5	157.42	-902.6	963.2	2,505.1	2,464.1	61.121		
4,800.0	4,662.4	3,855.6	3,566.4	23.8	26.1	157.42	-926.2	987.4	2,568.5	2,526.7	61.425		
4,900.0	4,759.0	3,932.9	3,636.0	24.3	26.8	157.43	-949.8	1,011.6	2,631.8	2,589.2	61.715		
5,000.0	4,855.5	4,010.3	3,705.6	24.8	27.4	157.44	-973.4	1,035.9	2,695.2	2,651.7	61.991		
5,100.0	4,952.1	4,087.7	3,775.1	25.3	28.0	157.45	-997.0	1,060.1	2,758.6	2,714.3	62.253		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Currier 0993-16-07 Pad - Currier BCU 0993-16-11E - OH - Design #2												Offset Well Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
5,200.0	5,048.7	4,165.0	3,844.7	25.8	28.7	157.46	-1,020.6	1,084.3	2,822.0	2,776.8	62.504			
5,300.0	5,145.3	4,242.5	3,914.4	26.2	29.3	157.68	-1,044.2	1,108.6	2,885.2	2,839.2	62.753			
5,400.0	5,242.6	4,321.6	3,985.5	26.8	29.9	158.24	-1,068.4	1,133.4	2,946.4	2,899.5	62.900			
5,500.0	5,340.7	4,402.6	4,058.3	27.3	30.6	158.72	-1,093.1	1,158.8	3,005.0	2,957.2	62.936			
5,600.0	5,439.3	4,485.4	4,132.8	27.8	31.3	159.13	-1,118.4	1,184.7	3,060.9	3,012.3	62.917			
5,700.0	5,538.5	4,569.9	4,208.8	28.3	32.0	159.47	-1,144.1	1,211.2	3,114.1	3,064.6	62.852			
5,800.0	5,638.1	4,656.1	4,286.3	28.8	32.7	159.75	-1,170.4	1,238.2	3,164.6	3,114.1	62.749			
5,900.0	5,737.9	4,743.7	4,365.1	29.2	33.4	159.98	-1,197.2	1,265.6	3,212.2	3,160.9	62.624			
6,000.0	5,837.9	4,832.8	4,445.2	29.6	34.1	160.16	-1,224.4	1,293.5	3,256.9	3,204.8	62.513			
6,100.0	5,937.9	4,922.7	4,526.1	29.6	34.9	147.49	-1,251.8	1,321.7	3,299.7	3,247.0	62.656			
6,200.0	6,037.9	5,012.6	4,606.9	29.7	35.6	147.32	-1,279.2	1,349.9	3,342.5	3,289.2	62.801			
6,300.0	6,137.9	5,102.5	4,687.8	29.7	36.4	147.16	-1,306.7	1,378.0	3,385.3	3,331.5	62.941			
6,400.0	6,237.9	6,713.6	6,237.9	29.8	42.8	145.86	-1,546.4	1,624.1	3,394.7	3,331.2	53.437			
6,500.0	6,337.9	6,813.6	6,337.9	29.8	42.8	145.86	-1,546.4	1,624.1	3,394.7	3,331.2	53.391			
6,600.0	6,437.9	6,913.6	6,437.9	29.8	42.8	145.86	-1,546.4	1,624.1	3,394.7	3,331.1	53.345			
6,700.0	6,537.9	7,013.6	6,537.9	29.9	42.9	145.86	-1,546.4	1,624.1	3,394.7	3,331.1	53.299			
6,800.0	6,637.9	7,113.6	6,637.9	29.9	42.9	145.86	-1,546.4	1,624.1	3,394.7	3,331.0	53.252			
6,900.0	6,737.9	7,213.6	6,737.9	29.9	42.9	145.86	-1,546.4	1,624.1	3,394.7	3,330.9	53.206			
7,000.0	6,837.9	7,313.6	6,837.9	30.0	42.9	145.86	-1,546.4	1,624.1	3,394.7	3,330.9	53.159			
7,100.0	6,937.9	7,413.6	6,937.9	30.0	42.9	145.86	-1,546.4	1,624.1	3,394.7	3,330.8	53.112			
7,200.0	7,037.9	7,513.6	7,037.9	30.1	42.9	145.86	-1,546.4	1,624.1	3,394.7	3,330.8	53.064			
7,300.0	7,137.9	7,613.6	7,137.9	30.1	42.9	145.86	-1,546.4	1,624.1	3,394.7	3,330.7	53.017			
7,400.0	7,237.9	7,713.6	7,237.9	30.1	43.0	145.86	-1,546.4	1,624.1	3,394.7	3,330.7	52.969			
7,500.0	7,337.9	7,813.6	7,337.9	30.2	43.0	145.86	-1,546.4	1,624.1	3,394.7	3,330.6	52.921			
7,600.0	7,437.9	7,913.6	7,437.9	30.2	43.0	145.86	-1,546.4	1,624.1	3,394.7	3,330.5	52.873			
7,700.0	7,537.9	8,013.6	7,537.9	30.3	43.0	145.86	-1,546.4	1,624.1	3,394.7	3,330.5	52.825			
7,800.0	7,637.9	8,113.6	7,637.9	30.3	43.0	145.86	-1,546.4	1,624.1	3,394.7	3,330.4	52.776			
7,900.0	7,737.9	8,213.6	7,737.9	30.3	43.0	145.86	-1,546.4	1,624.1	3,394.7	3,330.4	52.728			
7,952.1	7,790.0	8,265.7	7,790.0	30.4	43.0	145.86	-1,546.4	1,624.1	3,394.7	3,330.3	52.708			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	133.78	-6.9	7.2	10.0					
100.0	100.0	100.0	100.0	0.8	0.8	133.78	-6.9	7.2	10.0	8.4	6.311			
200.0	200.0	200.0	200.0	1.4	1.4	133.78	-6.9	7.2	10.0	7.2	3.534	CC		
204.4	204.4	204.4	204.4	1.4	1.4	146.32	-6.9	7.2	10.0	7.1	3.504	ES		
300.0	300.0	299.8	299.8	1.7	1.6	146.63	-7.3	7.6	10.6	7.2	3.139	SF		
400.0	400.0	399.0	398.9	2.5	2.9	151.56	-10.4	10.6	17.0	11.7	3.166			
500.0	499.8	497.0	496.5	3.6	4.3	155.79	-16.5	16.5	30.9	23.2	4.007			
600.0	599.3	592.9	591.7	4.5	5.3	158.02	-25.3	25.0	52.2	42.6	5.477			
700.0	698.5	686.2	683.6	5.3	6.2	159.18	-36.7	36.0	80.5	69.5	7.294			
800.0	797.1	776.0	771.4	6.0	6.9	160.53	-50.1	49.0	115.8	103.4	9.364			
900.0	895.2	861.9	854.6	6.7	7.6	160.09	-65.3	63.6	157.5	143.9	11.635			
1,000.0	992.4	943.4	932.9	7.3	8.2	160.21	-81.8	79.5	205.3	190.7	14.079			
1,100.0	1,089.1	1,020.6	1,006.2	7.6	8.7	160.43	-99.2	96.4	258.2	243.0	16.905			
1,200.0	1,185.6	1,100.0	1,080.6	7.9	9.3	160.55	-119.0	115.5	314.1	298.0	19.560			
1,300.0	1,282.2	1,165.6	1,141.4	8.2	9.7	160.53	-136.7	132.6	372.3	355.7	22.455			
1,400.0	1,378.8	1,233.5	1,203.6	8.6	10.1	160.43	-156.4	151.6	433.0	415.8	25.190			
1,500.0	1,475.4	1,300.0	1,263.7	8.9	10.5	160.29	-176.9	171.4	495.9	478.1	27.856			
1,600.0	1,571.9	1,360.5	1,317.6	9.3	10.9	160.14	-196.7	190.5	560.8	542.5	30.610			
1,700.0	1,668.5	1,419.8	1,369.7	9.7	11.2	159.96	-217.1	210.2	627.7	608.9	33.362			
1,800.0	1,765.1	1,477.5	1,419.6	10.1	11.4	159.79	-237.8	230.2	696.5	677.2	36.215			
1,900.0	1,861.7	1,549.4	1,481.5	10.5	11.7	159.58	-264.1	255.6	765.9	746.2	38.699			
2,000.0	1,958.3	1,621.3	1,543.4	10.9	11.9	159.41	-290.4	281.0	835.4	815.1	41.003			
2,100.0	2,054.8	1,693.2	1,605.3	11.3	12.1	159.27	-316.7	306.4	904.9	884.0	43.136			
2,200.0	2,151.4	1,765.0	1,667.2	11.8	12.4	159.15	-343.0	331.8	974.4	952.8	45.120			
2,300.0	2,248.0	1,836.9	1,729.1	12.2	12.6	159.04	-369.3	357.2	1,043.9	1,021.7	46.965			
2,400.0	2,344.6	1,908.8	1,791.0	12.6	12.9	158.95	-395.6	382.6	1,113.4	1,090.6	48.679			
2,500.0	2,441.1	1,980.7	1,852.9	13.1	13.2	158.87	-421.9	408.0	1,182.9	1,159.4	50.278			
2,600.0	2,537.7	2,052.6	1,914.8	13.5	13.4	158.79	-448.2	433.4	1,252.5	1,228.3	51.773			
2,700.0	2,634.3	2,124.5	1,976.6	14.0	13.7	158.73	-474.5	458.8	1,322.0	1,297.1	53.181			
2,800.0	2,730.9	2,196.4	2,038.5	14.4	14.0	158.67	-500.9	484.2	1,391.5	1,365.9	54.447			
2,900.0	2,827.4	2,268.2	2,100.4	14.9	14.5	158.61	-527.2	509.6	1,461.0	1,434.7	55.544			
3,000.0	2,924.0	2,340.1	2,162.3	15.3	15.3	158.57	-553.5	535.0	1,530.5	1,503.5	56.759			
3,100.0	3,020.6	2,412.0	2,224.2	15.8	16.0	158.52	-579.8	560.4	1,600.0	1,572.3	57.829			
3,200.0	3,117.2	2,483.9	2,286.1	16.2	16.7	158.48	-606.1	585.8	1,669.5	1,641.1	58.817			
3,300.0	3,213.7	2,555.8	2,348.0	16.7	17.4	158.44	-632.4	611.2	1,739.0	1,709.9	59.743			
3,400.0	3,310.3	2,627.7	2,409.9	17.2	18.0	158.41	-658.7	636.6	1,808.5	1,778.7	60.616			
3,500.0	3,406.9	2,699.6	2,471.7	17.6	18.7	158.38	-685.0	662.0	1,878.0	1,847.5	61.439			
3,600.0	3,503.5	2,771.4	2,533.6	18.1	19.4	158.35	-711.3	687.4	1,947.6	1,916.2	62.205			
3,700.0	3,600.0	2,843.3	2,595.5	18.6	20.1	158.32	-737.6	712.8	2,017.1	1,985.0	62.929			
3,800.0	3,696.6	2,915.2	2,657.4	19.1	20.8	158.29	-763.9	738.3	2,086.6	2,053.8	63.617			
3,900.0	3,793.2	2,985.5	2,717.9	19.5	21.5	158.27	-789.7	763.1	2,156.1	2,122.6	64.316			
4,000.0	3,889.8	3,049.0	2,772.6	20.0	22.1	158.29	-813.7	784.6	2,225.8	2,191.6	65.131			
4,100.0	3,986.3	3,111.9	2,826.8	20.5	22.8	158.38	-838.6	804.5	2,295.8	2,260.9	65.929			
4,200.0	4,082.9	3,176.5	2,882.5	21.0	23.4	158.51	-865.3	823.7	2,366.0	2,330.5	66.675			
4,300.0	4,179.5	3,247.5	2,943.5	21.4	24.1	158.67	-894.9	844.4	2,436.3	2,400.1	67.241			
4,400.0	4,276.1	3,318.4	3,004.6	21.9	24.7	158.82	-924.5	865.0	2,506.6	2,469.7	67.772			
4,500.0	4,372.7	3,389.4	3,065.7	22.4	25.4	158.97	-954.0	885.7	2,577.0	2,539.2	68.271			
4,600.0	4,469.2	3,460.3	3,126.8	22.9	26.0	159.10	-983.6	906.3	2,647.3	2,608.8	68.745			
4,700.0	4,565.8	3,531.2	3,187.9	23.4	26.7	159.23	-1,013.2	927.0	2,717.7	2,678.4	69.196			
4,800.0	4,662.4	3,602.2	3,248.9	23.8	27.4	159.35	-1,042.8	947.7	2,788.0	2,748.0	69.626			
4,900.0	4,759.0	3,673.1	3,310.0	24.3	28.0	159.47	-1,072.4	968.3	2,858.4	2,817.6	70.034			
5,000.0	4,855.5	3,744.1	3,371.1	24.8	28.7	159.58	-1,102.0	989.0	2,928.7	2,887.2	70.423			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Currier 0993-16-07 Pad - Currier BCU 0993-16-13E - OH - Design #2												Offset Well Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning		
5,100.0	4,952.1	3,815.0	3,432.2	25.3	29.4	159.68	-1,131.6	1,009.6	2,999.1	2,956.8	70.794			
5,200.0	5,048.7	3,886.0	3,493.3	25.8	30.1	159.78	-1,161.2	1,030.3	3,069.5	3,026.3	71.148			
5,300.0	5,145.3	3,957.1	3,554.5	26.2	30.7	160.12	-1,190.9	1,051.0	3,139.7	3,095.8	71.497			
5,400.0	5,242.6	4,030.0	3,617.3	26.8	31.4	160.81	-1,221.3	1,072.2	3,208.1	3,163.3	71.726			
5,500.0	5,340.7	4,105.2	3,682.0	27.3	32.1	161.41	-1,252.6	1,094.1	3,274.0	3,228.4	71.826			
5,600.0	5,439.3	4,182.5	3,748.6	27.8	32.9	161.94	-1,284.9	1,116.6	3,337.4	3,290.9	71.858			
5,700.0	5,538.5	4,261.9	3,816.9	28.3	33.6	162.39	-1,318.0	1,139.7	3,398.2	3,350.9	71.832			
5,800.0	5,638.1	4,343.3	3,887.0	28.8	34.4	162.79	-1,352.0	1,163.4	3,456.3	3,408.1	71.759			
5,900.0	5,737.9	4,426.5	3,958.6	29.2	35.2	163.12	-1,386.7	1,187.6	3,511.7	3,462.6	71.655			
6,000.0	5,837.9	4,511.5	4,031.8	29.6	36.0	163.41	-1,422.1	1,212.4	3,564.2	3,514.4	71.565			
6,100.0	5,937.9	4,597.5	4,105.9	29.6	36.8	150.84	-1,458.0	1,237.4	3,614.9	3,564.6	71.769			
6,200.0	6,037.9	4,683.6	4,180.0	29.7	37.6	150.76	-1,493.9	1,262.5	3,665.6	3,614.7	71.974			
6,300.0	6,137.9	4,769.7	4,254.1	29.7	38.4	150.68	-1,529.8	1,287.6	3,716.3	3,664.8	72.170			
6,400.0	6,237.9	4,855.8	4,328.2	29.8	39.2	150.61	-1,565.8	1,312.6	3,767.0	3,714.9	72.360			
6,500.0	6,337.9	4,941.9	4,402.3	29.8	40.0	149.79	-1,601.7	1,337.6	3,817.6	3,764.5	72.550			
6,600.0	6,437.9	5,028.0	4,476.4	29.8	40.8	149.79	-1,637.6	1,362.6	3,868.2	3,815.0	72.740			
6,700.0	6,537.9	5,114.1	4,550.5	29.9	41.6	149.79	-1,673.5	1,387.6	3,918.8	3,865.5	72.930			
6,800.0	6,637.9	5,200.2	4,624.6	29.9	42.4	149.79	-1,709.4	1,412.6	3,969.4	3,915.9	73.120			
6,900.0	6,737.9	5,286.3	4,698.7	29.9	43.2	149.79	-1,745.3	1,437.6	4,020.0	3,967.0	73.310			
7,000.0	6,837.9	5,372.4	4,772.8	30.0	44.0	149.79	-1,781.2	1,462.6	4,070.6	4,018.1	73.500			
7,100.0	6,937.9	5,458.5	4,846.9	30.0	44.8	149.79	-1,817.1	1,487.6	4,121.2	4,069.2	73.690			
7,200.0	7,037.9	5,544.6	4,921.0	30.1	45.6	149.79	-1,853.0	1,512.6	4,171.8	4,120.3	73.880			
7,300.0	7,137.9	5,630.7	4,995.1	30.1	46.4	149.79	-1,888.9	1,537.6	4,222.4	4,171.4	74.070			
7,400.0	7,237.9	5,716.8	5,069.2	30.1	47.2	149.79	-1,924.8	1,562.6	4,273.0	4,222.5	74.260			
7,500.0	7,337.9	5,802.9	5,143.3	30.2	48.0	149.79	-1,960.7	1,587.6	4,323.6	4,273.6	74.450			
7,600.0	7,437.9	5,889.0	5,217.4	30.2	48.8	149.79	-1,996.6	1,612.6	4,374.2	4,324.7	74.640			
7,700.0	7,537.9	5,975.1	5,291.5	30.3	49.6	149.79	-2,032.5	1,637.6	4,424.8	4,375.8	74.830			
7,800.0	7,637.9	6,061.2	5,365.6	30.3	50.4	149.79	-2,068.4	1,662.6	4,475.4	4,426.9	75.020			
7,900.0	7,737.9	6,147.3	5,439.7	30.3	51.2	149.79	-2,104.3	1,687.6	4,526.0	4,478.0	75.210			
7,952.1	7,790.0	6,233.4	5,513.8	30.4	52.0	149.79	-2,140.2	1,712.6	4,576.6	4,529.1	75.400			



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-145.68	-50.2	-34.3	60.8					
100.0	100.0	100.0	100.0	0.8	0.8	-145.68	-50.2	-34.3	60.8	59.3	38.408			
200.0	200.0	200.0	200.0	1.4	1.4	-145.68	-50.2	-34.3	60.8	58.0	21.505	CC		
204.4	204.4	204.4	204.4	1.4	1.4	-133.14	-50.2	-34.3	60.8	58.0	21.347	ES		
300.0	300.0	298.3	298.3	1.7	1.7	-133.32	-51.0	-34.7	61.8	58.3	17.986			
400.0	400.0	395.4	395.2	2.5	3.1	-135.37	-55.4	-36.6	68.3	62.9	12.624			
500.0	499.8	491.2	490.7	3.6	4.4	-138.88	-63.3	-40.2	81.7	74.1	10.851	SF		
600.0	599.3	585.2	583.8	4.5	5.3	-142.50	-74.6	-45.2	102.1	92.8	10.993			
700.0	698.5	676.5	673.7	5.3	6.2	-145.55	-88.9	-51.6	129.5	118.7	11.989			
800.0	797.1	764.5	759.8	6.0	6.9	-147.86	-105.8	-59.2	163.8	151.7	13.497			
900.0	895.2	848.9	841.6	6.7	7.6	-149.54	-124.9	-67.7	204.5	191.2	15.359			
1,000.0	992.4	929.1	918.6	7.3	8.2	-150.71	-145.5	-76.9	251.4	237.0	17.487			
1,100.0	1,089.1	1,000.0	985.9	7.6	8.7	-151.76	-165.7	-86.0	303.4	288.4	20.249			
1,200.0	1,185.6	1,078.4	1,059.5	7.9	9.2	-152.68	-190.3	-97.0	358.2	342.4	22.714			
1,300.0	1,282.2	1,148.6	1,124.6	8.2	9.6	-153.22	-214.3	-107.7	415.7	399.2	25.316			
1,400.0	1,378.8	1,216.0	1,186.3	8.6	10.1	-153.56	-239.0	-118.7	475.5	458.5	27.944			
1,500.0	1,475.4	1,282.7	1,246.6	8.9	10.4	-153.77	-265.1	-130.4	537.6	520.0	30.615			
1,600.0	1,571.9	1,357.4	1,313.6	9.3	10.6	-153.93	-295.2	-143.9	600.8	582.7	33.227			
1,700.0	1,668.5	1,434.9	1,383.1	9.7	10.9	-154.07	-326.4	-157.9	664.0	645.3	35.566			
1,800.0	1,765.1	1,512.3	1,452.7	10.1	11.1	-154.19	-357.6	-171.8	727.2	708.0	37.725			
1,900.0	1,861.7	1,589.8	1,522.2	10.5	11.4	-154.28	-388.8	-185.8	790.5	770.5	39.712			
2,000.0	1,958.3	1,667.3	1,591.7	10.9	11.6	-154.36	-420.0	-199.7	853.7	833.1	41.541			
2,100.0	2,054.8	1,744.8	1,661.2	11.3	11.9	-154.43	-451.2	-213.7	916.9	895.7	43.228			
2,200.0	2,151.4	1,822.2	1,730.7	11.8	12.2	-154.49	-482.4	-227.7	980.1	958.2	44.785			
2,300.0	2,248.0	1,899.7	1,800.2	12.2	12.5	-154.55	-513.7	-241.6	1,043.4	1,020.8	46.223			
2,400.0	2,344.6	1,977.2	1,869.8	12.6	12.8	-154.59	-544.9	-255.6	1,106.6	1,083.3	47.548			
2,500.0	2,441.1	2,054.6	1,939.3	13.1	13.1	-154.64	-576.1	-269.6	1,169.8	1,145.8	48.774			
2,600.0	2,537.7	2,132.1	2,008.8	13.5	13.4	-154.67	-607.3	-283.5	1,233.0	1,208.3	49.910			
2,700.0	2,634.3	2,209.6	2,078.3	14.0	13.7	-154.71	-638.5	-297.5	1,296.3	1,270.8	50.963			
2,800.0	2,730.9	2,287.1	2,147.8	14.4	14.1	-154.74	-669.7	-311.5	1,359.5	1,333.3	51.940			
2,900.0	2,827.4	2,364.5	2,217.3	14.9	14.4	-154.77	-700.9	-325.4	1,422.7	1,395.8	52.847			
3,000.0	2,924.0	2,442.0	2,286.9	15.3	14.7	-154.79	-732.1	-339.4	1,486.0	1,458.3	53.693			
3,100.0	3,020.6	2,519.5	2,356.4	15.8	15.0	-154.82	-763.4	-353.4	1,549.2	1,520.7	54.483			
3,200.0	3,117.2	2,597.0	2,425.9	16.2	15.4	-154.84	-794.6	-367.3	1,612.4	1,583.2	55.213			
3,300.0	3,213.7	2,674.4	2,495.4	16.7	16.0	-154.86	-825.8	-381.3	1,675.6	1,645.7	55.884			
3,400.0	3,310.3	2,751.9	2,564.9	17.2	16.6	-154.88	-857.0	-395.3	1,738.9	1,708.1	56.536			
3,500.0	3,406.9	2,829.4	2,634.4	17.6	17.2	-154.90	-888.2	-409.2	1,802.1	1,770.6	57.138			
3,600.0	3,503.5	2,906.8	2,704.0	18.1	17.8	-154.91	-919.4	-423.2	1,865.3	1,833.0	57.702			
3,700.0	3,600.0	2,984.3	2,773.5	18.6	18.4	-154.93	-950.6	-437.2	1,928.6	1,895.4	58.230			
3,800.0	3,696.6	3,061.8	2,843.0	19.1	18.9	-154.94	-981.9	-451.1	1,991.8	1,957.9	58.726			
3,900.0	3,793.2	3,139.3	2,912.5	19.5	19.5	-154.96	-1,013.1	-465.1	2,055.0	2,020.3	59.194			
4,000.0	3,889.8	3,216.7	2,982.0	20.0	20.1	-154.97	-1,044.3	-479.1	2,118.2	2,082.7	59.634			
4,100.0	3,986.3	3,294.2	3,051.5	20.5	20.7	-154.98	-1,075.5	-493.0	2,181.5	2,145.1	60.050			
4,200.0	4,082.9	3,371.7	3,121.1	21.0	21.3	-154.99	-1,106.7	-507.0	2,244.7	2,207.6	60.441			
4,300.0	4,179.5	3,449.1	3,190.6	21.4	21.9	-155.00	-1,137.9	-521.0	2,307.9	2,270.0	60.811			
4,400.0	4,276.1	3,526.6	3,260.1	21.9	22.5	-155.01	-1,169.1	-534.9	2,371.2	2,332.4	61.161			
4,500.0	4,372.7	3,604.1	3,329.6	22.4	23.1	-155.02	-1,200.3	-548.9	2,434.4	2,394.8	61.493			
4,600.0	4,469.2	3,681.6	3,399.1	22.9	23.7	-155.03	-1,231.6	-562.8	2,497.6	2,457.2	61.807			
4,700.0	4,565.8	3,759.0	3,468.6	23.4	24.3	-155.04	-1,262.8	-576.8	2,560.9	2,519.6	62.105			
4,800.0	4,662.4	3,836.5	3,538.1	23.8	24.9	-155.05	-1,294.0	-590.8	2,624.1	2,582.0	62.388			
4,900.0	4,759.0	3,914.0	3,607.7	24.3	25.5	-155.06	-1,325.2	-604.7	2,687.3	2,644.4	62.657			
5,000.0	4,855.5	3,991.4	3,677.2	24.8	26.1	-155.06	-1,356.4	-618.7	2,750.5	2,706.8	62.912			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,068.9	3,746.7	25.3	26.7	-155.07	-1,387.6	-632.7	2,813.8	2,769.2	63.155		
5,200.0	5,048.7	4,146.4	3,816.2	25.8	27.3	-155.08	-1,418.8	-646.6	2,877.0	2,831.6	63.386		
5,300.0	5,145.3	4,224.0	3,885.8	26.2	27.9	-155.32	-1,450.1	-660.6	2,940.1	2,893.9	63.618		
5,400.0	5,242.6	4,303.1	3,956.9	26.8	28.5	-155.94	-1,482.0	-674.9	3,001.2	2,954.1	63.750		
5,500.0	5,340.7	4,384.2	4,029.6	27.3	29.1	-156.46	-1,514.6	-689.5	3,059.7	3,011.8	63.776		
5,600.0	5,439.3	4,467.0	4,103.9	27.8	29.7	-156.91	-1,548.0	-704.4	3,115.7	3,066.8	63.750		
5,700.0	5,538.5	4,551.4	4,179.7	28.3	30.4	-157.29	-1,582.0	-719.7	3,168.9	3,119.1	63.681		
5,800.0	5,638.1	4,637.5	4,256.9	28.8	31.0	-157.60	-1,616.7	-735.2	3,219.4	3,168.8	63.577		
5,900.0	5,737.9	4,725.0	4,335.4	29.2	31.7	-157.85	-1,652.0	-751.0	3,267.1	3,215.6	63.453		
6,000.0	5,837.9	4,813.9	4,415.2	29.6	32.4	-158.05	-1,687.8	-767.0	3,312.0	3,259.7	63.344		
6,100.0	5,937.9	4,903.6	4,495.7	29.6	33.1	-170.46	-1,723.9	-783.1	3,355.0	3,302.1	63.484		
6,200.0	6,037.9	4,993.4	4,576.2	29.7	33.8	-170.27	-1,760.1	-799.3	3,398.0	3,344.6	63.627		
6,300.0	6,137.9	6,624.7	6,137.9	29.7	40.5	-168.70	-2,106.5	-954.3	3,436.5	3,373.0	54.113		
6,400.0	6,237.9	6,724.7	6,237.9	29.8	40.5	-168.70	-2,106.5	-954.3	3,436.5	3,372.9	54.068		
6,500.0	6,337.9	6,824.7	6,337.9	29.8	40.5	-168.70	-2,106.5	-954.3	3,436.5	3,372.9	54.022		
6,600.0	6,437.9	6,924.7	6,437.9	29.8	40.5	-168.70	-2,106.5	-954.3	3,436.5	3,372.8	53.976		
6,700.0	6,537.9	7,024.7	6,537.9	29.9	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.8	53.930		
6,800.0	6,637.9	7,124.7	6,637.9	29.9	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.7	53.884		
6,900.0	6,737.9	7,224.7	6,737.9	29.9	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.7	53.838		
7,000.0	6,837.9	7,324.7	6,837.9	30.0	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.6	53.791		
7,100.0	6,937.9	7,424.7	6,937.9	30.0	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.6	53.744		
7,200.0	7,037.9	7,524.7	7,037.9	30.1	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.5	53.697		
7,300.0	7,137.9	7,624.7	7,137.9	30.1	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.4	53.650		
7,400.0	7,237.9	7,724.7	7,237.9	30.1	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.4	53.602		
7,500.0	7,337.9	7,824.7	7,337.9	30.2	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.3	53.554		
7,600.0	7,437.9	7,924.7	7,437.9	30.2	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.3	53.506		
7,700.0	7,537.9	8,024.7	7,537.9	30.3	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.2	53.458		
7,800.0	7,637.9	8,124.7	7,637.9	30.3	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.2	53.410		
7,900.0	7,737.9	8,224.7	7,737.9	30.3	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.1	53.361		
7,952.1	7,790.0	8,276.8	7,790.0	30.4	40.6	-168.70	-2,106.5	-954.3	3,436.5	3,372.1	53.341		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	178.85	-14.1	0.3	14.1					
100.0	100.0	100.0	100.0	0.8	0.8	178.85	-14.1	0.3	14.1	12.6	8.927			
108.3	108.3	108.3	108.3	0.8	0.8	178.85	-14.1	0.3	14.1	12.5	8.418	CC		
200.0	200.0	199.9	199.9	1.4	1.2	178.67	-14.2	0.3	14.2	11.6	5.365	ES		
300.0	300.0	299.3	299.2	1.7	2.4	-174.22	-16.7	2.0	16.9	12.9	4.183			
400.0	400.0	397.9	397.6	2.5	4.0	178.13	-22.8	5.9	26.2	19.8	4.128	SF		
500.0	499.8	495.0	494.0	3.6	5.1	173.47	-32.2	12.1	43.2	34.6	5.051			
600.0	599.3	589.7	587.5	4.5	6.0	171.10	-44.7	20.2	67.7	57.4	6.584			
700.0	698.5	681.3	677.3	5.3	6.7	169.84	-59.9	30.1	99.4	87.7	8.463			
800.0	797.1	769.1	762.6	6.0	7.4	169.10	-77.2	41.4	137.9	124.9	10.593			
900.0	895.2	852.6	843.0	6.7	8.0	168.61	-96.2	53.8	182.9	168.8	12.926			
1,000.0	992.4	931.5	918.2	7.3	8.6	168.24	-116.4	67.0	234.0	218.8	15.432			
1,100.0	1,089.1	1,006.0	988.2	7.6	9.1	168.09	-137.4	80.7	290.0	274.2	18.339			
1,200.0	1,185.6	1,077.1	1,054.4	7.9	9.6	167.97	-159.3	95.0	348.8	332.3	21.217			
1,300.0	1,282.2	1,145.1	1,116.9	8.2	10.0	167.83	-181.8	109.7	409.9	392.9	24.059			
1,400.0	1,378.8	1,210.1	1,175.8	8.6	10.4	167.67	-204.8	124.7	473.3	455.7	26.876			
1,500.0	1,475.4	1,272.1	1,231.3	8.9	10.8	167.52	-228.0	139.8	538.8	520.7	29.678			
1,600.0	1,571.9	1,331.4	1,283.5	9.3	11.1	167.36	-251.3	155.0	606.3	587.6	32.466			
1,700.0	1,668.5	1,387.8	1,332.7	9.7	11.5	167.21	-274.6	170.2	675.6	656.4	35.243			
1,800.0	1,765.1	1,441.8	1,379.0	10.1	11.8	167.07	-297.7	185.3	746.5	726.9	38.014			
1,900.0	1,861.7	1,500.0	1,428.2	10.5	12.1	166.92	-323.8	202.3	819.1	798.9	40.524			
2,000.0	1,958.3	1,542.3	1,463.4	10.9	12.3	166.81	-343.3	215.1	893.1	872.7	43.666			
2,100.0	2,054.8	1,594.6	1,506.5	11.3	12.5	166.67	-368.2	231.4	968.5	947.6	46.452			
2,200.0	2,151.4	1,659.9	1,560.1	11.8	12.7	166.52	-399.5	251.8	1,044.2	1,022.8	48.800			
2,300.0	2,248.0	1,725.3	1,613.7	12.2	12.9	166.39	-430.8	272.2	1,119.9	1,097.9	50.998			
2,400.0	2,344.6	1,790.6	1,667.3	12.6	13.1	166.28	-462.1	292.6	1,195.6	1,173.1	53.051			
2,500.0	2,441.1	1,855.9	1,720.8	13.1	13.3	166.18	-493.4	313.0	1,271.3	1,248.2	54.979			
2,600.0	2,537.7	1,921.2	1,774.4	13.5	13.6	166.09	-524.7	333.5	1,347.0	1,323.3	56.785			
2,700.0	2,634.3	1,986.5	1,828.0	14.0	13.8	166.01	-556.0	353.9	1,422.7	1,398.4	58.475			
2,800.0	2,730.9	2,051.8	1,881.5	14.4	14.0	165.94	-587.3	374.3	1,498.4	1,473.5	60.092			
2,900.0	2,827.4	2,117.2	1,935.1	14.9	14.4	165.87	-618.6	394.7	1,574.2	1,548.6	61.539			
3,000.0	2,924.0	2,182.5	1,988.7	15.3	15.0	165.81	-649.9	415.1	1,649.9	1,623.6	62.878			
3,100.0	3,020.6	2,247.8	2,042.3	15.8	15.7	165.76	-681.2	435.6	1,725.6	1,698.7	64.243			
3,200.0	3,117.2	2,313.1	2,095.8	16.2	16.4	165.71	-712.5	456.0	1,801.3	1,773.8	65.495			
3,300.0	3,213.7	2,378.4	2,149.4	16.7	17.1	165.67	-743.8	476.4	1,877.0	1,848.9	66.658			
3,400.0	3,310.3	2,443.7	2,203.0	17.2	17.8	165.62	-775.1	496.8	1,952.7	1,923.9	67.755			
3,500.0	3,406.9	2,509.1	2,256.6	17.6	18.5	165.59	-806.4	517.3	2,028.4	1,999.0	68.796			
3,600.0	3,503.5	2,574.4	2,310.1	18.1	19.2	165.55	-837.7	537.7	2,104.2	2,074.0	69.770			
3,700.0	3,600.0	2,639.7	2,363.7	18.6	19.9	165.52	-868.9	558.1	2,179.9	2,149.0	70.692			
3,800.0	3,696.6	2,705.0	2,417.3	19.1	20.6	165.49	-900.2	578.5	2,255.6	2,224.1	71.568			
3,900.0	3,793.2	2,770.3	2,470.8	19.5	21.3	165.46	-931.5	598.9	2,331.3	2,299.1	72.390			
4,000.0	3,889.8	2,835.7	2,524.4	20.0	22.0	165.43	-962.8	619.4	2,407.0	2,374.1	73.170			
4,100.0	3,986.3	2,901.0	2,578.0	20.5	22.7	165.40	-994.1	639.8	2,482.7	2,449.2	73.912			
4,200.0	4,082.9	2,966.3	2,631.6	21.0	23.4	165.38	-1,025.4	660.2	2,558.5	2,524.2	74.610			
4,300.0	4,179.5	3,031.6	2,685.1	21.4	24.1	165.36	-1,056.7	680.6	2,634.2	2,599.2	75.274			
4,400.0	4,276.1	3,096.9	2,738.7	21.9	24.8	165.34	-1,088.0	701.0	2,709.9	2,674.2	75.907			
4,500.0	4,372.7	3,162.2	2,792.3	22.4	25.5	165.32	-1,119.3	721.5	2,785.6	2,749.2	76.504			
4,600.0	4,469.2	3,227.6	2,845.9	22.9	26.2	165.30	-1,150.6	741.9	2,861.3	2,824.2	77.074			
4,700.0	4,565.8	3,292.9	2,899.4	23.4	26.9	165.28	-1,181.9	762.3	2,937.1	2,899.2	77.616			
4,800.0	4,662.4	3,358.2	2,953.0	23.8	27.6	165.26	-1,213.2	782.7	3,012.8	2,974.2	78.130			
4,900.0	4,759.0	3,423.5	3,006.6	24.3	28.3	165.25	-1,244.5	803.1	3,088.5	3,049.2	78.621			
5,000.0	4,855.5	3,488.8	3,060.1	24.8	29.0	165.23	-1,275.8	823.6	3,164.2	3,124.2	79.090			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Currier 0993-16-07 Pad - Currier BCU 0993-16-14E - OH - Design #2												Offset Well Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	3,554.1	3,113.7	25.3	29.8	165.21	-1,307.1	844.0	3,239.9	3,199.2	79.535		
5,200.0	5,048.7	3,619.5	3,167.3	25.8	30.5	165.20	-1,338.3	864.4	3,315.7	3,274.2	79.960		
5,300.0	5,145.3	3,684.9	3,221.0	26.2	31.2	165.39	-1,369.7	884.9	3,391.2	3,349.0	80.378		
5,400.0	5,242.6	3,752.4	3,276.3	26.8	31.9	165.90	-1,402.0	906.0	3,465.0	3,422.1	80.659		
5,500.0	5,340.7	3,822.3	3,333.7	27.3	32.7	166.34	-1,435.5	927.8	3,536.5	3,492.7	80.790		
5,600.0	5,439.3	3,894.6	3,392.9	27.8	33.4	166.72	-1,470.2	950.4	3,605.5	3,560.9	80.842		
5,700.0	5,538.5	3,969.1	3,454.1	28.3	34.2	167.05	-1,505.9	973.7	3,672.1	3,626.7	80.824		
5,800.0	5,638.1	4,045.8	3,517.0	28.8	35.1	167.32	-1,542.6	997.7	3,736.1	3,689.8	80.751		
5,900.0	5,737.9	4,124.6	3,581.6	29.2	35.9	167.55	-1,580.3	1,022.3	3,797.4	3,750.4	80.640		
6,000.0	5,837.9	4,205.3	3,647.8	29.6	36.8	167.75	-1,619.0	1,047.6	3,856.1	3,808.2	80.545		
6,100.0	5,937.9	4,287.3	3,715.1	29.6	37.7	155.13	-1,658.3	1,073.2	3,912.9	3,864.5	80.787		
6,200.0	6,037.9	4,369.3	3,782.3	29.7	38.6	155.01	-1,697.6	1,098.8	3,969.7	3,920.7	81.029		
6,300.0	6,137.9	4,451.3	3,849.6	29.7	39.5	154.90	-1,736.9	1,124.5	4,026.6	3,977.0	81.260		
6,400.0	6,237.9	4,533.4	3,916.9	29.8	40.4	154.79	-1,776.2	1,150.1	4,083.4	4,033.3	81.482		
6,500.0	6,337.9	4,615.4	3,984.1	29.8	41.3	154.68	-1,815.5	1,175.8	4,140.2	4,089.6	81.696		
6,600.0	6,437.9	4,697.4	4,051.4	29.8	42.1	154.57	-1,854.8	1,201.4	4,197.1	4,145.8	81.902		
6,700.0	6,537.9	7,384.0	6,537.9	29.9	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.5	63.420		
6,800.0	6,637.9	7,484.0	6,637.9	29.9	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.4	63.370		
6,900.0	6,737.9	7,584.0	6,737.9	29.9	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.4	63.320		
7,000.0	6,837.9	7,684.0	6,837.9	30.0	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.3	63.269		
7,100.0	6,937.9	7,784.0	6,937.9	30.0	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.3	63.218		
7,200.0	7,037.9	7,884.0	7,037.9	30.1	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.2	63.167		
7,300.0	7,137.9	7,984.0	7,137.9	30.1	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.2	63.116		
7,400.0	7,237.9	8,084.0	7,237.9	30.1	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.1	63.065		
7,500.0	7,337.9	8,184.0	7,337.9	30.2	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.1	63.013		
7,600.0	7,437.9	8,284.0	7,437.9	30.2	56.7	153.16	-2,507.4	1,627.3	4,226.1	4,159.0	62.961		
7,700.0	7,537.9	8,384.0	7,537.9	30.3	56.8	153.16	-2,507.4	1,627.3	4,226.1	4,159.0	62.909		
7,800.0	7,637.9	8,484.0	7,637.9	30.3	56.8	153.16	-2,507.4	1,627.3	4,226.1	4,158.9	62.856		
7,900.0	7,737.9	8,584.0	7,737.9	30.3	56.8	153.16	-2,507.4	1,627.3	4,226.1	4,158.8	62.804		
7,952.1	7,790.0	8,636.1	7,790.0	30.4	56.8	153.16	-2,507.4	1,627.3	4,226.1	4,158.8	62.784		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-150.25	-35.8	-20.5	41.2					
100.0	100.0	100.0	100.0	0.8	0.8	-150.25	-35.8	-20.5	41.2	39.7	26.033			
200.0	200.0	200.0	200.0	1.4	1.4	-150.25	-35.8	-20.5	41.2	38.4	14.577	CC, ES		
300.0	300.0	298.5	298.4	1.7	2.1	-139.36	-37.9	-20.3	43.1	39.3	11.559			
400.0	400.0	396.4	396.1	2.5	3.7	-144.97	-44.2	-19.7	50.6	44.7	8.651			
500.0	499.8	492.7	491.9	3.6	4.5	-151.94	-54.4	-18.9	65.4	57.7	8.524	SF		
600.0	599.3	586.9	585.1	4.5	4.9	-156.90	-68.0	-19.0	87.9	78.9	9.721			
700.0	698.5	678.3	675.0	5.3	5.6	-159.64	-84.5	-20.8	117.7	107.1	11.151			
800.0	797.1	766.5	761.1	6.0	6.4	-161.06	-103.3	-24.1	154.2	142.3	12.936			
900.0	895.2	850.8	842.7	6.7	7.0	-161.72	-124.1	-28.7	197.0	183.9	14.997			
1,000.0	992.4	931.0	919.5	7.3	7.6	-161.94	-146.4	-34.3	245.8	231.5	17.279			
1,100.0	1,089.1	1,007.1	991.6	7.6	8.2	-162.13	-169.6	-40.9	299.4	284.4	20.031			
1,200.0	1,185.6	1,080.2	1,060.1	7.9	8.7	-162.16	-194.0	-48.2	355.7	340.0	22.750			
1,300.0	1,282.2	1,150.4	1,125.2	8.2	9.1	-162.04	-219.2	-56.2	414.3	398.0	25.430			
1,400.0	1,378.8	1,217.7	1,186.8	8.6	9.6	-161.82	-245.0	-64.8	475.1	458.2	28.081			
1,500.0	1,475.4	1,282.3	1,245.1	8.9	10.0	-161.55	-271.2	-73.8	538.0	520.5	30.713			
1,600.0	1,571.9	1,344.2	1,300.2	9.3	10.3	-161.26	-297.7	-83.2	602.9	584.8	33.331			
1,700.0	1,668.5	1,400.0	1,349.3	9.7	10.7	-160.97	-322.7	-92.3	669.6	651.1	36.054			
1,800.0	1,765.1	1,460.1	1,401.4	10.1	11.0	-160.64	-350.8	-102.7	738.1	718.9	38.534			
1,900.0	1,861.7	1,514.4	1,447.7	10.5	11.3	-160.33	-377.2	-112.7	808.2	788.6	41.226			
2,000.0	1,958.3	1,582.3	1,505.3	10.9	11.5	-159.97	-411.0	-125.6	879.2	859.1	43.663			
2,100.0	2,054.8	1,652.6	1,564.7	11.3	11.8	-159.65	-445.9	-138.9	950.3	929.6	45.861			
2,200.0	2,151.4	1,722.8	1,624.2	11.8	12.0	-159.37	-480.9	-152.2	1,021.5	1,000.1	47.904			
2,300.0	2,248.0	1,793.0	1,683.6	12.2	12.3	-159.13	-515.8	-165.6	1,092.6	1,070.6	49.801			
2,400.0	2,344.6	1,863.3	1,743.1	12.6	12.6	-158.92	-550.7	-178.9	1,163.7	1,141.1	51.561			
2,500.0	2,441.1	1,933.5	1,802.5	13.1	12.8	-158.73	-585.7	-192.2	1,234.8	1,211.6	53.205			
2,600.0	2,537.7	2,003.7	1,862.0	13.5	13.1	-158.56	-620.6	-205.6	1,306.0	1,282.1	54.728			
2,700.0	2,634.3	2,073.9	1,921.4	14.0	13.5	-158.41	-655.5	-218.9	1,377.1	1,352.6	56.145			
2,800.0	2,730.9	2,144.2	1,980.9	14.4	13.8	-158.28	-690.4	-232.2	1,448.3	1,423.1	57.471			
2,900.0	2,827.4	2,214.4	2,040.3	14.9	14.3	-158.16	-725.4	-245.6	1,519.5	1,493.6	58.711			
3,000.0	2,924.0	2,284.6	2,099.8	15.3	14.8	-158.05	-760.3	-258.9	1,590.6	1,564.0	59.867			
3,100.0	3,020.6	2,354.8	2,159.2	15.8	15.3	-157.94	-795.2	-272.3	1,661.8	1,634.5	60.946			
3,200.0	3,117.2	2,425.1	2,218.7	16.2	15.9	-157.85	-830.2	-285.6	1,732.9	1,705.0	61.959			
3,300.0	3,213.7	2,495.3	2,278.1	16.7	16.5	-157.76	-865.1	-298.9	1,804.1	1,775.4	62.908			
3,400.0	3,310.3	2,565.5	2,337.6	17.2	17.1	-157.68	-900.0	-312.3	1,875.3	1,845.9	63.795			
3,500.0	3,406.9	2,635.7	2,397.0	17.6	17.7	-157.61	-934.9	-325.6	1,946.4	1,916.3	64.630			
3,600.0	3,503.5	2,706.0	2,456.4	18.1	18.4	-157.54	-969.9	-338.9	2,017.6	1,986.8	65.416			
3,700.0	3,600.0	2,776.2	2,515.9	18.6	19.0	-157.48	-1,004.8	-352.3	2,088.8	2,057.2	66.153			
3,800.0	3,696.6	2,846.4	2,575.3	19.1	19.6	-157.42	-1,039.7	-365.6	2,160.0	2,127.7	66.848			
3,900.0	3,793.2	2,916.7	2,634.8	19.5	20.3	-157.36	-1,074.6	-378.9	2,231.1	2,198.1	67.503			
4,000.0	3,889.8	2,986.9	2,694.2	20.0	20.9	-157.31	-1,109.6	-392.3	2,302.3	2,268.5	68.121			
4,100.0	3,986.3	3,057.1	2,753.7	20.5	21.5	-157.26	-1,144.5	-405.6	2,373.5	2,338.9	68.704			
4,200.0	4,082.9	3,127.3	2,813.1	21.0	22.2	-157.21	-1,179.4	-419.0	2,444.7	2,409.4	69.256			
4,300.0	4,179.5	3,197.6	2,872.6	21.4	22.8	-157.17	-1,214.4	-432.3	2,515.9	2,479.8	69.779			
4,400.0	4,276.1	3,267.8	2,932.0	21.9	23.4	-157.13	-1,249.3	-445.6	2,587.0	2,550.2	70.272			
4,500.0	4,372.7	3,338.0	2,991.5	22.4	24.1	-157.09	-1,284.2	-459.0	2,658.2	2,620.6	70.740			
4,600.0	4,469.2	3,408.2	3,050.9	22.9	24.7	-157.05	-1,319.1	-472.3	2,729.4	2,691.0	71.185			
4,700.0	4,565.8	3,478.5	3,110.4	23.4	25.4	-157.02	-1,354.1	-485.6	2,800.6	2,761.5	71.606			
4,800.0	4,662.4	3,548.7	3,169.8	23.8	26.0	-156.98	-1,389.0	-499.0	2,871.8	2,831.9	72.006			
4,900.0	4,759.0	3,618.9	3,229.3	24.3	26.7	-156.95	-1,423.9	-512.3	2,942.9	2,902.3	72.387			
5,000.0	4,855.5	3,689.1	3,288.7	24.8	27.3	-156.92	-1,458.9	-525.6	3,014.1	2,972.7	72.749			
5,100.0	4,952.1	3,759.4	3,348.2	25.3	28.0	-156.89	-1,493.8	-539.0	3,085.3	3,043.1	73.093			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design											Currier 0993-16-07 Pad - Currier BCU 0993-16-14W - OH - Design #2	Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,200.0	5,048.7	3,829.6	3,407.6	25.8	28.6	-156.86	-1,528.7	-552.3	3,156.5	3,113.5	73.421		
5,300.0	5,145.3	3,900.0	3,467.2	26.2	29.3	-157.12	-1,563.7	-565.7	3,227.5	3,183.8	73.747		
5,400.0	5,242.6	3,972.1	3,528.2	26.8	29.9	-157.80	-1,599.6	-579.4	3,296.7	3,252.2	73.956		
5,500.0	5,340.7	4,046.4	3,591.1	27.3	30.6	-158.39	-1,636.5	-593.5	3,363.6	3,318.2	74.043		
5,600.0	5,439.3	4,122.7	3,655.7	27.8	31.3	-158.89	-1,674.5	-608.0	3,428.0	3,381.7	74.067		
5,700.0	5,538.5	4,201.0	3,722.0	28.3	32.0	-159.33	-1,713.4	-622.8	3,489.9	3,442.8	74.039		
5,800.0	5,638.1	4,281.2	3,789.9	28.8	32.8	-159.69	-1,753.3	-638.1	3,549.2	3,501.2	73.969		
5,900.0	5,737.9	4,363.1	3,859.2	29.2	33.5	-160.00	-1,794.0	-653.6	3,605.9	3,557.1	73.872		
6,000.0	5,837.9	4,446.7	3,930.0	29.6	34.3	-160.25	-1,835.6	-669.5	3,659.8	3,610.2	73.795		
6,100.0	5,937.9	4,531.3	4,001.6	29.6	35.1	-172.66	-1,877.7	-685.6	3,712.0	3,661.9	74.010		
6,200.0	6,037.9	4,616.0	4,073.3	29.7	35.9	-172.47	-1,919.8	-701.6	3,764.2	3,713.5	74.226		
6,300.0	6,137.9	4,700.6	4,144.9	29.7	36.6	-172.29	-1,961.9	-717.7	3,816.4	3,765.1	74.433		
6,400.0	6,237.9	4,785.3	4,216.6	29.8	37.4	-172.11	-2,004.0	-733.8	3,868.6	3,816.8	74.633		
6,500.0	6,337.9	7,051.5	6,337.9	29.8	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.5	59.938		
6,600.0	6,437.9	7,151.5	6,437.9	29.8	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.5	59.889		
6,700.0	6,537.9	7,251.5	6,537.9	29.9	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.4	59.840		
6,800.0	6,637.9	7,351.5	6,637.9	29.9	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.4	59.791		
6,900.0	6,737.9	7,451.5	6,737.9	29.9	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.3	59.741		
7,000.0	6,837.9	7,551.5	6,837.9	30.0	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.3	59.692		
7,100.0	6,937.9	7,651.5	6,937.9	30.0	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.2	59.642		
7,200.0	7,037.9	7,751.5	7,037.9	30.1	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.2	59.591		
7,300.0	7,137.9	7,851.5	7,137.9	30.1	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.1	59.541		
7,400.0	7,237.9	7,951.5	7,237.9	30.1	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.1	59.490		
7,500.0	7,337.9	8,051.5	7,337.9	30.2	48.4	-170.05	-2,586.6	-956.3	3,908.8	3,843.0	59.439		
7,600.0	7,437.9	8,151.5	7,437.9	30.2	48.5	-170.05	-2,586.6	-956.3	3,908.8	3,842.9	59.388		
7,700.0	7,537.9	8,251.5	7,537.9	30.3	48.5	-170.05	-2,586.6	-956.3	3,908.8	3,842.9	59.337		
7,800.0	7,637.9	8,351.5	7,637.9	30.3	48.5	-170.05	-2,586.6	-956.3	3,908.8	3,842.8	59.285		
7,900.0	7,737.9	8,451.5	7,737.9	30.3	48.5	-170.05	-2,586.6	-956.3	3,908.8	3,842.8	59.234		
7,952.1	7,790.0	8,503.6	7,790.0	30.4	48.5	-170.05	-2,586.6	-956.3	3,908.8	3,842.7	59.213		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-162.77	-21.4	-6.6	22.4				
100.0	100.0	100.0	100.0	0.8	0.8	-162.77	-21.4	-6.6	22.4	20.8	14.118		
200.0	200.0	200.0	200.0	1.4	1.4	-162.77	-21.4	-6.6	22.4	19.5	7.905	CC, ES	
300.0	300.0	299.3	299.2	1.7	2.1	-154.06	-23.2	-5.6	24.0	20.3	6.553		
400.0	400.0	397.9	397.7	2.5	3.8	-163.98	-28.8	-2.4	31.4	25.5	5.371	SF	
500.0	499.8	495.1	494.3	3.6	4.9	-173.03	-37.9	2.7	46.7	38.5	5.702		
600.0	599.3	590.0	588.1	4.5	5.8	-178.78	-50.2	9.7	69.8	59.8	6.955		
700.0	698.5	681.7	678.2	5.3	6.6	177.79	-65.3	18.2	100.5	88.9	8.681		
800.0	797.1	769.8	763.9	6.0	7.3	175.68	-82.7	28.1	138.3	125.4	10.717		
900.0	895.2	853.6	844.8	6.7	7.9	174.31	-101.9	39.0	182.6	168.5	12.987		
1,000.0	992.4	932.8	920.4	7.3	8.5	173.34	-122.4	50.6	233.1	218.0	15.449		
1,100.0	1,089.1	1,007.5	990.9	7.6	9.0	172.72	-143.9	62.8	288.7	273.0	18.329		
1,200.0	1,185.6	1,079.0	1,057.6	7.9	9.5	172.26	-166.2	75.4	347.0	330.7	21.183		
1,300.0	1,282.2	1,147.3	1,120.5	8.2	9.9	171.87	-189.3	88.5	407.8	390.8	24.006		
1,400.0	1,378.8	1,212.5	1,179.9	8.6	10.3	171.54	-212.8	101.8	470.9	453.3	26.805		
1,500.0	1,475.4	1,274.8	1,235.8	8.9	10.7	171.24	-236.7	115.3	536.0	517.9	29.592		
1,600.0	1,571.9	1,334.3	1,288.5	9.3	11.0	170.98	-260.7	128.9	603.2	584.5	32.368		
1,700.0	1,668.5	1,400.0	1,345.9	9.7	11.4	170.72	-288.5	144.7	672.2	652.9	34.828		
1,800.0	1,765.1	1,445.1	1,384.8	10.1	11.7	170.54	-308.5	156.0	742.9	723.3	37.894		
1,900.0	1,861.7	1,500.0	1,431.4	10.5	12.0	170.34	-333.7	170.3	815.2	795.1	40.528		
2,000.0	1,958.3	1,546.1	1,470.0	10.9	12.2	170.18	-355.5	182.7	889.0	868.5	43.401		
2,100.0	2,054.8	1,600.0	1,514.5	11.3	12.5	170.00	-382.0	197.6	964.2	943.2	45.878		
2,200.0	2,151.4	1,638.0	1,545.5	11.8	12.7	169.88	-401.2	208.5	1,040.7	1,019.4	48.899		
2,300.0	2,248.0	1,680.9	1,580.0	12.2	12.9	169.74	-423.4	221.1	1,118.4	1,096.7	51.645		
2,400.0	2,344.6	1,721.8	1,612.4	12.6	13.1	169.62	-445.1	233.4	1,197.2	1,175.3	54.467		
2,500.0	2,441.1	1,760.9	1,643.0	13.1	13.3	169.51	-466.3	245.4	1,277.1	1,254.9	57.357		
2,600.0	2,537.7	1,812.6	1,683.0	13.5	13.5	169.36	-494.8	261.5	1,357.8	1,335.1	59.814		
2,700.0	2,634.3	1,871.5	1,728.6	14.0	13.6	169.22	-527.3	279.9	1,438.6	1,415.4	61.922		
2,800.0	2,730.9	1,930.5	1,774.1	14.4	13.8	169.08	-559.8	298.3	1,519.3	1,495.6	63.911		
2,900.0	2,827.4	1,989.4	1,819.7	14.9	14.0	168.97	-592.3	316.8	1,600.1	1,575.8	65.774		
3,000.0	2,924.0	2,048.4	1,865.3	15.3	14.2	168.86	-624.8	335.2	1,680.9	1,656.0	67.568		
3,100.0	3,020.6	2,107.3	1,910.9	15.8	14.5	168.76	-657.4	353.6	1,761.6	1,736.2	69.192		
3,200.0	3,117.2	2,166.2	1,956.5	16.2	15.1	168.67	-689.9	372.0	1,842.4	1,816.3	70.657		
3,300.0	3,213.7	2,225.2	2,002.0	16.7	15.8	168.59	-722.4	390.4	1,923.2	1,896.5	72.229		
3,400.0	3,310.3	2,284.1	2,047.6	17.2	16.5	168.52	-754.9	408.9	2,003.9	1,976.7	73.636		
3,500.0	3,406.9	2,343.1	2,093.2	17.6	17.2	168.45	-787.5	427.3	2,084.7	2,056.9	74.959		
3,600.0	3,503.5	2,402.0	2,138.8	18.1	17.9	168.39	-820.0	445.7	2,165.5	2,137.1	76.225		
3,700.0	3,600.0	2,461.0	2,184.3	18.6	18.6	168.33	-852.5	464.1	2,246.2	2,217.2	77.403		
3,800.0	3,696.6	2,519.9	2,229.9	19.1	19.3	168.27	-885.0	482.5	2,327.0	2,297.4	78.531		
3,900.0	3,793.2	2,578.9	2,275.5	19.5	20.0	168.22	-917.6	501.0	2,407.8	2,377.5	79.595		
4,000.0	3,889.8	2,637.8	2,321.1	20.0	20.7	168.17	-950.1	519.4	2,488.5	2,457.7	80.604		
4,100.0	3,986.3	2,696.7	2,366.7	20.5	21.4	168.13	-982.6	537.8	2,569.3	2,537.8	81.567		
4,200.0	4,082.9	2,755.7	2,412.2	21.0	22.1	168.09	-1,015.1	556.2	2,650.1	2,618.0	82.472		
4,300.0	4,179.5	2,814.6	2,457.8	21.4	22.8	168.05	-1,047.6	574.6	2,730.9	2,698.1	83.338		
4,400.0	4,276.1	2,873.6	2,503.4	21.9	23.5	168.01	-1,080.2	593.1	2,811.6	2,778.2	84.158		
4,500.0	4,372.7	2,932.5	2,549.0	22.4	24.2	167.97	-1,112.7	611.5	2,892.4	2,858.4	84.938		
4,600.0	4,469.2	2,991.5	2,594.5	22.9	24.9	167.94	-1,145.2	629.9	2,973.2	2,938.5	85.682		
4,700.0	4,565.8	3,050.4	2,640.1	23.4	25.6	167.91	-1,177.7	648.3	3,054.0	3,018.6	86.386		
4,800.0	4,662.4	3,109.4	2,685.7	23.8	26.3	167.88	-1,210.3	666.7	3,134.7	3,098.7	87.061		
4,900.0	4,759.0	3,168.3	2,731.3	24.3	27.0	167.85	-1,242.8	685.2	3,215.5	3,178.9	87.701		
5,000.0	4,855.5	3,227.2	2,776.9	24.8	27.7	167.82	-1,275.3	703.6	3,296.3	3,259.0	88.312		
5,100.0	4,952.1	3,286.2	2,822.4	25.3	28.4	167.80	-1,307.8	722.0	3,377.1	3,339.1	88.895		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
5,200.0	5,048.7	3,345.1	2,868.0	25.8	29.2	167.77	-1,340.3	740.4	3,457.8	3,419.2	89.450		
5,300.0	5,145.3	3,404.2	2,913.7	26.2	29.9	167.95	-1,373.0	758.9	3,538.5	3,499.2	89.994		
5,400.0	5,242.6	3,465.5	2,961.1	26.8	30.6	168.44	-1,406.8	778.0	3,617.5	3,577.5	90.379		
5,500.0	5,340.7	3,529.4	3,010.5	27.3	31.4	168.86	-1,442.0	798.0	3,694.4	3,653.6	90.592		
5,600.0	5,439.3	3,595.9	3,061.9	27.8	32.2	169.22	-1,478.7	818.8	3,769.0	3,727.5	90.707		
5,700.0	5,538.5	3,664.9	3,115.2	28.3	33.0	169.52	-1,516.8	840.3	3,841.3	3,799.0	90.735		
5,800.0	5,638.1	3,736.2	3,170.4	28.8	33.9	169.78	-1,556.1	862.6	3,911.2	3,868.1	90.694		
5,900.0	5,737.9	3,809.9	3,227.4	29.2	34.8	170.01	-1,596.8	885.7	3,978.7	3,934.8	90.605		
6,000.0	5,837.9	3,885.8	3,286.1	29.6	35.7	170.19	-1,638.7	909.4	4,043.5	3,998.8	90.526		
6,100.0	5,937.9	3,963.1	3,345.9	29.6	36.6	157.59	-1,681.3	933.5	4,106.7	4,061.5	90.830		
6,200.0	6,037.9	4,040.4	3,405.7	29.7	37.5	157.48	-1,724.0	957.7	4,169.8	4,124.0	91.130		
6,300.0	6,137.9	4,117.7	3,465.4	29.7	38.5	157.37	-1,766.6	981.9	4,232.9	4,186.6	91.416		
6,400.0	6,237.9	4,195.1	3,525.2	29.8	39.4	157.27	-1,809.3	1,006.0	4,296.1	4,249.2	91.690		
6,500.0	6,337.9	4,272.4	3,585.0	29.8	40.3	157.17	-1,852.0	1,030.2	4,359.2	4,311.8	91.951		
6,600.0	6,437.9	4,349.7	3,644.8	29.8	41.3	157.08	-1,894.6	1,054.4	4,422.4	4,374.4	92.201		
6,700.0	6,537.9	4,427.0	3,704.6	29.9	42.2	156.99	-1,937.3	1,078.5	4,485.5	4,437.0	92.440		
6,800.0	6,637.9	4,504.4	3,764.4	29.9	43.1	156.90	-1,980.0	1,102.7	4,548.7	4,499.6	92.669		
6,900.0	6,737.9	4,581.7	3,824.2	29.9	44.0	156.81	-2,022.7	1,126.9	4,611.8	4,561.7	92.898		
7,000.0	6,837.9	4,659.0	3,884.0	30.0	45.0	156.72	-2,065.4	1,151.1	4,675.0	4,623.8	93.127		
7,100.0	6,937.9	4,736.3	3,943.8	30.0	46.0	156.63	-2,108.1	1,175.3	4,738.1	4,685.9	93.356		
7,200.0	7,037.9	4,813.6	4,003.6	30.1	47.0	156.54	-2,150.8	1,200.0	4,801.2	4,748.0	93.585		
7,300.0	7,137.9	4,890.9	4,063.4	30.1	48.0	156.45	-2,193.5	1,224.2	4,864.3	4,810.1	93.814		
7,400.0	7,237.9	4,968.2	4,123.2	30.1	49.0	156.36	-2,236.2	1,248.4	4,927.4	4,872.2	94.043		
7,500.0	7,337.9	5,045.5	4,183.0	30.2	50.0	156.27	-2,278.9	1,272.6	4,990.5	4,934.3	94.272		
7,600.0	7,437.9	5,122.8	4,242.8	30.2	51.0	156.18	-2,321.6	1,296.8	5,053.6	4,996.4	94.501		
7,700.0	7,537.9	5,200.1	4,302.6	30.3	52.0	156.09	-2,364.3	1,321.0	5,116.7	5,058.5	94.730		
7,800.0	7,637.9	5,277.4	4,362.4	30.3	53.0	156.00	-2,407.0	1,345.2	5,179.8	5,120.6	94.959		
7,900.0	7,737.9	5,354.7	4,422.2	30.3	54.0	155.91	-2,449.7	1,369.4	5,242.9	5,182.7	95.188		
7,952.1	7,790.0	5,431.9	4,482.0	30.4	55.0	155.82	-2,492.4	1,393.6	5,306.0	5,244.8	95.417		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft	
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-154.67	-28.6	-13.5	31.6					
100.0	100.0	100.0	100.0	0.8	0.8	-154.67	-28.6	-13.5	31.6	30.0	19.963			
113.0	113.0	113.0	113.0	0.9	0.9	-154.67	-28.6	-13.5	31.6	29.9	18.180	CC		
200.0	200.0	199.9	199.9	1.4	1.3	-154.70	-28.6	-13.5	31.6	28.9	11.578	ES		
300.0	300.0	298.9	298.8	1.7	2.5	-145.33	-31.0	-12.6	33.6	29.6	8.364			
400.0	400.0	397.2	396.9	2.5	4.0	-153.56	-37.4	-10.3	41.1	35.1	6.834			
500.0	499.8	493.9	493.0	3.6	5.2	-162.31	-47.5	-6.6	56.3	47.9	6.694	SF		
600.0	599.3	588.5	586.5	4.5	6.0	-167.96	-61.0	-2.8	79.5	69.3	7.829			
700.0	698.5	680.4	677.0	5.3	6.5	-170.22	-77.4	-0.8	109.7	98.2	9.573			
800.0	797.1	769.2	763.7	6.0	7.0	-170.86	-96.2	-0.4	146.4	133.7	11.568			
900.0	895.2	854.3	846.2	6.7	7.6	-170.75	-117.1	-1.7	189.2	175.5	13.753			
1,000.0	992.4	935.3	924.0	7.3	8.1	-170.30	-139.4	-4.2	237.8	223.1	16.103			
1,100.0	1,089.1	1,012.2	997.2	7.6	8.5	-169.83	-162.9	-7.8	291.3	275.8	18.875			
1,200.0	1,185.6	1,086.2	1,066.8	7.9	9.0	-169.31	-187.4	-12.5	347.2	331.2	21.601			
1,300.0	1,282.2	1,157.4	1,133.1	8.2	9.4	-168.73	-212.9	-18.0	405.4	388.7	24.280			
1,400.0	1,378.8	1,225.7	1,195.9	8.6	9.8	-168.13	-239.1	-24.3	465.8	448.5	26.924			
1,500.0	1,475.4	1,291.4	1,255.5	8.9	10.2	-167.55	-265.7	-31.2	528.2	510.3	29.543			
1,600.0	1,571.9	1,354.3	1,311.8	9.3	10.6	-166.97	-292.6	-38.6	592.6	574.1	32.145			
1,700.0	1,668.5	1,414.6	1,365.2	9.7	10.9	-166.42	-319.6	-46.4	658.7	639.8	34.730			
1,800.0	1,765.1	1,472.3	1,415.5	10.1	11.2	-165.90	-346.7	-54.6	726.6	707.2	37.306			
1,900.0	1,861.7	1,527.6	1,463.1	10.5	11.5	-165.40	-373.6	-63.1	796.2	776.2	39.873			
2,000.0	1,958.3	1,580.5	1,508.0	10.9	11.8	-164.93	-400.3	-71.7	867.2	846.8	42.435			
2,100.0	2,054.8	1,631.2	1,550.4	11.3	12.1	-164.49	-426.6	-80.5	939.8	918.9	44.994			
2,200.0	2,151.4	1,679.7	1,590.3	11.8	12.4	-164.07	-452.6	-89.3	1,013.7	992.3	47.550			
2,300.0	2,248.0	1,726.2	1,628.1	12.2	12.6	-163.68	-478.2	-98.2	1,088.8	1,067.2	50.265			
2,400.0	2,344.6	1,786.2	1,676.4	12.6	12.8	-163.19	-511.8	-110.1	1,164.8	1,142.7	52.595			
2,500.0	2,441.1	1,850.8	1,728.3	13.1	13.1	-162.73	-548.0	-122.8	1,240.9	1,218.2	54.638			
2,600.0	2,537.7	1,915.3	1,780.2	13.5	13.3	-162.32	-584.2	-135.6	1,317.1	1,293.8	56.556			
2,700.0	2,634.3	1,979.9	1,832.1	14.0	13.6	-161.96	-620.4	-148.4	1,393.2	1,369.4	58.345			
2,800.0	2,730.9	2,044.5	1,884.0	14.4	14.0	-161.63	-656.7	-161.2	1,469.4	1,444.9	60.022			
2,900.0	2,827.4	2,109.0	1,935.9	14.9	14.4	-161.34	-692.9	-173.9	1,545.6	1,520.5	61.600			
3,000.0	2,924.0	2,173.6	1,987.9	15.3	14.8	-161.07	-729.1	-186.7	1,621.8	1,596.1	63.075			
3,100.0	3,020.6	2,238.2	2,039.8	15.8	15.3	-160.83	-765.3	-199.5	1,698.0	1,671.7	64.463			
3,200.0	3,117.2	2,302.7	2,091.7	16.2	15.8	-160.61	-801.5	-212.2	1,774.3	1,747.3	65.770			
3,300.0	3,213.7	2,367.3	2,143.6	16.7	16.4	-160.41	-837.7	-225.0	1,850.5	1,822.9	66.993			
3,400.0	3,310.3	2,431.9	2,195.5	17.2	17.0	-160.22	-873.9	-237.8	1,926.8	1,898.5	68.148			
3,500.0	3,406.9	2,496.4	2,247.4	17.6	17.6	-160.04	-910.1	-250.6	2,003.0	1,974.1	69.237			
3,600.0	3,503.5	2,561.0	2,299.4	18.1	18.2	-159.88	-946.3	-263.3	2,079.3	2,049.7	70.258			
3,700.0	3,600.0	2,625.6	2,351.3	18.6	18.8	-159.73	-982.5	-276.1	2,155.6	2,125.3	71.225			
3,800.0	3,696.6	2,690.2	2,403.2	19.1	19.4	-159.59	-1,018.7	-288.9	2,231.9	2,200.9	72.138			
3,900.0	3,793.2	2,754.7	2,455.1	19.5	20.1	-159.46	-1,054.9	-301.6	2,308.2	2,276.5	72.997			
4,000.0	3,889.8	2,819.3	2,507.0	20.0	20.7	-159.34	-1,091.1	-314.4	2,384.5	2,352.2	73.812			
4,100.0	3,986.3	2,883.9	2,558.9	20.5	21.3	-159.23	-1,127.3	-327.2	2,460.8	2,427.8	74.582			
4,200.0	4,082.9	2,948.4	2,610.8	21.0	22.0	-159.12	-1,163.5	-340.0	2,537.1	2,503.4	75.310			
4,300.0	4,179.5	3,013.0	2,662.8	21.4	22.6	-159.02	-1,199.7	-352.7	2,613.4	2,579.0	76.002			
4,400.0	4,276.1	3,077.6	2,714.7	21.9	23.2	-158.92	-1,235.9	-365.5	2,689.7	2,654.6	76.656			
4,500.0	4,372.7	3,142.1	2,766.6	22.4	23.9	-158.83	-1,272.1	-378.3	2,766.0	2,730.2	77.277			
4,600.0	4,469.2	3,206.7	2,818.5	22.9	24.5	-158.75	-1,308.3	-391.0	2,842.3	2,805.8	77.867			
4,700.0	4,565.8	3,271.3	2,870.4	23.4	25.2	-158.67	-1,344.5	-403.8	2,918.6	2,881.4	78.427			
4,800.0	4,662.4	3,335.8	2,922.3	23.8	25.8	-158.59	-1,380.7	-416.6	2,994.9	2,957.0	78.959			
4,900.0	4,759.0	3,400.4	2,974.3	24.3	26.5	-158.52	-1,416.9	-429.3	3,071.3	3,032.6	79.466			
5,000.0	4,855.5	3,465.0	3,026.2	24.8	27.1	-158.45	-1,453.1	-442.1	3,147.6	3,108.2	79.947			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Currier 0993-16-07 Pad - Currier BCU 0993-16-15W - OH - Design #2												Offset Well Error:	0.0 usft	
Survey Program: 0-OWSG (REV5) MWD HDGM Standard														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning		
5,100.0	4,952.1	3,529.5	3,078.1	25.3	27.8	-158.38	-1,489.3	-454.9	3,223.9	3,183.8	80.406			
5,200.0	5,048.7	3,594.1	3,130.0	25.8	28.4	-158.32	-1,525.5	-467.7	3,300.2	3,259.4	80.844			
5,300.0	5,145.3	3,658.8	3,182.0	26.2	29.1	-158.56	-1,561.8	-480.5	3,376.4	3,334.9	81.273			
5,400.0	5,242.6	3,725.4	3,235.6	26.8	29.8	-159.28	-1,599.1	-493.6	3,450.9	3,408.6	81.574			
5,500.0	5,340.7	3,794.4	3,291.0	27.3	30.5	-159.90	-1,637.8	-507.3	3,523.2	3,480.1	81.736			
5,600.0	5,439.3	3,865.5	3,348.3	27.8	31.2	-160.43	-1,677.7	-521.3	3,593.2	3,549.3	81.823			
5,700.0	5,538.5	3,938.9	3,407.2	28.3	31.9	-160.89	-1,718.8	-535.8	3,660.8	3,616.1	81.847			
5,800.0	5,638.1	4,014.2	3,467.8	28.8	32.7	-161.27	-1,761.1	-550.8	3,726.0	3,680.4	81.821			
5,900.0	5,737.9	4,091.6	3,530.0	29.2	33.5	-161.60	-1,804.4	-566.1	3,788.6	3,742.3	81.763			
6,000.0	5,837.9	4,170.8	3,593.7	29.6	34.3	-161.87	-1,848.9	-581.7	3,848.7	3,801.6	81.721			
6,100.0	5,937.9	4,251.2	3,658.3	29.6	35.1	-174.27	-1,893.9	-597.6	3,907.0	3,859.4	82.006			
6,200.0	6,037.9	4,331.6	3,723.0	29.7	36.0	-174.07	-1,939.0	-613.5	3,965.4	3,917.2	82.289			
6,300.0	6,137.9	4,412.0	3,787.6	29.7	36.8	-173.88	-1,984.1	-629.4	4,023.8	3,975.1	82.559			
6,400.0	6,237.9	4,492.4	3,852.3	29.8	37.6	-173.69	-2,029.2	-645.3	4,082.2	4,032.9	82.820			
6,500.0	6,337.9	4,572.8	3,916.9	29.8	38.4	-173.50	-2,074.3	-661.2	4,140.7	4,090.8	83.070			
6,600.0	6,437.9	4,653.2	3,981.6	29.8	39.3	-173.32	-2,119.3	-677.1	4,199.2	4,148.8	83.312			
6,700.0	6,537.9	4,732.6	4,046.3	29.9	40.1	-173.14	-2,164.3	-693.0	4,257.6	4,206.7	83.554			
6,800.0	6,637.9	4,812.0	4,111.0	29.9	40.9	-172.96	-2,209.3	-708.9	4,316.0	4,264.6	83.796			
6,900.0	6,737.9	4,891.4	4,175.7	29.9	41.7	-172.78	-2,254.3	-724.8	4,374.4	4,322.5	84.038			
7,000.0	6,837.9	4,970.8	4,240.4	30.0	42.5	-172.60	-2,299.3	-740.7	4,432.8	4,380.4	84.280			
7,100.0	6,937.9	5,050.2	4,305.1	30.0	43.3	-172.42	-2,344.3	-756.6	4,491.2	4,438.3	84.522			
7,200.0	7,037.9	5,129.6	4,369.8	30.1	44.1	-172.24	-2,389.3	-772.5	4,549.6	4,496.2	84.764			
7,300.0	7,137.9	5,209.0	4,434.5	30.1	44.9	-172.06	-2,434.3	-788.4	4,608.0	4,554.1	85.006			
7,400.0	7,237.9	5,288.4	4,499.2	30.1	45.7	-171.88	-2,479.3	-804.3	4,666.4	4,612.0	85.248			
7,500.0	7,337.9	5,367.8	4,563.9	30.2	46.5	-171.70	-2,524.3	-820.2	4,724.8	4,669.9	85.490			
7,600.0	7,437.9	5,447.2	4,628.6	30.2	47.3	-171.52	-2,569.3	-836.1	4,783.2	4,727.8	85.732			
7,700.0	7,537.9	5,526.6	4,693.3	30.3	48.1	-171.34	-2,614.3	-852.0	4,841.6	4,785.7	85.974			
7,800.0	7,637.9	5,606.0	4,758.0	30.3	48.9	-171.16	-2,659.3	-867.9	4,900.0	4,843.6	86.216			
7,900.0	7,737.9	5,685.4	4,822.7	30.3	49.7	-170.98	-2,704.3	-883.8	4,958.4	4,901.5	86.458			
7,952.1	7,790.0	5,764.8	4,887.4	30.4	50.5	-170.80	-2,749.3	-899.7	5,016.8	4,959.4	86.700			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-144.36	-57.5	-41.2	70.7				
100.0	100.0	100.0	100.0	0.8	0.8	-144.36	-57.5	-41.2	70.7	69.1	44.647		
113.0	113.0	113.0	113.0	0.9	0.9	-144.36	-57.5	-41.2	70.7	69.0	40.660	CC	
200.0	200.0	199.8	199.8	1.4	1.3	-144.35	-57.5	-41.2	70.7	68.0	25.886	ES	
300.0	300.0	297.4	297.4	1.7	2.3	-131.32	-58.6	-42.9	72.7	68.7	18.155		
400.0	400.0	394.8	394.6	2.5	3.4	-131.27	-61.7	-47.2	79.5	73.8	14.060		
500.0	499.8	491.2	490.7	3.6	3.8	-132.23	-66.7	-54.0	91.8	85.1	13.740	SF	
600.0	599.3	586.2	585.0	4.5	4.3	-134.36	-74.5	-62.0	109.7	101.8	13.972		
700.0	698.5	679.3	677.0	5.3	5.0	-136.96	-84.9	-71.0	133.4	124.3	14.610		
800.0	797.1	769.8	766.1	6.0	5.6	-139.47	-97.6	-80.9	163.0	152.7	15.741		
900.0	895.2	857.4	851.8	6.7	6.2	-141.67	-112.5	-91.5	198.5	187.0	17.261		
1,000.0	992.4	941.7	933.7	7.3	6.7	-143.48	-129.0	-102.6	239.5	227.0	19.075		
1,100.0	1,089.1	1,022.7	1,011.8	7.6	7.3	-145.24	-147.0	-114.1	285.5	272.2	21.452		
1,200.0	1,185.6	1,100.0	1,085.8	7.9	7.7	-146.63	-166.1	-125.8	334.2	320.2	23.837		
1,300.0	1,282.2	1,177.4	1,159.2	8.2	8.2	-147.66	-187.1	-138.3	385.4	370.7	26.127		
1,400.0	1,378.8	1,251.2	1,228.6	8.6	8.6	-148.40	-208.8	-151.0	438.9	423.5	28.425		
1,500.0	1,475.4	1,326.3	1,298.6	8.9	9.1	-148.98	-232.5	-164.4	494.5	478.4	30.664		
1,600.0	1,571.9	1,409.0	1,375.5	9.3	9.4	-149.49	-259.0	-179.4	550.6	533.7	32.699		
1,700.0	1,668.5	1,491.7	1,452.4	9.7	9.7	-149.90	-285.5	-194.5	606.7	589.2	34.667		
1,800.0	1,765.1	1,574.4	1,529.2	10.1	10.0	-150.25	-312.0	-209.5	662.8	644.6	36.450		
1,900.0	1,861.7	1,657.0	1,606.1	10.5	10.3	-150.54	-338.5	-224.5	719.0	700.1	38.071		
2,000.0	1,958.3	1,739.7	1,683.0	10.9	10.7	-150.79	-365.0	-239.5	775.1	755.5	39.545		
2,100.0	2,054.8	1,822.4	1,759.9	11.3	11.0	-151.00	-391.5	-254.5	831.3	811.0	40.887		
2,200.0	2,151.4	1,905.1	1,836.8	11.8	11.4	-151.19	-418.0	-269.5	887.5	866.4	42.112		
2,300.0	2,248.0	1,987.8	1,913.7	12.2	11.7	-151.35	-444.5	-284.5	943.7	921.8	43.229		
2,400.0	2,344.6	2,070.5	1,990.5	12.6	12.1	-151.50	-471.0	-299.5	999.9	977.3	44.252		
2,500.0	2,441.1	2,153.2	2,067.4	13.1	12.4	-151.63	-497.5	-314.6	1,056.1	1,032.7	45.189		
2,600.0	2,537.7	2,235.9	2,144.3	13.5	12.8	-151.75	-524.0	-329.6	1,112.3	1,088.1	46.051		
2,700.0	2,634.3	2,318.6	2,221.2	14.0	13.2	-151.86	-550.5	-344.6	1,168.4	1,143.5	46.845		
2,800.0	2,730.9	2,401.3	2,298.1	14.4	13.6	-151.95	-577.0	-359.6	1,224.7	1,198.9	47.577		
2,900.0	2,827.4	2,484.0	2,375.0	14.9	14.0	-152.04	-603.5	-374.6	1,280.9	1,254.3	48.253		
3,000.0	2,924.0	2,566.7	2,451.8	15.3	14.3	-152.12	-630.0	-389.6	1,337.1	1,309.7	48.879		
3,100.0	3,020.6	2,649.4	2,528.7	15.8	14.7	-152.20	-656.5	-404.6	1,393.3	1,365.1	49.459		
3,200.0	3,117.2	2,732.1	2,605.6	16.2	15.2	-152.27	-683.0	-419.6	1,449.5	1,420.5	49.999		
3,300.0	3,213.7	2,814.8	2,682.5	16.7	15.6	-152.33	-709.5	-434.6	1,505.7	1,475.9	50.501		
3,400.0	3,310.3	2,897.5	2,759.4	17.2	16.0	-152.39	-735.9	-449.7	1,561.9	1,531.3	50.969		
3,500.0	3,406.9	2,980.2	2,836.3	17.6	16.4	-152.44	-762.4	-464.7	1,618.1	1,586.6	51.406		
3,600.0	3,503.5	3,062.9	2,913.1	18.1	16.9	-152.49	-788.9	-479.7	1,674.3	1,642.0	51.815		
3,700.0	3,600.0	3,145.6	2,990.0	18.6	17.3	-152.54	-815.4	-494.7	1,730.5	1,697.4	52.198		
3,800.0	3,696.6	3,228.3	3,066.9	19.1	17.8	-152.59	-841.9	-509.7	1,786.7	1,752.8	52.558		
3,900.0	3,793.2	3,311.0	3,143.8	19.5	18.3	-152.63	-868.4	-524.7	1,843.0	1,808.1	52.896		
4,000.0	3,889.8	3,393.7	3,220.7	20.0	18.7	-152.67	-894.9	-539.7	1,899.2	1,863.5	53.213		
4,100.0	3,986.3	3,476.4	3,297.6	20.5	19.2	-152.71	-921.4	-554.7	1,955.4	1,918.8	53.504		
4,200.0	4,082.9	3,559.1	3,374.4	21.0	19.7	-152.74	-947.9	-569.8	2,011.6	1,974.2	53.791		
4,300.0	4,179.5	3,641.8	3,451.3	21.4	20.3	-152.77	-974.4	-584.8	2,067.8	2,029.6	54.058		
4,400.0	4,276.1	3,724.4	3,528.2	21.9	20.8	-152.81	-1,000.9	-599.8	2,124.0	2,084.9	54.310		
4,500.0	4,372.7	3,807.1	3,605.1	22.4	21.3	-152.84	-1,027.4	-614.8	2,180.3	2,140.3	54.548		
4,600.0	4,469.2	3,889.8	3,682.0	22.9	21.8	-152.86	-1,053.9	-629.8	2,236.5	2,195.7	54.774		
4,700.0	4,565.8	3,972.5	3,758.9	23.4	22.3	-152.89	-1,080.4	-644.8	2,292.7	2,251.0	54.987		
4,800.0	4,662.4	4,055.2	3,835.7	23.8	22.8	-152.92	-1,106.9	-659.8	2,348.9	2,306.4	55.190		
4,900.0	4,759.0	4,137.9	3,912.6	24.3	23.4	-152.94	-1,133.4	-674.8	2,405.1	2,361.7	55.383		
5,000.0	4,855.5	4,220.6	3,989.5	24.8	23.9	-152.97	-1,159.9	-689.8	2,461.4	2,417.1	55.566		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Reference (usft)	Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore +N-S (usft)	Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,952.1	4,303.3	4,066.4	25.3	24.4	-152.99	-1,186.4	-704.9	2,517.6	2,472.4	55.741		
5,200.0	5,048.7	4,386.0	4,143.3	25.8	24.9	-153.01	-1,212.9	-719.9	2,573.8	2,527.8	55.907		
5,300.0	5,145.3	4,468.8	4,220.3	26.2	25.5	-153.24	-1,239.5	-734.9	2,629.9	2,583.0	56.075		
5,400.0	5,242.6	4,553.0	4,298.5	26.8	26.0	-153.80	-1,266.4	-750.2	2,683.8	2,636.1	56.154		
5,500.0	5,340.7	4,638.8	4,378.3	27.3	26.6	-154.27	-1,293.9	-765.8	2,735.2	2,686.5	56.138		
5,600.0	5,439.3	4,726.1	4,459.5	27.8	27.1	-154.67	-1,321.9	-781.6	2,783.8	2,734.1	56.076		
5,700.0	5,538.5	4,814.8	4,541.9	28.3	27.7	-154.99	-1,350.3	-797.7	2,829.6	2,779.1	55.977		
5,800.0	5,638.1	4,904.8	4,625.6	28.8	28.3	-155.24	-1,379.2	-814.1	2,872.6	2,821.2	55.847		
5,900.0	5,737.9	4,996.1	4,710.5	29.2	28.9	-155.43	-1,408.4	-830.6	2,912.8	2,860.5	55.698		
6,000.0	5,837.9	5,088.4	4,796.3	29.6	29.4	-155.57	-1,438.0	-847.4	2,950.0	2,896.9	55.563		
6,100.0	5,937.9	6,258.1	5,937.9	29.6	33.4	-166.89	-1,625.5	-953.6	2,966.1	2,905.3	48.845		
6,200.0	6,037.9	6,358.1	6,037.9	29.7	33.4	-166.89	-1,625.5	-953.6	2,966.1	2,905.3	48.794		
6,300.0	6,137.9	6,458.1	6,137.9	29.7	33.4	-166.89	-1,625.5	-953.6	2,966.1	2,905.2	48.750		
6,400.0	6,237.9	6,558.1	6,237.9	29.8	33.4	-166.89	-1,625.5	-953.6	2,966.1	2,905.2	48.706		
6,500.0	6,337.9	6,658.1	6,337.9	29.8	33.4	-166.89	-1,625.5	-953.6	2,966.1	2,905.1	48.661		
6,600.0	6,437.9	6,758.1	6,437.9	29.8	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,905.1	48.617		
6,700.0	6,537.9	6,858.1	6,537.9	29.9	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,905.0	48.572		
6,800.0	6,637.9	6,958.1	6,637.9	29.9	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,905.0	48.527		
6,900.0	6,737.9	7,058.1	6,737.9	29.9	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.9	48.482		
7,000.0	6,837.9	7,158.1	6,837.9	30.0	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.8	48.437		
7,100.0	6,937.9	7,258.1	6,937.9	30.0	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.8	48.391		
7,200.0	7,037.9	7,358.1	7,037.9	30.1	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.7	48.345		
7,300.0	7,137.9	7,458.1	7,137.9	30.1	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.7	48.299		
7,400.0	7,237.9	7,558.1	7,237.9	30.1	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.6	48.253		
7,500.0	7,337.9	7,658.1	7,337.9	30.2	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.5	48.207		
7,600.0	7,437.9	7,758.1	7,437.9	30.2	33.5	-166.89	-1,625.5	-953.6	2,966.1	2,904.5	48.160		
7,700.0	7,537.9	7,858.1	7,537.9	30.3	33.6	-166.89	-1,625.5	-953.6	2,966.1	2,904.4	48.113		
7,800.0	7,637.9	7,958.1	7,637.9	30.3	33.6	-166.89	-1,625.5	-953.6	2,966.1	2,904.4	48.066		
7,900.0	7,737.9	8,058.1	7,737.9	30.3	33.6	-166.89	-1,625.5	-953.6	2,966.1	2,904.3	48.019		
7,952.1	7,790.0	8,110.2	7,790.0	30.4	33.6	-166.89	-1,625.5	-953.6	2,966.1	2,904.3	48.000		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

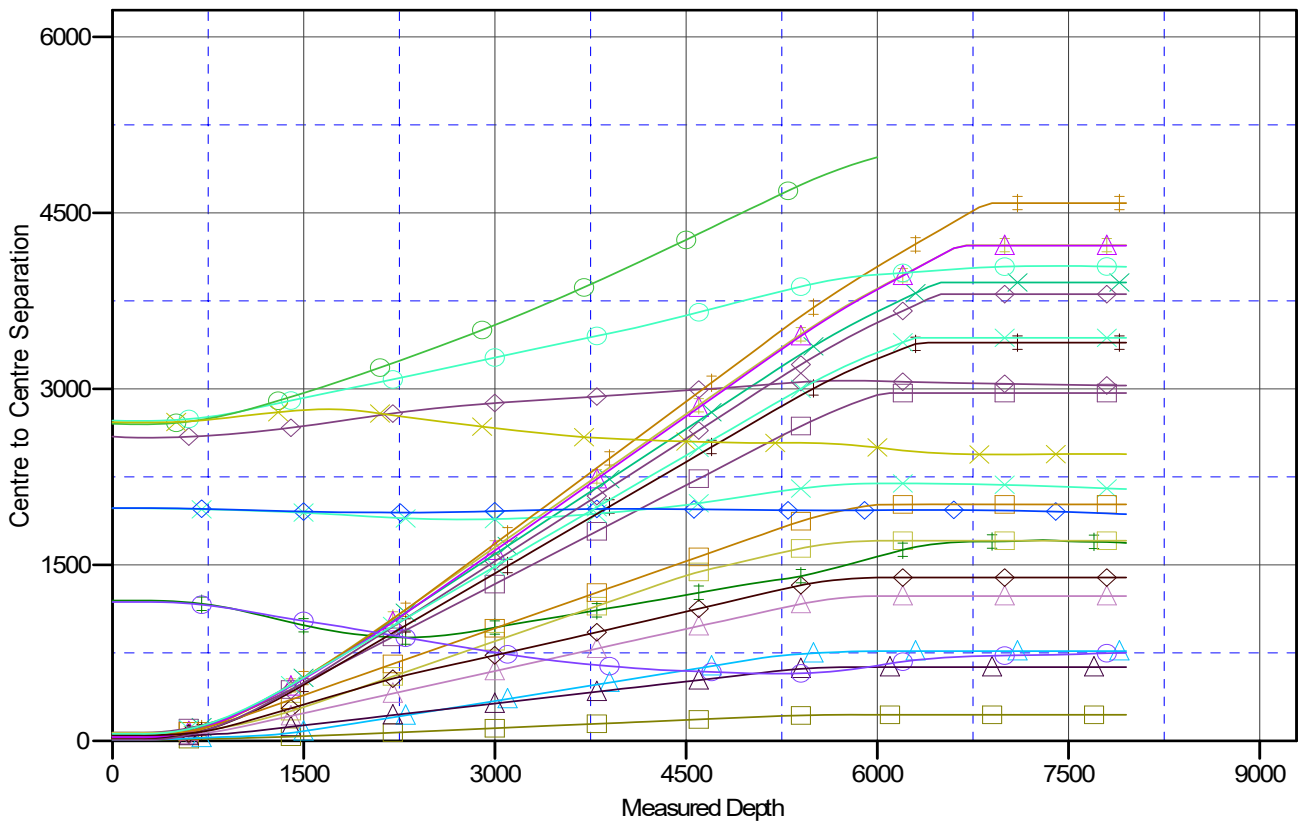


Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Currier 0993-16-03M - Slot 16-03M
Project:	Mesa County, CO	TVD Reference:	RKB=30' @ 7487.0usft (30')
Reference Site:	Currier 0993-16-07 Pad	MD Reference:	RKB=30' @ 7487.0usft (30')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=30' @ 7487.0usft (30')
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

Coordinates are relative to: Currier 0993-16-03M - Slot 16-03M
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.43°

Ladder Plot



LEGEND

- | | | |
|--|---|---|
| CU 0993-16-14W, OH, Design #2 V0 | Currier 0993-16-01M, OH, Design #2 V0 | (Offset) Buzzard Creek 16-1, Wellbore #1, V0 |
| Buzzard Creek 16-12, Wellbore #1, Wellbore #1 V0 | Currier BCU 0993-16-08M, OH, Design #2 V0 | (Offset) Buzzard Creek 15-12, Wellbore #1, V0 |
| CU 0993-16-06W, OH, Design #2 V0 | Currier BCU 0993-16-15E, OH, Design #2 V0 | (Offset) Buzzard Creek 21-1, Wellbore #1, V0 |
| CU 0993-16-14E, OH, Design #2 V0 | Currier BCU 0993-16-05M, OH, Design #2 V0 | Currier BCU 0993-16-13E, OH, Design #2 V0 |
| 93-16-04M, OH, Design #3 V0 | Currier BCU 0993-16-11E, OH, Design #2 V0 | Currier BCU 0993-16-07M, OH, Design #2 V0 |
| CU Fed 0993-16-12W, OH, Design #2 V0 | Currier BCU 0993-16-15W, OH, Design #2 V0 | Currier BCU 0993-16-13W, OH, Design #2 V0 |
| Currier 9-15, Wellbore #1, Wellbore #1 V0 | Currier BCU 0993-16-09M, OH, Design #2 V0 | (Offset) Buzzard Creek 16-10, Wellbore #1, V0 |
| Buzzard Creek 16-8, Wellbore #1, Wellbore #1 V0 | (Offset) Currier Family 16-3, Wellbore #1, Wellbore #1 V0 | |

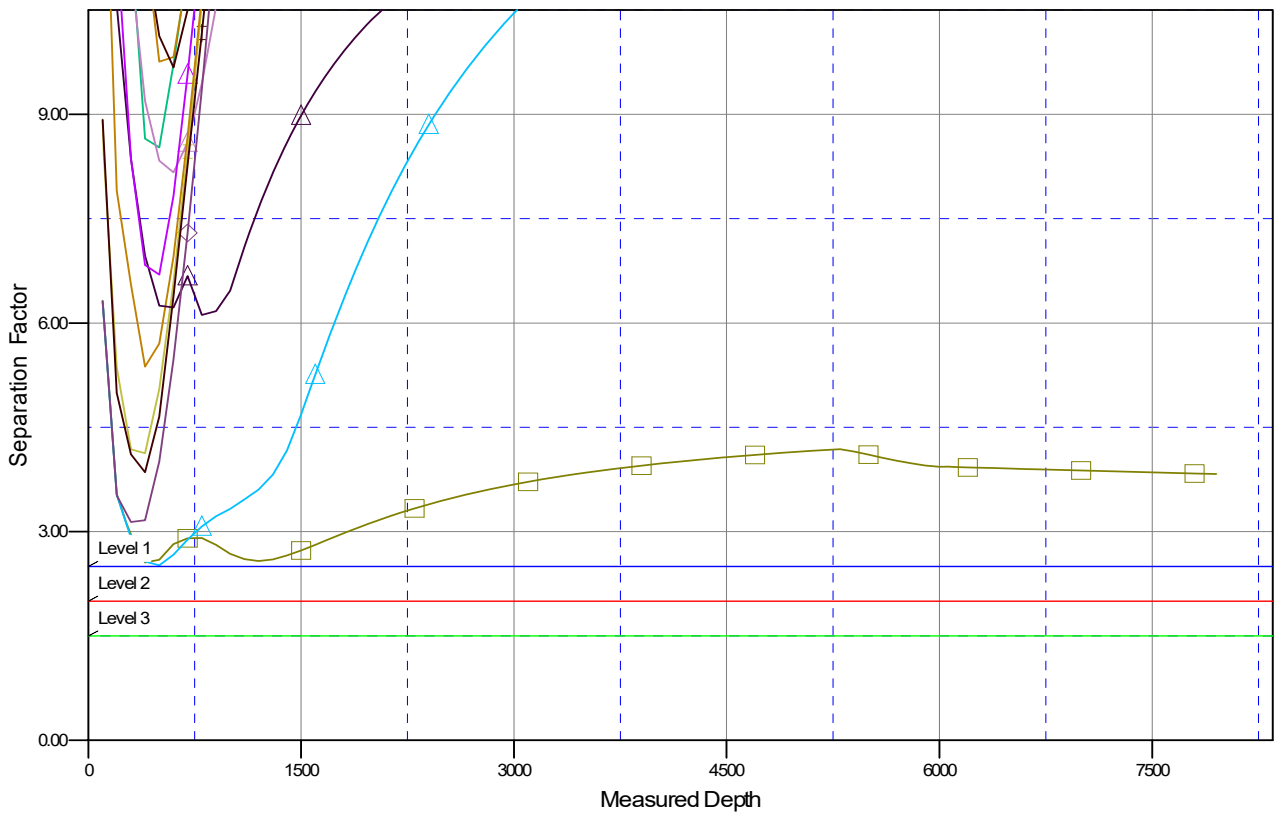


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Reference Well:	Currier 0993-16-03M	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=30' @ 7487.0usft (30')
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

Coordinates are relative to: Currier 0993-16-03M - Slot 16-03M
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.43°

Separation Factor Plot



LEGEND

CU 0993-16-14W, OH, Design #2 V0	Currier 0993-16-01M, OH, Design #2 V0	(Offset) Buzzard Creek 16-1, Wellbore #1, V0
Buzzard Creek 16-12, Wellbore #1, Wellbore #1 V0	Currier BCU 0993-16-08M, OH, Design #2 V0	(Offset) Buzzard Creek 15-12, Wellbore #1, V0
CU 0993-16-06W, OH, Design #2 V0	Currier BCU 0993-16-15E, OH, Design #2 V0	(Offset) Buzzard Creek 21-1, Wellbore #1, V0
CU 0993-16-14E, OH, Design #2 V0	Currier BCU 0993-16-05M, OH, Design #2 V0	Currier BCU 0993-16-13E, OH, Design #2 V0
093-16-04M, OH, Design #3 V0	Currier BCU 0993-16-11E, OH, Design #2 V0	Currier BCU 0993-16-07M, OH, Design #2 V0
CU Fed 0993-16-12W, OH, Design #2 V0	Currier BCU 0993-16-15W, OH, Design #2 V0	Currier BCU 0993-16-13W, OH, Design #2 V0
Currier 9-15, Wellbore #1, Wellbore #1 V0	Currier BCU 0993-16-09M, OH, Design #2 V0	(Offset) Buzzard Creek 16-10, Wellbore #1, V0
Buzzard Creek 16-8, Wellbore #1, Wellbore #1 V0	(Offset) Currier Family 16-3, Wellbore #1, Wellbore #1 V0	