



Laramie Energy, LLC

Mesa County, CO

Laramie 0993-29-01

Laramie 29-01 Fed 0993-21-17W

OH

Design #1

KLX Anticollision Report

23 August, 2023





Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	8/23/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,091.3	Design #1 (OH)	OWSG (REV5) MWD HD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Separation Factor	Warning	
Offset Well - Wellbore - Design						
Laramie 0993-29-01						
Laramie 29-01 0993-20-11E - OH - Design #1	200.0	200.0	104.2	101.7	42.171	CC, ES
Laramie 29-01 0993-20-11E - OH - Design #1	600.0	580.0	144.9	136.6	17.560	SF
Laramie 29-01 0993-20-12E - OH - Design #1	200.0	200.0	88.0	85.6	35.634	CC
Laramie 29-01 0993-20-12E - OH - Design #1	200.7	200.7	88.0	85.6	35.553	ES
Laramie 29-01 0993-20-12E - OH - Design #1	600.0	583.1	126.6	118.5	15.725	SF
Laramie 29-01 0993-20-13E - OH - Design #1	200.0	200.0	72.0	69.5	29.148	CC
Laramie 29-01 0993-20-13E - OH - Design #1	300.0	299.7	72.6	69.4	22.720	ES
Laramie 29-01 0993-20-13E - OH - Design #1	600.0	585.2	109.8	100.9	12.417	SF
Laramie 29-01 0993-20-14E - OH - Design #1	200.0	200.0	55.9	53.4	22.628	CC
Laramie 29-01 0993-20-14E - OH - Design #1	300.0	300.0	56.5	53.2	17.201	ES
Laramie 29-01 0993-20-14E - OH - Design #1	600.0	589.9	87.4	78.6	9.937	SF
Laramie 29-01 0993-20-15E - OH - Design #1	200.0	200.0	40.0	37.5	16.174	CC
Laramie 29-01 0993-20-15E - OH - Design #1	300.0	300.0	40.5	37.2	12.340	ES
Laramie 29-01 0993-20-15E - OH - Design #1	600.0	593.9	66.3	58.0	7.960	SF
Laramie 29-01 0993-20-16E - OH - Design #1	200.0	200.0	24.0	21.6	9.723	CC
Laramie 29-01 0993-20-16E - OH - Design #1	300.0	300.0	24.6	21.3	7.483	ES
Laramie 29-01 0993-20-16E - OH - Design #1	500.0	499.3	34.7	28.4	5.512	SF
Laramie 29-01 0993-20-17E - OH - Design #1	200.0	200.0	8.1	5.6	3.269	CC
Laramie 29-01 0993-20-17E - OH - Design #1	300.0	300.0	8.7	5.4	2.636	ES, SF
Laramie 29-01 0993-20-18E - OH - Design #1	331.1	331.1	6.9	3.6	2.106	Level 1, CC, ES
Laramie 29-01 0993-20-18E - OH - Design #1	400.0	399.5	10.3	5.1	1.969	Level 2, SF
Laramie 29-01 Fed 0993-21-11W - OH - Design #1	200.0	200.0	96.1	93.6	38.902	CC, ES
Laramie 29-01 Fed 0993-21-11W - OH - Design #1	700.0	693.0	129.6	122.5	18.149	SF
Laramie 29-01 Fed 0993-21-12W - OH - Design #1	200.0	200.0	80.0	77.6	32.391	CC, ES
Laramie 29-01 Fed 0993-21-12W - OH - Design #1	700.0	694.8	110.8	103.7	15.641	SF
Laramie 29-01 Fed 0993-21-13W - OH - Design #1	200.0	200.0	64.0	61.5	25.897	CC
Laramie 29-01 Fed 0993-21-13W - OH - Design #1	300.0	300.1	64.4	61.2	19.785	ES
Laramie 29-01 Fed 0993-21-13W - OH - Design #1	700.0	699.1	84.3	77.6	12.589	SF
Laramie 29-01 Fed 0993-21-14W - OH - Design #1	200.0	200.0	48.0	45.6	19.443	CC
Laramie 29-01 Fed 0993-21-14W - OH - Design #1	300.0	300.2	48.4	45.4	15.829	ES
Laramie 29-01 Fed 0993-21-14W - OH - Design #1	700.0	700.7	64.0	57.4	9.589	SF
Laramie 29-01 Fed 0993-21-15W - OH - Design #1	200.0	200.0	31.9	29.4	12.905	CC
Laramie 29-01 Fed 0993-21-15W - OH - Design #1	300.0	300.2	32.3	29.2	10.672	ES
Laramie 29-01 Fed 0993-21-15W - OH - Design #1	700.0	701.4	43.8	36.8	6.281	SF
Laramie 29-01 Fed 0993-21-16W - OH - Design #1	200.0	200.0	15.9	13.5	6.454	CC
Laramie 29-01 Fed 0993-21-16W - OH - Design #1	400.0	400.4	16.7	12.4	3.881	ES

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:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Laramie 0993-29-01						
Laramie 29-01 Fed 0993-21-16W - OH - Design #1	600.0	600.8	19.7	13.5	3.217 SF	
Laramie 29-01 Fed 0993-21-18W - OH - Design #1	200.0	200.0	15.9	13.5	6.451 CC	
Laramie 29-01 Fed 0993-21-18W - OH - Design #1	400.0	399.1	17.8	12.7	3.453 ES	
Laramie 29-01 Fed 0993-21-18W - OH - Design #1	700.0	697.4	24.2	15.4	2.754 SF	

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #1

Survey Program: 0-OWSG (REV5) MWD HDGM Standard

Offset Site Error: 0.0 usft

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)	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	-46.75	71.4	-75.9	104.2			
100.0	100.0	100.0	100.0	0.4	0.4	-46.75	71.4	-75.9	104.2	103.4	131.536	
200.0	200.0	200.0	200.0	1.2	1.2	-46.75	71.4	-75.9	104.2	101.7	42.171	CC, ES
300.0	300.0	296.7	296.6	1.7	2.4	-116.54	73.4	-76.1	106.3	102.7	29.205	
400.0	399.8	393.0	392.7	3.3	3.8	-116.71	79.5	-76.6	113.5	108.0	20.876	
500.0	499.3	487.3	486.6	4.6	4.8	-117.61	88.9	-78.4	126.1	119.2	18.207	
600.0	598.3	580.0	578.4	5.6	5.6	-119.34	101.1	-82.5	144.9	136.6	17.560	SF
700.0	696.6	670.5	667.5	6.5	6.3	-121.37	115.8	-88.8	169.8	160.3	17.886	
800.0	794.0	758.3	753.2	7.3	7.0	-123.32	132.6	-97.0	201.0	190.3	18.830	
900.0	890.3	842.9	835.1	8.0	7.6	-125.00	151.2	-107.0	238.1	226.4	20.213	
1,000.0	985.3	924.0	912.9	8.7	8.2	-126.33	171.2	-118.3	281.1	268.3	21.924	
1,100.0	1,078.9	1,000.0	985.0	9.4	8.7	-127.26	191.8	-130.5	329.7	315.9	23.921	
1,200.0	1,171.4	1,074.9	1,055.3	9.7	9.2	-128.75	213.9	-144.1	382.7	368.2	26.315	
1,300.0	1,263.8	1,146.1	1,121.2	10.0	9.6	-129.91	236.6	-158.3	438.5	423.2	28.705	
1,400.0	1,356.2	1,214.7	1,184.1	10.3	10.1	-130.68	259.9	-173.3	496.5	480.6	31.057	
1,500.0	1,448.7	1,280.9	1,243.8	10.6	10.5	-131.17	283.7	-188.9	556.8	540.1	33.372	
1,600.0	1,541.1	1,344.6	1,300.5	11.0	10.8	-131.47	307.9	-205.0	619.1	601.7	35.647	
1,700.0	1,633.6	1,400.0	1,349.2	11.3	11.2	-131.61	329.8	-219.7	683.2	665.3	38.115	
1,800.0	1,726.0	1,464.9	1,405.3	11.7	11.5	-131.68	356.7	-238.1	749.1	730.4	40.095	
1,900.0	1,818.4	1,521.6	1,453.6	12.1	11.8	-131.66	381.1	-254.9	816.6	797.3	42.275	
2,000.0	1,910.9	1,576.0	1,499.2	12.5	12.1	-131.59	405.4	-271.8	885.8	865.8	44.430	
2,100.0	2,003.3	1,628.2	1,542.4	12.9	12.4	-131.48	429.6	-288.7	956.4	935.8	46.584	
2,200.0	2,095.7	1,678.4	1,583.2	13.3	12.7	-131.34	453.4	-305.5	1,028.3	1,007.2	48.737	
2,300.0	2,188.2	1,740.0	1,632.7	13.8	12.9	-131.15	483.3	-326.7	1,101.4	1,079.6	50.549	
2,400.0	2,280.6	1,808.2	1,687.4	14.2	13.2	-130.97	516.5	-350.2	1,174.5	1,151.9	52.055	
2,500.0	2,373.1	1,876.3	1,742.2	14.7	13.4	-130.80	549.7	-373.7	1,247.6	1,224.2	53.408	
2,600.0	2,465.5	1,944.5	1,796.9	15.1	13.7	-130.66	582.8	-397.2	1,320.7	1,296.5	54.649	
2,700.0	2,557.9	2,012.7	1,851.7	15.6	14.0	-130.53	616.0	-420.8	1,393.8	1,368.8	55.768	
2,800.0	2,650.4	2,080.9	1,906.4	16.1	14.4	-130.41	649.2	-444.3	1,466.9	1,441.0	56.719	
2,900.0	2,742.8	2,149.1	1,961.1	16.8	14.9	-130.30	682.3	-467.8	1,540.0	1,513.3	57.672	
3,000.0	2,835.2	2,217.3	2,015.9	17.5	15.5	-130.20	715.5	-491.3	1,613.1	1,585.6	58.535	
3,100.0	2,927.7	2,285.5	2,070.6	18.2	16.2	-130.12	748.7	-514.8	1,686.3	1,657.8	59.314	
3,200.0	3,020.1	2,353.7	2,125.4	18.9	16.9	-130.04	781.8	-538.4	1,759.4	1,730.1	60.026	
3,300.0	3,112.6	2,421.9	2,180.1	19.6	17.6	-129.96	815.0	-561.9	1,832.5	1,802.3	60.685	
3,400.0	3,205.0	2,490.1	2,234.8	20.3	18.3	-129.89	848.2	-585.4	1,905.6	1,874.6	61.291	
3,500.0	3,297.4	2,558.3	2,289.6	21.0	19.1	-129.83	881.4	-608.9	1,978.8	1,946.8	61.846	
3,600.0	3,389.9	2,626.5	2,344.3	21.7	19.8	-129.77	914.5	-632.4	2,051.9	2,019.0	62.363	
3,700.0	3,482.3	2,694.6	2,399.1	22.4	20.6	-129.71	947.7	-655.9	2,125.0	2,091.2	62.842	

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



Anticollision Report



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Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #1												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	
3,800.0	3,574.7	2,762.8	2,453.8	23.1	21.3	-129.66	980.9	-679.5	2,198.2	2,163.4	63.282		
3,900.0	3,667.2	2,831.0	2,508.6	23.8	22.1	-129.61	1,014.0	-703.0	2,271.3	2,235.6	63.693		
4,000.0	3,759.6	2,899.2	2,563.3	24.5	22.8	-129.57	1,047.2	-726.5	2,344.4	2,307.8	64.077		
4,100.0	3,852.1	2,967.4	2,618.0	25.2	23.6	-129.53	1,080.4	-750.0	2,417.6	2,380.0	64.430		
4,200.0	3,944.5	3,035.6	2,672.8	25.9	24.4	-129.49	1,113.5	-773.5	2,490.7	2,452.2	64.762		
4,300.0	4,036.9	3,103.8	2,727.5	26.6	25.1	-129.45	1,146.7	-797.1	2,563.8	2,524.4	65.073		
4,400.0	4,129.4	3,172.0	2,782.3	27.3	25.9	-129.41	1,179.9	-820.6	2,637.0	2,596.6	65.362		
4,500.0	4,221.8	3,240.2	2,837.0	28.0	26.7	-129.38	1,213.0	-844.1	2,710.1	2,668.8	65.633		
4,600.0	4,314.2	3,308.4	2,891.8	28.7	27.4	-129.35	1,246.2	-867.6	2,783.2	2,741.0	65.887		
4,700.0	4,406.7	3,376.6	2,946.5	29.4	28.2	-129.32	1,279.4	-891.1	2,856.4	2,813.2	66.125		
4,800.0	4,499.1	3,444.8	3,001.2	30.1	29.0	-129.29	1,312.6	-914.7	2,929.5	2,885.4	66.349		
4,900.0	4,591.6	3,512.9	3,056.0	30.8	29.7	-129.26	1,345.7	-938.2	3,002.6	2,957.5	66.560		
5,000.0	4,684.0	3,581.1	3,110.7	31.5	30.5	-129.24	1,378.9	-961.7	3,075.8	3,029.7	66.758		
5,100.0	4,776.4	3,649.3	3,165.5	32.2	31.3	-129.21	1,412.1	-985.2	3,148.9	3,101.9	66.945		
5,200.0	4,868.9	3,717.5	3,220.2	32.9	32.0	-129.19	1,445.2	-1,008.7	3,222.1	3,174.1	67.121		
5,300.0	4,961.3	3,785.7	3,275.0	33.6	32.8	-129.16	1,478.4	-1,032.3	3,295.2	3,246.2	67.288		
5,400.0	5,053.7	3,853.9	3,329.7	34.3	33.6	-129.14	1,511.6	-1,055.8	3,368.3	3,318.4	67.445		
5,500.0	5,146.2	3,922.1	3,384.4	35.0	34.4	-129.12	1,544.7	-1,079.3	3,441.5	3,390.6	67.593		
5,600.0	5,238.6	3,990.3	3,439.2	35.7	35.1	-129.10	1,577.9	-1,102.8	3,514.6	3,462.7	67.733		
5,700.0	5,331.8	4,059.4	3,494.7	36.4	35.9	-131.00	1,611.5	-1,126.7	3,586.8	3,534.0	67.849		
5,800.0	5,426.5	4,130.4	3,551.6	36.9	36.7	-132.71	1,646.0	-1,151.1	3,657.1	3,603.2	67.919		
5,900.0	5,522.5	4,203.0	3,610.0	37.4	37.5	-134.21	1,681.4	-1,176.2	3,725.1	3,670.3	67.971		
6,000.0	5,619.7	4,277.3	3,669.5	37.9	38.4	-135.51	1,717.5	-1,201.8	3,791.0	3,735.3	68.009		
6,100.0	5,717.7	4,352.9	3,730.3	38.2	39.2	-136.65	1,754.3	-1,227.9	3,854.6	3,797.9	68.035		
6,200.0	5,816.6	4,429.9	3,792.1	38.5	40.1	-137.63	1,791.7	-1,254.4	3,915.7	3,858.2	68.055		
6,300.0	5,916.0	4,507.9	3,854.7	38.7	41.0	-138.47	1,829.7	-1,281.4	3,974.4	3,916.0	68.074		
6,400.0	6,015.7	4,587.0	3,918.2	38.8	41.9	-139.18	1,868.2	-1,308.6	4,030.5	3,971.3	68.097		
6,500.0	6,115.7	4,666.9	3,982.4	38.9	42.8	-69.78	1,907.0	-1,336.2	4,084.0	4,024.2	68.247		
6,600.0	6,215.7	4,747.2	4,046.8	38.9	43.7	-69.34	1,946.1	-1,363.9	4,136.4	4,075.9	68.447		
6,700.0	6,315.7	4,827.5	4,111.3	39.0	44.6	-68.91	1,985.1	-1,391.6	4,188.9	4,127.9	68.649		
6,800.0	6,415.7	4,907.8	4,175.7	39.0	45.6	-68.49	2,024.2	-1,419.3	4,241.6	4,180.0	68.850		
6,900.0	6,515.7	4,988.0	4,240.2	39.0	46.5	-68.08	2,063.2	-1,446.9	4,294.5	4,232.3	69.050		
7,000.0	6,615.7	5,068.5	4,304.7	39.1	47.4	-67.67	2,102.1	-1,474.6	4,347.4	4,285.0	69.251		
7,100.0	6,715.7	5,149.0	4,369.2	39.1	48.3	-67.26	2,141.0	-1,502.3	4,400.3	4,337.7	69.452		
7,200.0	6,815.7	5,229.5	4,433.7	39.1	49.2	-66.85	2,179.9	-1,530.0	4,453.2	4,390.4	69.653		
7,300.0	6,915.7	5,310.0	4,498.2	39.1	50.1	-66.44	2,218.8	-1,557.7	4,506.1	4,443.1	69.854		
7,400.0	7,015.7	5,390.5	4,562.7	39.2	51.0	-66.03	2,257.7	-1,585.4	4,559.0	4,495.8	69.999		
7,500.0	7,115.7	5,471.0	4,627.2	39.2	51.9	-65.62	2,296.6	-1,613.1	4,611.9	4,548.5	70.144		
7,600.0	7,215.7	5,551.5	4,691.7	39.2	52.8	-65.21	2,335.5	-1,640.8	4,664.8	4,601.2	70.289		
7,700.0	7,315.7	5,632.0	4,756.2	39.3	53.7	-64.80	2,374.4	-1,668.5	4,717.7	4,653.9	70.434		
7,800.0	7,415.7	5,712.5	4,820.7	39.3	54.6	-64.39	2,413.3	-1,696.2	4,770.6	4,706.6	70.579		
7,900.0	7,515.7	5,793.0	4,885.2	39.3	55.5	-63.98	2,452.2	-1,723.9	4,823.5	4,759.3	70.724		
8,000.0	7,615.7	5,873.5	4,949.7	39.3	56.4	-63.57	2,491.1	-1,751.6	4,876.4	4,812.0	70.869		
8,100.0	7,715.7	5,954.0	5,014.2	39.4	57.3	-63.16	2,530.0	-1,779.3	4,929.3	4,864.7	71.014		
8,200.0	7,815.7	6,034.5	5,078.7	39.4	58.2	-62.75	2,568.9	-1,807.0	4,982.2	4,917.4	71.159		
8,203.0	7,818.7	6,037.5	5,081.7	39.4	58.2	-62.75	2,571.9	-1,807.0	4,985.2	4,920.4	71.162		
8,300.0	7,915.7	6,115.0	5,143.2	39.4	59.1	-62.34	2,607.8	-1,834.7	5,038.1	4,973.3	71.307		
8,400.0	8,015.7	6,195.5	5,207.7	39.5	60.0	-61.93	2,646.7	-1,862.4	5,091.0	5,026.2	71.452		
8,500.0	8,115.7	6,276.0	5,272.2	39.5	60.9	-61.52	2,685.6	-1,890.1	5,143.9	5,079.1	71.597		
8,600.0	8,215.7	6,356.5	5,336.7	39.5	61.8	-61.11	2,724.5	-1,917.8	5,196.8	5,132.0	71.742		
8,700.0	8,315.7	6,437.0	5,401.2	39.6	62.7	-60.70	2,763.4	-1,945.5	5,249.7	5,184.9	71.887		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #1												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 Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
8,800.0	8,415.7	8,821.7	7,859.0	39.6	61.6	-62.31	2,721.1	-1,913.4	4,378.0	4,296.4	53.679		
8,900.0	8,515.7	8,821.7	7,859.0	39.6	61.6	-62.31	2,721.1	-1,913.4	4,391.8	4,310.2	53.838		
9,000.0	8,615.7	8,821.7	7,859.0	39.6	61.6	-62.31	2,721.1	-1,913.4	4,407.9	4,326.3	54.044		
9,091.3	8,707.0	8,821.7	7,859.0	39.7	61.6	-62.31	2,721.1	-1,913.4	4,424.5	4,342.9	54.274		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-12E - OH - Design #1												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	-46.62	60.5	-64.0	88.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.62	60.5	-64.0	88.0	87.2	111.144		
200.0	200.0	200.0	200.0	1.2	1.2	-46.62	60.5	-64.0	88.0	85.6	35.634 CC		
200.7	200.7	200.7	200.7	1.2	1.2	-116.62	60.5	-64.0	88.0	85.6	35.553 ES		
300.0	300.0	299.1	299.1	1.7	1.6	-117.33	60.5	-64.1	88.7	85.6	28.644		
400.0	399.8	395.2	395.2	3.3	2.6	-120.75	61.5	-67.0	94.3	89.5	19.399		
500.0	499.3	490.0	489.6	4.6	3.4	-126.04	63.9	-73.4	106.8	100.1	16.137		
600.0	598.3	583.1	582.2	5.6	3.9	-131.01	68.8	-82.4	126.6	118.5	15.725 SF		
700.0	696.6	674.1	672.3	6.5	4.7	-134.74	76.6	-93.1	153.5	143.8	15.794		
800.0	794.0	762.6	759.2	7.3	5.6	-137.32	87.1	-105.3	187.0	175.8	16.646		
900.0	890.3	847.9	842.5	8.0	6.3	-138.97	100.0	-118.8	226.8	214.2	18.066		
1,000.0	985.3	929.8	921.7	8.7	7.0	-139.95	114.7	-133.3	272.3	258.6	19.853		
1,100.0	1,078.9	1,008.0	996.7	9.4	7.6	-140.41	131.1	-148.6	323.3	308.5	21.895		
1,200.0	1,171.4	1,082.9	1,067.7	9.7	8.1	-141.21	148.8	-164.4	378.4	362.9	24.437		
1,300.0	1,263.8	1,155.5	1,135.8	10.0	8.6	-141.72	167.8	-180.9	435.6	419.4	26.919		
1,400.0	1,356.2	1,226.0	1,201.1	10.3	9.1	-141.89	188.0	-198.0	494.7	477.8	29.333		
1,500.0	1,448.7	1,300.0	1,268.8	10.6	9.6	-141.82	211.0	-217.1	555.5	537.9	31.518		
1,600.0	1,541.1	1,360.2	1,323.1	11.0	10.0	-141.63	231.2	-233.5	617.9	599.7	33.978		
1,700.0	1,633.6	1,423.9	1,379.8	11.3	10.4	-141.33	253.8	-251.6	681.9	663.1	36.214		
1,800.0	1,726.0	1,485.4	1,433.8	11.7	10.7	-140.96	276.9	-269.9	747.4	728.0	38.400		
1,900.0	1,818.4	1,544.7	1,485.1	12.1	11.1	-140.54	300.4	-288.2	814.5	794.4	40.538		
2,000.0	1,910.9	1,600.0	1,532.2	12.5	11.4	-140.12	323.2	-305.9	882.9	862.2	42.709		
2,100.0	2,003.3	1,656.9	1,580.0	12.9	11.7	-139.66	347.8	-324.7	952.6	931.3	44.707		
2,200.0	2,095.7	1,710.3	1,624.1	13.3	12.0	-139.20	371.8	-342.9	1,023.7	1,001.8	46.796		
2,300.0	2,188.2	1,779.1	1,680.5	13.8	12.3	-138.64	403.2	-366.7	1,095.4	1,072.8	48.471		
2,400.0	2,280.6	1,848.4	1,737.3	14.2	12.5	-138.14	434.9	-390.6	1,167.1	1,143.8	49.975		
2,500.0	2,373.1	1,917.8	1,794.1	14.7	12.7	-137.70	466.6	-414.6	1,238.9	1,214.8	51.344		
2,600.0	2,465.5	1,987.1	1,850.9	15.1	13.0	-137.31	498.3	-438.6	1,310.7	1,285.8	52.590		
2,700.0	2,557.9	2,056.4	1,907.7	15.6	13.3	-136.96	530.0	-462.5	1,382.6	1,356.8	53.736		
2,800.0	2,650.4	2,125.7	1,964.5	16.1	13.7	-136.64	561.7	-486.5	1,454.4	1,427.9	54.817		
2,900.0	2,742.8	2,195.0	2,021.3	16.8	14.2	-136.35	593.4	-510.4	1,526.3	1,498.9	55.724		
3,000.0	2,835.2	2,264.3	2,078.1	17.5	14.8	-136.09	625.1	-534.4	1,598.2	1,570.0	56.584		
3,100.0	2,927.7	2,333.7	2,134.9	18.2	15.5	-135.85	656.8	-558.4	1,670.1	1,641.0	57.402		
3,200.0	3,020.1	2,403.0	2,191.7	18.9	16.2	-135.63	688.5	-582.3	1,742.1	1,712.1	58.153		
3,300.0	3,112.6	2,472.3	2,248.5	19.6	17.0	-135.43	720.2	-606.3	1,814.0	1,783.2	58.833		
3,400.0	3,205.0	2,541.6	2,305.3	20.3	17.7	-135.24	751.9	-630.3	1,886.0	1,854.2	59.466		
3,500.0	3,297.4	2,610.9	2,362.1	21.0	18.4	-135.07	783.6	-654.2	1,957.9	1,925.3	60.055		
3,600.0	3,389.9	2,680.3	2,418.9	21.7	19.2	-134.90	815.3	-678.2	2,029.9	1,996.4	60.596		
3,700.0	3,482.3	2,749.6	2,475.7	22.4	19.9	-134.75	847.0	-702.1	2,101.9	2,067.5	61.098		
3,800.0	3,574.7	2,818.9	2,532.5	23.1	20.6	-134.61	878.7	-726.1	2,173.8	2,138.5	61.567		
3,900.0	3,667.2	2,888.2	2,589.3	23.8	21.4	-134.48	910.4	-750.1	2,245.8	2,209.6	62.002		
4,000.0	3,759.6	2,957.5	2,646.1	24.5	22.1	-134.36	942.1	-774.0	2,317.8	2,280.7	62.407		
4,100.0	3,852.1	3,026.9	2,702.9	25.2	22.9	-134.24	973.8	-798.0	2,389.8	2,351.8	62.785		
4,200.0	3,944.5	3,096.2	2,759.7	25.9	23.6	-134.13	1,005.5	-822.0	2,461.8	2,422.8	63.140		
4,300.0	4,036.9	3,165.5	2,816.5	26.6	24.4	-134.03	1,037.2	-845.9	2,533.8	2,493.9	63.469		
4,400.0	4,129.4	3,234.8	2,873.3	27.3	25.1	-133.93	1,068.9	-869.9	2,605.9	2,565.0	63.779		
4,500.0	4,221.8	3,304.1	2,930.1	28.0	25.9	-133.84	1,100.6	-893.9	2,677.9	2,636.1	64.070		
4,600.0	4,314.2	3,373.4	2,986.9	28.7	26.6	-133.76	1,132.3	-917.8	2,749.9	2,707.2	64.342		
4,700.0	4,406.7	3,442.8	3,043.7	29.4	27.4	-133.67	1,164.0	-941.8	2,821.9	2,778.2	64.598		
4,800.0	4,499.1	3,512.1	3,100.5	30.1	28.1	-133.59	1,195.7	-965.7	2,893.9	2,849.3	64.839		
4,900.0	4,591.6	3,581.4	3,157.3	30.8	28.9	-133.52	1,227.4	-989.7	2,966.0	2,920.4	65.066		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-12E - OH - Design #1												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	
5,000.0	4,684.0	3,650.7	3,214.1	31.5	29.6	-133.45	1,259.1	-1,013.7	3,038.0	2,991.5	65.280		
5,100.0	4,776.4	3,720.0	3,270.9	32.2	30.4	-133.38	1,290.8	-1,037.6	3,110.0	3,062.5	65.482		
5,200.0	4,868.9	3,789.4	3,327.7	32.9	31.1	-133.32	1,322.5	-1,061.6	3,182.1	3,133.6	65.673		
5,300.0	4,961.3	3,858.7	3,384.5	33.6	31.9	-133.25	1,354.2	-1,085.6	3,254.1	3,204.7	65.852		
5,400.0	5,053.7	3,928.0	3,441.3	34.3	32.6	-133.19	1,385.9	-1,109.5	3,326.1	3,275.8	66.023		
5,500.0	5,146.2	3,997.3	3,498.1	35.0	33.4	-133.14	1,417.6	-1,133.5	3,398.2	3,346.8	66.184		
5,600.0	5,238.6	4,066.6	3,554.9	35.7	34.1	-133.08	1,449.3	-1,157.4	3,470.2	3,417.9	66.336		
5,700.0	5,331.8	4,136.9	3,612.5	36.4	34.9	-134.77	1,481.4	-1,181.7	3,541.2	3,488.0	66.459		
5,800.0	5,426.5	4,209.1	3,671.6	36.9	35.7	-136.28	1,514.4	-1,206.7	3,610.1	3,555.8	66.523		
5,900.0	5,522.5	4,283.1	3,732.2	37.4	36.5	-137.60	1,548.2	-1,232.3	3,676.6	3,621.4	66.561		
6,000.0	5,619.7	4,358.7	3,794.1	37.9	37.3	-138.73	1,582.8	-1,258.4	3,740.8	3,684.6	66.578		
6,100.0	5,717.7	4,435.7	3,857.3	38.2	38.2	-139.71	1,618.0	-1,285.0	3,802.4	3,745.3	66.580		
6,200.0	5,816.6	4,514.2	3,921.6	38.5	39.0	-140.54	1,653.9	-1,312.2	3,861.5	3,803.5	66.569		
6,300.0	5,916.0	4,593.8	3,986.8	38.7	39.9	-141.25	1,690.3	-1,339.7	3,918.0	3,859.1	66.553		
6,400.0	6,015.7	4,674.4	4,052.9	38.8	40.8	-141.83	1,727.2	-1,367.6	3,971.7	3,912.0	66.538		
6,500.0	6,115.7	4,756.0	4,119.7	38.9	41.7	-72.31	1,764.5	-1,395.8	4,022.7	3,962.3	66.656		
6,600.0	6,215.7	4,837.9	4,186.9	38.9	42.6	-71.87	1,801.9	-1,424.1	4,072.4	4,011.5	66.830		
6,700.0	6,315.7	4,919.9	4,254.0	39.0	43.5	-71.44	1,839.4	-1,452.4	4,122.3	4,060.8	67.006		
6,800.0	6,415.7	5,001.8	4,321.1	39.0	44.4	-71.02	1,876.9	-1,480.7	4,172.4	4,110.3	67.182		
6,900.0	6,515.7	5,083.8	4,388.3	39.0	45.2	-70.61	1,914.4	-1,509.1	4,222.7	4,160.0	67.357		
7,000.0	6,615.7	5,165.7	4,455.4	39.1	46.0	-65.53	1,951.9	-1,537.4	4,272.9	4,210.1	67.532		
7,100.0	6,715.7	5,247.6	4,522.5	39.1	46.8	-65.53	1,989.4	-1,565.7	4,323.1	4,260.1	67.707		
7,200.0	6,815.7	5,329.5	4,589.6	39.1	47.6	-65.53	2,026.9	-1,593.9	4,373.3	4,310.1	67.882		
7,300.0	6,915.7	5,411.4	4,656.7	39.1	48.4	-65.53	2,064.4	-1,622.2	4,423.5	4,360.1	68.057		
7,400.0	7,015.7	5,493.3	4,723.8	39.2	49.2	-65.53	2,101.9	-1,650.4	4,473.7	4,410.1	68.232		
7,500.0	7,115.7	5,575.2	4,790.9	39.2	50.0	-65.53	2,139.4	-1,678.7	4,523.9	4,460.1	68.407		
7,600.0	7,215.7	5,657.1	4,858.0	39.2	50.8	-65.53	2,176.9	-1,706.9	4,574.1	4,510.1	68.582		
7,700.0	7,315.7	5,739.0	4,925.1	39.3	51.6	-65.53	2,214.4	-1,735.2	4,624.3	4,560.1	68.757		
7,800.0	7,415.7	5,820.9	4,992.2	39.3	52.4	-65.53	2,251.9	-1,763.4	4,674.5	4,610.1	68.932		
7,900.0	7,515.7	5,902.8	5,059.3	39.3	53.2	-65.53	2,289.4	-1,791.7	4,724.7	4,660.1	69.107		
8,000.0	7,615.7	5,984.7	5,126.4	39.3	54.0	-65.53	2,326.9	-1,819.9	4,774.9	4,710.1	69.282		
8,100.0	7,715.7	6,066.6	5,193.5	39.4	54.8	-65.53	2,364.4	-1,848.2	4,825.1	4,760.1	69.457		
8,200.0	7,815.7	6,148.5	5,260.6	39.4	55.6	-65.53	2,401.9	-1,876.4	4,875.3	4,810.1	69.632		
8,300.0	7,915.7	6,230.4	5,327.7	39.4	56.4	-65.53	2,439.4	-1,904.7	4,925.5	4,860.1	69.807		
8,400.0	8,015.7	6,312.3	5,394.8	39.5	57.2	-65.53	2,476.9	-1,932.9	4,975.7	4,910.1	69.982		
8,500.0	8,115.7	6,394.2	5,461.9	39.5	58.0	-65.53	2,514.4	-1,961.2	5,025.9	4,960.1	70.157		
8,600.0	8,215.7	6,476.1	5,529.0	39.5	58.8	-65.53	2,551.9	-1,989.4	5,076.1	5,010.1	70.332		
8,700.0	8,315.7	6,558.0	5,596.1	39.6	59.6	-65.53	2,589.4	-2,017.7	5,126.3	5,060.1	70.507		
8,800.0	8,415.7	6,639.9	5,663.2	39.6	60.4	-65.53	2,626.9	-2,045.9	5,176.5	5,110.1	70.682		
8,900.0	8,515.7	6,721.8	5,730.3	39.6	61.2	-65.53	2,664.4	-2,074.2	5,226.7	5,160.1	70.857		
9,000.0	8,615.7	6,803.7	5,797.4	39.6	62.0	-65.53	2,701.9	-2,102.4	5,276.9	5,210.1	71.032		
9,004.5	8,620.2	9,484.1	8,620.2	39.6	58.2	-65.53	2,454.9	-1,917.7	4,229.2	4,149.1	52.821		
9,091.3	8,707.0	9,534.8	8,671.0	39.7	58.2	-65.53	2,454.9	-1,917.7	4,229.3	4,149.2	52.768		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-13E - OH - Design #1												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	-46.77	49.3	-52.5	72.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.77	49.3	-52.5	72.0	71.2	90.916		
200.0	200.0	200.0	200.0	1.2	1.2	-46.77	49.3	-52.5	72.0	69.5	29.148 CC		
200.1	200.1	200.1	200.1	1.2	1.2	-46.77	49.3	-52.5	72.0	69.5	29.140		
300.0	300.0	299.7	299.7	1.7	1.6	-117.61	49.3	-52.5	72.6	69.4	22.720 ES		
400.0	399.8	396.5	396.4	3.3	2.5	-121.71	50.1	-54.8	77.6	72.8	16.105		
500.0	499.3	491.9	491.7	4.6	3.9	-128.04	52.1	-60.9	89.7	82.5	12.477		
600.0	598.3	585.2	584.4	5.6	4.5	-134.49	55.2	-70.5	109.8	100.9	12.417 SF		
700.0	696.6	676.6	674.9	6.5	4.9	-139.27	60.7	-82.4	137.5	127.4	13.544		
800.0	794.0	765.4	762.2	7.3	5.6	-142.26	68.9	-95.8	172.1	160.6	14.888		
900.0	890.3	851.0	845.9	8.0	6.3	-144.00	79.5	-110.5	213.0	200.1	16.546		
1,000.0	985.3	933.2	925.5	8.7	6.9	-144.90	92.2	-126.2	259.7	245.6	18.504		
1,100.0	1,078.9	1,011.6	1,000.9	9.4	7.5	-145.24	106.6	-142.5	311.7	296.6	20.681		
1,200.0	1,171.4	1,086.7	1,072.3	9.7	8.0	-145.83	122.3	-159.5	367.9	352.1	23.327		
1,300.0	1,263.8	1,159.5	1,140.8	10.0	8.5	-146.14	139.6	-177.1	425.9	409.5	25.902		
1,400.0	1,356.2	1,230.2	1,206.6	10.3	9.0	-146.13	158.0	-195.3	485.7	468.6	28.399		
1,500.0	1,448.7	1,300.0	1,270.7	10.6	9.4	-145.92	177.9	-214.3	547.1	529.3	30.788		
1,600.0	1,541.1	1,365.0	1,329.7	11.0	9.8	-145.58	198.0	-232.9	610.0	591.7	33.184		
1,700.0	1,633.6	1,429.0	1,387.0	11.3	10.2	-145.15	219.1	-252.1	674.5	655.5	35.481		
1,800.0	1,726.0	1,490.8	1,441.6	11.7	10.6	-144.68	240.8	-271.4	740.5	720.8	37.724		
1,900.0	1,818.4	1,550.5	1,493.5	12.1	11.0	-144.17	263.0	-290.8	807.8	787.6	39.913		
2,000.0	1,910.9	1,608.0	1,542.8	12.5	11.3	-143.64	285.4	-310.1	876.5	855.7	42.099		
2,100.0	2,003.3	1,668.5	1,593.8	12.9	11.5	-143.07	310.1	-331.0	946.5	925.1	44.305		
2,200.0	2,095.7	1,739.2	1,653.4	13.3	11.7	-142.47	339.2	-355.6	1,016.8	994.7	46.073		
2,300.0	2,188.2	1,809.9	1,713.0	13.8	12.0	-141.94	368.3	-380.3	1,087.1	1,064.3	47.684		
2,400.0	2,280.6	1,880.6	1,772.5	14.2	12.3	-141.48	397.4	-404.9	1,157.5	1,134.0	49.142		
2,500.0	2,373.1	1,951.4	1,832.1	14.7	12.6	-141.07	426.5	-429.5	1,228.0	1,203.6	50.477		
2,600.0	2,465.5	2,022.1	1,891.7	15.1	12.9	-140.70	455.6	-454.2	1,298.4	1,273.3	51.701		
2,700.0	2,557.9	2,092.8	1,951.2	15.6	13.3	-140.37	484.7	-478.8	1,368.9	1,343.0	52.815		
2,800.0	2,650.4	2,163.6	2,010.8	16.1	13.7	-140.07	513.9	-503.5	1,439.4	1,412.7	53.827		
2,900.0	2,742.8	2,234.3	2,070.4	16.8	14.2	-139.80	543.0	-528.1	1,509.9	1,482.3	54.763		
3,000.0	2,835.2	2,305.0	2,129.9	17.5	14.9	-139.56	572.1	-552.7	1,580.4	1,552.0	55.638		
3,100.0	2,927.7	2,375.8	2,189.5	18.2	15.5	-139.33	601.2	-577.4	1,651.0	1,621.7	56.429		
3,200.0	3,020.1	2,446.5	2,249.1	18.9	16.2	-139.13	630.3	-602.0	1,721.5	1,691.4	57.162		
3,300.0	3,112.6	2,517.2	2,308.6	19.6	16.9	-138.94	659.4	-626.7	1,792.1	1,761.1	57.842		
3,400.0	3,205.0	2,588.0	2,368.2	20.3	17.5	-138.76	688.5	-651.3	1,862.7	1,830.8	58.469		
3,500.0	3,297.4	2,658.7	2,427.8	21.0	18.2	-138.60	717.7	-675.9	1,933.3	1,900.5	59.048		
3,600.0	3,389.9	2,729.4	2,487.3	21.7	18.9	-138.45	746.8	-700.6	2,003.9	1,970.2	59.587		
3,700.0	3,482.3	2,800.2	2,546.9	22.4	19.6	-138.31	775.9	-725.2	2,074.5	2,040.0	60.089		
3,800.0	3,574.7	2,870.9	2,606.5	23.1	20.3	-138.17	805.0	-749.9	2,145.1	2,109.7	60.553		
3,900.0	3,667.2	2,941.6	2,666.0	23.8	21.1	-138.05	834.1	-774.5	2,215.7	2,179.4	60.986		
4,000.0	3,759.6	3,012.4	2,725.6	24.5	21.8	-137.93	863.2	-799.1	2,286.3	2,249.1	61.392		
4,100.0	3,852.1	3,083.1	2,785.2	25.2	22.5	-137.83	892.3	-823.8	2,356.9	2,318.8	61.770		
4,200.0	3,944.5	3,153.8	2,844.7	25.9	23.2	-137.72	921.5	-848.4	2,427.6	2,388.5	62.123		
4,300.0	4,036.9	3,224.5	2,904.3	26.6	23.9	-137.63	950.6	-873.1	2,498.2	2,458.2	62.454		
4,400.0	4,129.4	3,295.3	2,963.9	27.3	24.6	-137.53	979.7	-897.7	2,568.8	2,527.9	62.765		
4,500.0	4,221.8	3,366.0	3,023.4	28.0	25.3	-137.45	1,008.8	-922.3	2,639.5	2,597.6	63.056		
4,600.0	4,314.2	3,436.7	3,083.0	28.7	26.0	-137.37	1,037.9	-947.0	2,710.1	2,667.3	63.330		
4,700.0	4,406.7	3,507.5	3,142.6	29.4	26.8	-137.29	1,067.0	-971.6	2,780.7	2,737.0	63.589		
4,800.0	4,499.1	3,578.2	3,202.1	30.1	27.5	-137.21	1,096.1	-996.3	2,851.4	2,806.7	63.831		
4,900.0	4,591.6	3,648.9	3,261.7	30.8	28.2	-137.14	1,125.3	-1,020.9	2,922.0	2,876.4	64.060		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-13E - OH - Design #1												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	
5,000.0	4,684.0	3,719.7	3,321.3	31.5	28.9	-137.08	1,154.4	-1,045.5	2,992.7	2,946.1	64.276		
5,100.0	4,776.4	3,790.4	3,380.8	32.2	29.6	-137.01	1,183.5	-1,070.2	3,063.3	3,015.8	64.481		
5,200.0	4,868.9	3,861.1	3,440.4	32.9	30.4	-136.95	1,212.6	-1,094.8	3,134.0	3,085.5	64.673		
5,300.0	4,961.3	3,931.9	3,500.0	33.6	31.1	-136.89	1,241.7	-1,119.5	3,204.6	3,155.2	64.856		
5,400.0	5,053.7	4,002.6	3,559.5	34.3	31.8	-136.84	1,270.8	-1,144.1	3,275.3	3,224.9	65.029		
5,500.0	5,146.2	4,073.3	3,619.1	35.0	32.5	-136.78	1,299.9	-1,168.7	3,345.9	3,294.6	65.193		
5,600.0	5,238.6	4,144.1	3,678.7	35.7	33.2	-136.73	1,329.1	-1,193.4	3,416.6	3,364.3	65.348		
5,700.0	5,331.8	4,215.8	3,739.1	36.4	34.0	-138.25	1,358.6	-1,218.4	3,486.1	3,432.9	65.467		
5,800.0	5,426.5	4,289.6	3,801.2	36.9	34.7	-139.60	1,388.9	-1,244.1	3,553.3	3,499.1	65.514		
5,900.0	5,522.5	4,365.2	3,864.9	37.4	35.5	-140.76	1,420.1	-1,270.4	3,618.1	3,562.9	65.528		
6,000.0	5,619.7	4,442.6	3,930.1	37.9	36.3	-141.76	1,451.9	-1,297.4	3,680.2	3,624.0	65.515		
6,100.0	5,717.7	4,521.5	3,996.6	38.2	37.1	-142.61	1,484.4	-1,324.9	3,739.7	3,682.6	65.480		
6,200.0	5,816.6	4,601.9	4,064.3	38.5	37.9	-143.33	1,517.5	-1,352.9	3,796.4	3,738.4	65.427		
6,300.0	5,916.0	4,683.6	4,133.1	38.7	38.8	-143.92	1,551.1	-1,381.3	3,850.3	3,791.4	65.362		
6,400.0	6,015.7	4,766.4	4,202.8	38.8	39.6	-144.41	1,585.2	-1,410.2	3,901.3	3,841.6	65.296		
6,500.0	6,115.7	4,850.2	4,273.4	38.9	40.5	-74.79	1,619.7	-1,439.4	3,949.5	3,889.0	65.367		
6,600.0	6,215.7	4,934.4	4,344.3	38.9	41.3	-74.38	1,654.4	-1,468.7	3,996.2	3,935.2	65.503		
6,700.0	6,315.7	5,018.7	4,415.2	39.0	42.2	-73.97	1,689.0	-1,498.0	4,043.1	3,981.5	65.640		
6,800.0	6,415.7	5,102.9	4,486.1	39.0	43.1	-73.57	1,723.7	-1,527.4	4,090.2	4,028.0	65.777		
6,900.0	6,515.7	5,187.8	4,557.7	39.0	53.9	-69.06	2,171.9	-1,906.7	4,109.7	4,032.5	53.179		
7,000.0	6,615.7	5,267.8	4,628.7	39.1	53.9	-69.06	2,171.9	-1,906.7	4,109.7	4,032.4	53.147		
7,100.0	6,715.7	5,347.8	4,699.7	39.1	54.0	-69.06	2,171.9	-1,906.7	4,109.7	4,032.4	53.115		
7,200.0	6,815.7	5,427.8	4,770.7	39.1	54.0	-69.06	2,171.9	-1,906.7	4,109.7	4,032.3	53.084		
7,300.0	6,915.7	5,507.8	4,841.7	39.1	54.0	-69.06	2,171.9	-1,906.7	4,109.7	4,032.3	53.051		
7,400.0	7,015.7	5,587.8	4,912.7	39.2	54.0	-69.06	2,171.9	-1,906.7	4,109.7	4,032.2	53.019		
7,500.0	7,115.7	5,667.8	4,983.7	39.2	54.0	-69.06	2,171.9	-1,906.7	4,109.7	4,032.2	52.987		
7,600.0	7,215.7	5,747.8	5,054.7	39.2	54.1	-69.06	2,171.9	-1,906.7	4,109.7	4,032.1	52.954		
7,700.0	7,315.7	5,827.8	5,125.7	39.3	54.1	-69.06	2,171.9	-1,906.7	4,109.7	4,032.1	52.921		
7,800.0	7,415.7	5,907.8	5,196.7	39.3	54.1	-69.06	2,171.9	-1,906.7	4,109.7	4,032.0	52.888		
7,900.0	7,515.7	5,987.8	5,267.7	39.3	54.1	-69.06	2,171.9	-1,906.7	4,109.7	4,032.0	52.855		
8,000.0	7,615.7	6,067.8	5,338.7	39.3	54.1	-69.06	2,171.9	-1,906.7	4,109.7	4,031.9	52.822		
8,100.0	7,715.7	6,147.8	5,409.7	39.4	54.2	-69.06	2,171.9	-1,906.7	4,109.7	4,031.9	52.788		
8,200.0	7,815.7	6,227.8	5,480.7	39.4	54.2	-69.06	2,171.9	-1,906.7	4,109.7	4,031.8	52.755		
8,300.0	7,915.7	6,307.8	5,551.7	39.4	54.2	-69.06	2,171.9	-1,906.7	4,110.3	4,032.3	52.687		
8,400.0	8,015.7	6,387.8	5,622.7	39.5	54.2	-69.06	2,171.9	-1,906.7	4,113.1	4,035.0	52.649		
8,500.0	8,115.7	6,467.8	5,693.7	39.5	54.2	-69.06	2,171.9	-1,906.7	4,118.4	4,040.2	52.666		
8,600.0	8,215.7	6,547.8	5,764.7	39.5	54.2	-69.06	2,171.9	-1,906.7	4,126.1	4,047.8	52.737		
8,700.0	8,315.7	6,627.8	5,835.7	39.6	54.2	-69.06	2,171.9	-1,906.7	4,136.2	4,057.9	52.861		
8,800.0	8,415.7	6,707.8	5,906.7	39.6	54.2	-69.06	2,171.9	-1,906.7	4,148.6	4,070.4	53.038		
8,900.0	8,515.7	6,787.8	5,977.7	39.6	54.2	-69.06	2,171.9	-1,906.7	4,163.5	4,085.3	53.268		
9,000.0	8,615.7	6,867.8	6,048.7	39.6	54.2	-69.06	2,171.9	-1,906.7	4,180.7	4,102.6	53.549		
9,091.3	8,707.0	6,950.0	6,130.0	39.7	54.2	-69.06	2,171.9	-1,906.7	4,198.4	4,120.4	53.850		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-14E - OH - Design #1											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 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	-46.83	38.2	-40.8	55.9			
100.0	100.0	100.0	100.0	0.4	0.4	-46.83	38.2	-40.8	55.9	55.1	70.580	
200.0	200.0	200.0	200.0	1.2	1.2	-46.83	38.2	-40.8	55.9	53.4	22.628 CC	
300.0	300.0	300.0	300.0	1.7	1.7	-117.92	38.2	-40.8	56.5	53.2	17.201 ES	
400.0	399.8	398.8	398.8	3.3	1.9	-122.72	38.3	-41.3	59.7	55.3	13.778	
500.0	499.3	495.4	495.3	4.6	3.1	-131.01	38.6	-45.4	69.3	62.9	10.812	
600.0	598.3	589.9	589.5	5.6	4.3	-139.61	39.3	-53.3	87.4	78.6	9.937 SF	
700.0	696.6	682.0	680.9	6.5	4.7	-146.26	40.8	-64.5	114.2	104.0	11.188	
800.0	794.0	771.8	769.6	7.3	5.1	-150.07	44.8	-77.5	148.4	136.9	12.876	
900.0	890.3	858.6	855.0	8.0	5.7	-152.01	51.4	-92.1	189.0	176.2	14.746	
1,000.0	985.3	942.0	936.3	8.7	6.3	-152.85	60.2	-107.8	235.5	221.5	16.806	
1,100.0	1,078.9	1,021.6	1,013.4	9.4	6.9	-153.04	70.9	-124.4	287.4	272.3	19.054	
1,200.0	1,171.4	1,100.0	1,088.7	9.7	7.5	-153.32	83.6	-142.3	343.5	327.7	21.713	
1,300.0	1,263.8	1,171.9	1,157.1	10.0	7.9	-153.31	97.2	-159.9	401.3	384.9	24.413	
1,400.0	1,356.2	1,243.8	1,224.7	10.3	8.4	-153.03	112.4	-178.8	460.8	443.7	26.971	
1,500.0	1,448.7	1,313.5	1,289.6	10.6	8.9	-152.58	128.9	-198.2	521.8	504.1	29.451	
1,600.0	1,541.1	1,380.9	1,351.7	11.0	9.3	-152.02	146.5	-218.0	584.3	566.0	31.862	
1,700.0	1,633.6	1,446.2	1,411.0	11.3	9.7	-151.41	164.9	-238.1	648.3	629.4	34.206	
1,800.0	1,726.0	1,509.2	1,467.5	11.7	10.1	-150.77	184.0	-258.5	713.8	694.2	36.495	
1,900.0	1,818.4	1,570.1	1,521.3	12.1	10.5	-150.12	203.6	-278.9	780.7	760.5	38.731	
2,000.0	1,910.9	1,628.7	1,572.5	12.5	10.8	-149.46	223.7	-299.4	848.9	828.2	41.029	
2,100.0	2,003.3	1,693.5	1,628.2	12.9	11.0	-148.74	247.0	-322.6	918.3	897.0	43.197	
2,200.0	2,095.7	1,764.8	1,689.6	13.3	11.3	-148.04	272.7	-348.3	987.8	965.9	45.026	
2,300.0	2,188.2	1,836.1	1,751.0	13.8	11.5	-147.43	298.4	-374.0	1,057.5	1,034.8	46.701	
2,400.0	2,280.6	1,907.5	1,812.4	14.2	11.8	-146.90	324.1	-399.7	1,127.2	1,103.8	48.231	
2,500.0	2,373.1	1,978.8	1,873.8	14.7	12.1	-146.43	349.8	-425.4	1,196.9	1,172.8	49.629	
2,600.0	2,465.5	2,050.1	1,935.1	15.1	12.4	-146.01	375.5	-451.1	1,266.7	1,241.8	50.916	
2,700.0	2,557.9	2,121.5	1,996.5	15.6	12.8	-145.63	401.2	-476.7	1,336.5	1,310.9	52.097	
2,800.0	2,650.4	2,192.8	2,057.9	16.1	13.3	-145.29	426.9	-502.4	1,406.4	1,379.9	53.167	
2,900.0	2,742.8	2,264.1	2,119.3	16.8	13.8	-144.98	452.7	-528.1	1,476.2	1,449.0	54.162	
3,000.0	2,835.2	2,335.5	2,180.6	17.5	14.4	-144.70	478.4	-553.8	1,546.1	1,518.0	55.082	
3,100.0	2,927.7	2,406.8	2,242.0	18.2	15.0	-144.44	504.1	-579.5	1,616.0	1,587.1	55.932	
3,200.0	3,020.1	2,478.1	2,303.4	18.9	15.6	-144.21	529.8	-605.2	1,685.9	1,656.2	56.713	
3,300.0	3,112.6	2,549.4	2,364.8	19.6	16.2	-143.99	555.5	-630.9	1,755.9	1,725.3	57.435	
3,400.0	3,205.0	2,620.8	2,426.2	20.3	16.9	-143.79	581.2	-656.6	1,825.8	1,794.4	58.107	
3,500.0	3,297.4	2,692.1	2,487.5	21.0	17.5	-143.61	606.9	-682.3	1,895.8	1,863.5	58.730	
3,600.0	3,389.9	2,763.4	2,548.9	21.7	18.2	-143.44	632.6	-708.0	1,965.7	1,932.6	59.307	
3,700.0	3,482.3	2,834.8	2,610.3	22.4	18.8	-143.28	658.4	-733.6	2,035.7	2,001.7	59.845	
3,800.0	3,574.7	2,906.1	2,671.7	23.1	19.5	-143.13	684.1	-759.3	2,105.7	2,070.8	60.347	
3,900.0	3,667.2	2,977.4	2,733.0	23.8	20.2	-142.99	709.8	-785.0	2,175.6	2,139.9	60.814	
4,000.0	3,759.6	3,048.8	2,794.4	24.5	20.8	-142.85	735.5	-810.7	2,245.6	2,209.0	61.251	
4,100.0	3,852.1	3,120.1	2,855.8	25.2	21.5	-142.73	761.2	-836.4	2,315.6	2,278.1	61.660	
4,200.0	3,944.5	3,191.4	2,917.2	25.9	22.2	-142.61	786.9	-862.1	2,385.6	2,347.2	62.043	
4,300.0	4,036.9	3,262.8	2,978.5	26.6	22.8	-142.51	812.6	-887.8	2,455.6	2,416.3	62.402	
4,400.0	4,129.4	3,334.1	3,039.9	27.3	23.5	-142.40	838.3	-913.5	2,525.6	2,485.4	62.739	
4,500.0	4,221.8	3,405.4	3,101.3	28.0	24.2	-142.30	864.1	-939.2	2,595.7	2,554.5	63.056	
4,600.0	4,314.2	3,476.8	3,162.7	28.7	24.9	-142.21	889.8	-964.9	2,665.7	2,623.6	63.354	
4,700.0	4,406.7	3,548.1	3,224.1	29.4	25.6	-142.12	915.5	-990.5	2,735.7	2,692.7	63.635	
4,800.0	4,499.1	3,619.4	3,285.4	30.1	26.2	-142.04	941.2	-1,016.2	2,805.7	2,761.8	63.900	
4,900.0	4,591.6	3,690.8	3,346.8	30.8	26.9	-141.96	966.9	-1,041.9	2,875.7	2,830.9	64.150	
5,000.0	4,684.0	3,762.1	3,408.2	31.5	27.6	-141.88	992.6	-1,067.6	2,945.8	2,900.0	64.386	

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-14E - OH - Design #1												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	4,776.4	3,833.4	3,469.6	32.2	28.3	-141.81	1,018.3	-1,093.3	3,015.8	2,969.1	64.609		
5,200.0	4,868.9	3,904.8	3,530.9	32.9	29.0	-141.74	1,044.0	-1,119.0	3,085.8	3,038.2	64.821		
5,300.0	4,961.3	3,976.1	3,592.3	33.6	29.7	-141.68	1,069.7	-1,144.7	3,155.9	3,107.3	65.021		
5,400.0	5,053.7	4,047.4	3,653.7	34.3	30.3	-141.61	1,095.5	-1,170.4	3,225.9	3,176.5	65.211		
5,500.0	5,146.2	4,118.8	3,715.1	35.0	31.0	-141.55	1,121.2	-1,196.1	3,296.0	3,245.6	65.391		
5,600.0	5,238.6	4,190.1	3,776.5	35.7	31.7	-141.49	1,146.9	-1,221.7	3,366.0	3,314.7	65.562		
5,700.0	5,331.8	4,262.5	3,838.8	36.4	32.4	-142.83	1,173.0	-1,247.8	3,434.9	3,382.6	65.687		
5,800.0	5,426.5	4,337.1	3,902.9	36.9	33.1	-144.01	1,199.9	-1,274.7	3,501.2	3,447.9	65.722		
5,900.0	5,522.5	4,413.7	3,968.8	37.4	33.9	-145.02	1,227.5	-1,302.3	3,564.8	3,510.6	65.714		
6,000.0	5,619.7	4,492.1	4,036.4	37.9	34.6	-145.88	1,255.8	-1,330.5	3,625.7	3,570.5	65.669		
6,100.0	5,717.7	4,572.3	4,105.4	38.2	35.4	-146.60	1,284.7	-1,359.4	3,683.7	3,627.5	65.593		
6,200.0	5,816.6	4,654.1	4,175.7	38.5	36.2	-147.20	1,314.1	-1,388.9	3,738.8	3,681.7	65.493		
6,300.0	5,916.0	4,737.3	4,247.3	38.7	37.0	-147.69	1,344.1	-1,418.8	3,790.9	3,732.9	65.374		
6,400.0	6,015.7	4,821.8	4,320.0	38.8	37.8	-148.08	1,374.6	-1,449.2	3,839.8	3,781.0	65.248		
6,500.0	6,115.7	4,907.3	4,393.6	38.9	38.6	-78.37	1,405.4	-1,480.1	3,885.7	3,826.2	65.273		
6,600.0	6,215.7	4,993.4	4,467.6	38.9	39.5	-77.98	1,436.4	-1,511.0	3,930.1	3,870.0	65.375		
6,700.0	6,315.7	5,079.4	4,541.7	39.0	40.3	-77.60	1,467.4	-1,542.0	3,974.7	3,914.0	65.477		
6,800.0	6,415.7	5,165.7	4,615.7	39.0	50.2	-73.51	1,842.6	-1,916.9	4,013.7	3,938.7	53.492		
6,900.0	6,515.7	5,251.7	4,689.7	39.0	50.2	-73.51	1,842.6	-1,916.9	4,013.7	3,938.6	53.459		
7,000.0	6,615.7	5,337.7	4,763.7	39.1	50.2	-73.51	1,842.6	-1,916.9	4,013.7	3,938.6	53.425		
7,100.0	6,715.7	5,423.7	4,837.7	39.1	50.2	-73.51	1,842.6	-1,916.9	4,013.7	3,938.5	53.392		
7,200.0	6,815.7	5,509.7	4,911.7	39.1	50.2	-73.51	1,842.6	-1,916.9	4,013.7	3,938.5	53.358		
7,300.0	6,915.7	5,595.7	4,985.7	39.1	50.3	-73.51	1,842.6	-1,916.9	4,013.7	3,938.4	53.324		
7,400.0	7,015.7	5,681.7	5,059.7	39.2	50.3	-73.51	1,842.6	-1,916.9	4,013.7	3,938.4	53.290		
7,500.0	7,115.7	5,767.7	5,133.7	39.2	50.3	-73.51	1,842.6	-1,916.9	4,013.7	3,938.3	53.255		
7,600.0	7,215.7	5,853.7	5,207.7	39.2	50.3	-73.51	1,842.6	-1,916.9	4,013.7	3,938.3	53.221		
7,700.0	7,315.7	5,939.7	5,281.7	39.3	50.3	-73.51	1,842.6	-1,916.9	4,013.7	3,938.3	53.186		
7,800.0	7,415.7	6,025.7	5,355.7	39.3	50.4	-73.51	1,842.6	-1,916.9	4,013.7	3,938.2	53.151		
7,900.0	7,515.7	6,111.7	5,429.7	39.3	50.4	-73.51	1,842.6	-1,916.9	4,013.7	3,938.2	53.116		
8,000.0	7,615.7	6,197.7	5,503.7	39.3	50.4	-73.51	1,842.6	-1,916.9	4,013.7	3,938.1	53.081		
8,100.0	7,715.7	6,283.7	5,577.7	39.4	50.4	-73.51	1,842.6	-1,916.9	4,013.7	3,938.1	53.045		
8,200.0	7,815.7	6,369.7	5,651.7	39.4	50.5	-73.51	1,842.6	-1,916.9	4,013.7	3,938.0	53.010		
8,300.0	7,915.7	6,455.7	5,725.7	39.4	50.5	-73.51	1,842.6	-1,916.9	4,013.7	3,937.9	52.974		
8,400.0	8,015.7	6,541.7	5,799.7	39.5	50.5	-73.51	1,842.6	-1,916.9	4,013.7	3,937.9	52.938		
8,500.0	8,115.7	6,627.7	5,873.7	39.5	50.5	-73.51	1,842.6	-1,916.9	4,013.7	3,937.8	52.902		
8,600.0	8,215.7	6,713.7	5,947.7	39.5	50.6	-73.51	1,842.6	-1,916.9	4,013.7	3,937.8	52.865		
8,700.0	8,315.7	6,800.0	6,021.7	39.6	50.6	-73.51	1,842.6	-1,916.9	4,013.7	3,937.7	52.829		
8,800.0	8,415.7	6,886.0	6,095.7	39.6	50.6	-73.51	1,842.6	-1,916.9	4,013.7	3,937.7	52.792		
8,900.0	8,515.7	6,972.0	6,169.7	39.6	50.6	-73.51	1,842.6	-1,916.9	4,013.7	3,937.6	52.755		
9,000.0	8,615.7	7,058.0	6,243.7	39.6	50.6	-73.51	1,842.6	-1,916.9	4,013.7	3,937.6	52.717		
9,005.7	8,621.5	7,274.4	6,621.5	39.6	50.6	-73.51	1,842.6	-1,916.9	4,013.7	3,937.6	52.715		
9,091.3	8,707.0	9,310.0	8,657.0	39.7	50.7	-73.51	1,842.6	-1,916.9	4,014.0	3,937.8	52.669		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-15E - OH - Design #1												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 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	-46.88	27.3	-29.2	40.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.88	27.3	-29.2	40.0	39.2	50.449		
200.0	200.0	200.0	200.0	1.2	1.2	-46.88	27.3	-29.2	40.0	37.5	16.174 CC		
300.0	300.0	300.0	300.0	1.7	1.7	-118.40	27.3	-29.2	40.5	37.2	12.340 ES		
400.0	399.8	399.8	399.8	3.3	2.1	-124.68	27.3	-29.2	43.4	38.8	9.515		
500.0	499.3	498.0	497.9	4.6	2.4	-134.43	27.2	-30.3	50.7	44.7	8.465		
600.0	598.3	593.9	593.7	5.6	3.6	-144.99	26.8	-35.4	66.3	58.0	7.960 SF		
700.0	696.6	687.2	686.6	6.5	4.2	-153.00	26.1	-44.1	91.2	81.2	9.144		
800.0	794.0	778.3	777.0	7.3	4.5	-157.31	27.3	-55.3	123.9	112.7	11.045		
900.0	890.3	866.4	864.0	8.0	5.1	-159.18	31.0	-68.4	163.3	150.8	13.037		
1,000.0	985.3	951.0	947.1	8.7	5.8	-159.78	37.0	-83.1	208.7	195.0	15.167		
1,100.0	1,078.9	1,031.7	1,025.9	9.4	6.4	-159.70	44.8	-99.0	259.8	244.9	17.478		
1,200.0	1,171.4	1,108.9	1,100.6	9.7	6.9	-159.62	54.3	-115.9	315.1	299.5	20.246		
1,300.0	1,263.8	1,183.9	1,172.6	10.0	7.5	-159.30	65.4	-133.8	372.2	356.0	22.939		
1,400.0	1,356.2	1,256.6	1,241.6	10.3	8.0	-158.76	77.8	-152.6	431.0	414.1	25.547		
1,500.0	1,448.7	1,326.9	1,307.9	10.6	8.4	-158.11	91.4	-172.2	491.5	474.0	28.077		
1,600.0	1,541.1	1,400.0	1,375.8	11.0	8.9	-157.34	107.2	-193.9	553.6	535.4	30.401		
1,700.0	1,633.6	1,460.7	1,431.6	11.3	9.3	-156.65	121.6	-213.0	617.2	598.4	32.946		
1,800.0	1,726.0	1,524.1	1,489.2	11.7	9.7	-155.90	137.9	-233.9	682.3	663.0	35.297		
1,900.0	1,818.4	1,585.3	1,544.1	12.1	10.1	-155.16	154.7	-255.1	748.9	729.0	37.603		
2,000.0	1,910.9	1,644.2	1,596.2	12.5	10.4	-154.43	172.0	-276.3	816.9	796.5	40.051		
2,100.0	2,003.3	1,714.3	1,657.8	12.9	10.6	-153.61	193.3	-302.2	885.8	864.8	42.175		
2,200.0	2,095.7	1,786.2	1,720.9	13.3	10.8	-152.89	215.2	-328.8	954.9	933.2	44.076		
2,300.0	2,188.2	1,858.1	1,784.0	13.8	11.1	-152.27	237.1	-355.4	1,023.9	1,001.6	45.811		
2,400.0	2,280.6	1,930.0	1,847.1	14.2	11.4	-151.72	259.0	-381.9	1,093.1	1,070.0	47.407		
2,500.0	2,373.1	2,001.8	1,910.2	14.7	11.7	-151.24	280.9	-408.5	1,162.2	1,138.5	48.877		
2,600.0	2,465.5	2,073.7	1,973.3	15.1	12.0	-150.81	302.7	-435.0	1,231.5	1,206.9	50.222		
2,700.0	2,557.9	2,145.6	2,036.5	15.6	12.3	-150.43	324.6	-461.6	1,300.7	1,275.4	51.471		
2,800.0	2,650.4	2,217.5	2,099.6	16.1	12.7	-150.09	346.5	-488.2	1,370.0	1,343.9	52.603		
2,900.0	2,742.8	2,289.4	2,162.7	16.8	13.1	-149.78	368.4	-514.7	1,439.3	1,412.5	53.658		
3,000.0	2,835.2	2,361.3	2,225.8	17.5	13.6	-149.49	390.3	-541.3	1,508.6	1,481.0	54.630		
3,100.0	2,927.7	2,433.1	2,288.9	18.2	14.2	-149.23	412.1	-567.9	1,577.9	1,549.5	55.531		
3,200.0	3,020.1	2,505.0	2,352.0	18.9	14.8	-149.00	434.0	-594.4	1,647.3	1,618.1	56.367		
3,300.0	3,112.6	2,576.9	2,415.1	19.6	15.3	-148.78	455.9	-621.0	1,716.7	1,686.6	57.138		
3,400.0	3,205.0	2,648.8	2,478.2	20.3	15.9	-148.58	477.8	-647.5	1,786.0	1,755.2	57.855		
3,500.0	3,297.4	2,720.7	2,541.3	21.0	16.6	-148.39	499.7	-674.1	1,855.4	1,823.7	58.523		
3,600.0	3,389.9	2,792.6	2,604.4	21.7	17.2	-148.22	521.5	-700.7	1,924.8	1,892.3	59.144		
3,700.0	3,482.3	2,864.4	2,667.6	22.4	17.8	-148.06	543.4	-727.2	1,994.2	1,960.8	59.722		
3,800.0	3,574.7	2,936.3	2,730.7	23.1	18.4	-147.91	565.3	-753.8	2,063.6	2,029.4	60.262		
3,900.0	3,667.2	3,008.2	2,793.8	23.8	19.1	-147.77	587.2	-780.3	2,133.1	2,098.0	60.768		
4,000.0	3,759.6	3,080.1	2,856.9	24.5	19.7	-147.64	609.1	-806.9	2,202.5	2,166.5	61.240		
4,100.0	3,852.1	3,152.0	2,920.0	25.2	20.3	-147.52	630.9	-833.5	2,271.9	2,235.1	61.682		
4,200.0	3,944.5	3,223.9	2,983.1	25.9	21.0	-147.40	652.8	-860.0	2,341.4	2,303.6	62.098		
4,300.0	4,036.9	3,295.7	3,046.2	26.6	21.6	-147.29	674.7	-886.6	2,410.8	2,372.2	62.489		
4,400.0	4,129.4	3,367.6	3,109.3	27.3	22.2	-147.19	696.6	-913.2	2,480.2	2,440.8	62.855		
4,500.0	4,221.8	3,439.5	3,172.4	28.0	22.9	-147.09	718.5	-939.7	2,549.7	2,509.3	63.200		
4,600.0	4,314.2	3,511.4	3,235.5	28.7	23.5	-147.00	740.3	-966.3	2,619.1	2,577.9	63.526		
4,700.0	4,406.7	3,583.3	3,298.7	29.4	24.2	-146.91	762.2	-992.8	2,688.6	2,646.5	63.833		
4,800.0	4,499.1	3,655.2	3,361.8	30.1	24.8	-146.83	784.1	-1,019.4	2,758.1	2,715.0	64.122		
4,900.0	4,591.6	3,727.0	3,424.9	30.8	25.5	-146.75	806.0	-1,046.0	2,827.5	2,783.6	64.396		
5,000.0	4,684.0	3,798.9	3,488.0	31.5	26.1	-146.68	827.9	-1,072.5	2,897.0	2,852.2	64.656		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-15E - OH - Design #1												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 Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,776.4	3,870.8	3,551.1	32.2	26.7	-146.60	849.7	-1,099.1	2,966.5	2,920.8	64.901		
5,200.0	4,868.9	3,942.7	3,614.2	32.9	27.4	-146.53	871.6	-1,125.7	3,035.9	2,989.3	65.133		
5,300.0	4,961.3	4,014.6	3,677.3	33.6	28.0	-146.47	893.5	-1,152.2	3,105.4	3,057.9	65.354		
5,400.0	5,053.7	4,086.5	3,740.4	34.3	28.7	-146.41	915.4	-1,178.8	3,174.9	3,126.5	65.563		
5,500.0	5,146.2	4,158.3	3,803.5	35.0	29.3	-146.35	937.3	-1,205.3	3,244.4	3,195.0	65.762		
5,600.0	5,238.6	4,230.2	3,866.6	35.7	30.0	-146.29	959.1	-1,231.9	3,313.8	3,263.6	65.950		
5,700.0	5,331.8	4,303.2	3,930.8	36.4	30.7	-147.45	981.4	-1,258.9	3,382.0	3,330.9	66.084		
5,800.0	5,426.5	4,378.6	3,996.9	36.9	31.3	-148.47	1,004.3	-1,286.7	3,447.5	3,395.4	66.109		
5,900.0	5,522.5	4,456.1	4,064.9	37.4	32.0	-149.34	1,027.9	-1,315.4	3,510.2	3,457.1	66.079		
6,000.0	5,619.7	4,535.6	4,134.7	37.9	32.8	-150.06	1,052.1	-1,344.7	3,569.9	3,515.8	66.003		
6,100.0	5,717.7	4,617.0	4,206.2	38.2	33.5	-150.67	1,076.9	-1,374.8	3,626.6	3,571.5	65.887		
6,200.0	5,816.6	4,700.0	4,279.1	38.5	34.3	-151.16	1,102.2	-1,405.5	3,680.1	3,624.1	65.739		
6,300.0	5,916.0	4,784.7	4,353.4	38.7	35.0	-151.56	1,127.9	-1,436.8	3,730.5	3,673.6	65.566		
6,400.0	6,015.7	4,870.7	4,429.0	38.8	35.8	-151.86	1,154.1	-1,468.6	3,777.6	3,719.8	65.382		
6,500.0	6,115.7	4,957.9	4,505.6	38.9	36.6	-82.08	1,180.7	-1,500.8	3,821.3	3,762.9	65.361		
6,600.0	6,215.7	5,045.7	4,582.6	38.9	37.4	-81.72	1,207.4	-1,533.2	3,863.5	3,804.5	65.430		
6,700.0	6,315.7	5,133.5	4,659.7	39.0	38.2	-81.37	1,234.1	-1,565.7	3,905.9	3,846.2	65.499		
6,800.0	6,415.7	5,221.5	4,736.8	39.0	39.0	-78.04	1,261.7	-1,598.7	3,946.6	3,886.8	65.567		
6,900.0	6,515.7	5,309.5	4,813.9	39.0	39.8	-78.04	1,289.3	-1,631.7	3,987.7	3,927.9	65.635		
7,000.0	6,615.7	5,397.5	4,891.9	39.1	40.6	-78.04	1,316.9	-1,664.7	4,028.8	3,969.0	65.703		
7,100.0	6,715.7	5,485.5	4,969.9	39.1	41.4	-78.04	1,344.5	-1,697.7	4,069.9	3,999.1	65.771		
7,200.0	6,815.7	5,573.5	5,047.9	39.1	42.2	-78.04	1,372.1	-1,730.7	4,111.0	4,040.2	65.839		
7,300.0	6,915.7	5,661.5	5,125.9	39.1	43.0	-78.04	1,400.7	-1,763.7	4,152.1	4,081.3	65.907		
7,400.0	7,015.7	5,749.5	5,203.9	39.2	43.8	-78.04	1,428.3	-1,796.7	4,193.2	4,122.4	65.975		
7,500.0	7,115.7	5,837.5	5,281.9	39.2	44.6	-78.04	1,456.9	-1,829.7	4,234.3	4,163.5	66.043		
7,600.0	7,215.7	5,925.5	5,359.9	39.2	45.4	-78.04	1,484.5	-1,862.7	4,275.4	4,204.6	66.111		
7,700.0	7,315.7	6,013.5	5,437.9	39.3	46.2	-78.04	1,512.1	-1,895.7	4,316.5	4,245.7	66.179		
7,800.0	7,415.7	6,101.5	5,515.9	39.3	47.0	-78.04	1,540.7	-1,928.7	4,357.6	4,286.8	66.247		
7,900.0	7,515.7	6,189.5	5,593.9	39.3	47.8	-78.04	1,568.3	-1,961.7	4,398.7	4,327.9	66.315		
8,000.0	7,615.7	6,277.5	5,671.9	39.3	48.6	-78.04	1,596.9	-1,994.7	4,439.8	4,369.0	66.383		
8,100.0	7,715.7	6,365.5	5,749.9	39.4	49.4	-78.04	1,624.5	-2,027.7	4,480.9	4,410.1	66.451		
8,200.0	7,815.7	6,453.5	5,827.9	39.4	50.2	-78.04	1,652.1	-2,060.7	4,522.0	4,451.2	66.519		
8,300.0	7,915.7	6,541.5	5,905.9	39.4	51.0	-78.04	1,680.7	-2,093.7	4,563.1	4,492.3	66.587		
8,400.0	8,015.7	6,629.5	5,983.9	39.5	51.8	-78.04	1,708.3	-2,126.7	4,604.2	4,533.4	66.655		
8,500.0	8,115.7	6,717.5	6,061.9	39.5	52.6	-78.04	1,736.9	-2,159.7	4,645.3	4,574.5	66.723		
8,600.0	8,215.7	6,805.5	6,139.9	39.5	53.4	-78.04	1,764.5	-2,192.7	4,686.4	4,615.6	66.791		
8,700.0	8,315.7	6,893.5	6,217.9	39.6	54.2	-78.04	1,792.1	-2,225.7	4,727.5	4,656.7	66.859		
8,800.0	8,415.7	6,981.5	6,295.9	39.6	55.0	-78.04	1,820.7	-2,258.7	4,768.6	4,697.8	66.927		
8,900.0	8,515.7	7,069.5	6,373.9	39.6	55.8	-78.04	1,848.3	-2,291.7	4,809.7	4,738.9	66.995		
9,000.0	8,615.7	7,157.5	6,451.9	39.6	56.6	-78.04	1,876.9	-2,324.7	4,850.8	4,780.0	67.063		
9,091.3	8,707.0	7,245.5	6,529.9	39.7	57.4	-78.04	1,904.5	-2,357.7	4,891.9	4,821.1	67.131		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-16E - OH - Design #1												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	-46.96	16.4	-17.6	24.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.96	16.4	-17.6	24.0	23.2	30.327		
200.0	200.0	200.0	200.0	1.2	1.2	-46.96	16.4	-17.6	24.0	21.6	9.723 CC		
300.0	300.0	300.0	300.0	1.7	1.7	-119.49	16.4	-17.6	24.6	21.3	7.483 ES		
400.0	399.8	399.8	399.8	3.3	2.1	-129.28	16.4	-17.6	27.7	23.0	5.931		
500.0	499.3	499.3	499.3	4.6	2.5	-141.76	16.4	-17.6	34.7	28.4	5.512 SF		
600.0	598.3	596.3	596.3	5.6	3.0	-152.52	16.4	-19.6	48.7	40.6	5.988		
700.0	696.6	690.9	690.6	6.5	4.3	-159.56	16.4	-25.5	71.8	61.5	6.932		
800.0	794.0	782.0	781.3	7.3	5.2	-163.56	16.4	-34.9	103.4	91.3	8.528		
900.0	890.3	870.2	868.6	8.0	5.6	-165.69	16.8	-47.2	142.6	129.5	10.853		
1,000.0	985.3	955.5	952.6	8.7	6.0	-166.27	19.2	-61.5	188.1	174.0	13.314		
1,100.0	1,078.9	1,036.8	1,032.3	9.4	6.5	-166.06	23.6	-77.2	239.2	224.0	15.795		
1,200.0	1,171.4	1,114.5	1,107.9	9.7	7.0	-165.72	29.6	-94.1	294.6	278.8	18.628		
1,300.0	1,263.8	1,189.9	1,180.7	10.0	7.5	-165.16	37.3	-112.2	351.8	335.3	21.374		
1,400.0	1,356.2	1,263.0	1,250.6	10.3	8.0	-164.43	46.3	-131.3	410.7	393.6	24.039		
1,500.0	1,448.7	1,333.7	1,317.7	10.6	8.4	-163.63	56.5	-151.3	471.2	453.5	26.629		
1,600.0	1,541.1	1,400.0	1,380.0	11.0	8.9	-162.82	67.5	-171.3	533.3	515.1	29.213		
1,700.0	1,633.6	1,468.1	1,443.2	11.3	9.3	-161.95	80.2	-193.2	597.1	578.2	31.622		
1,800.0	1,726.0	1,531.8	1,501.7	11.7	9.7	-161.11	93.2	-214.9	662.3	642.8	34.039		
1,900.0	1,818.4	1,600.0	1,563.5	12.1	10.1	-160.21	108.5	-239.3	729.0	708.9	36.209		
2,000.0	1,910.9	1,656.6	1,614.2	12.5	10.3	-159.47	122.1	-260.4	797.1	776.6	38.901		
2,100.0	2,003.3	1,728.9	1,678.8	12.9	10.5	-158.63	139.7	-287.6	865.6	844.5	41.035		
2,200.0	2,095.7	1,801.2	1,743.4	13.3	10.7	-157.91	157.3	-314.8	934.2	912.4	43.003		
2,300.0	2,188.2	1,873.5	1,808.0	13.8	11.0	-157.29	174.9	-342.1	1,002.8	980.4	44.803		
2,400.0	2,280.6	1,945.8	1,872.7	14.2	11.3	-156.75	192.6	-369.3	1,071.5	1,048.5	46.469		
2,500.0	2,373.1	2,018.1	1,937.3	14.7	11.6	-156.27	210.2	-396.5	1,140.3	1,116.5	48.010		
2,600.0	2,465.5	2,090.4	2,001.9	15.1	11.8	-155.84	227.8	-423.7	1,209.1	1,184.6	49.432		
2,700.0	2,557.9	2,162.7	2,066.5	15.6	12.2	-155.46	245.4	-450.9	1,277.9	1,252.7	50.743		
2,800.0	2,650.4	2,235.0	2,131.2	16.1	12.5	-155.12	263.1	-478.2	1,346.7	1,320.8	51.959		
2,900.0	2,742.8	2,307.3	2,195.8	16.8	12.9	-154.82	280.7	-505.4	1,415.6	1,388.9	53.086		
3,000.0	2,835.2	2,379.6	2,260.4	17.5	13.3	-154.54	298.3	-532.6	1,484.5	1,457.1	54.127		
3,100.0	2,927.7	2,451.9	2,325.0	18.2	13.7	-154.28	315.9	-559.8	1,553.4	1,525.2	55.093		
3,200.0	3,020.1	2,524.2	2,389.6	18.9	14.2	-154.05	333.6	-587.0	1,622.3	1,593.3	55.992		
3,300.0	3,112.6	2,596.5	2,454.3	19.6	14.7	-153.84	351.2	-614.3	1,691.2	1,661.5	56.829		
3,400.0	3,205.0	2,668.8	2,518.9	20.3	15.2	-153.64	368.8	-641.5	1,760.2	1,729.6	57.605		
3,500.0	3,297.4	2,741.1	2,583.5	21.0	15.8	-153.46	386.4	-668.7	1,829.1	1,797.8	58.330		
3,600.0	3,389.9	2,813.4	2,648.1	21.7	16.3	-153.29	404.1	-695.9	1,898.1	1,865.9	59.007		
3,700.0	3,482.3	2,885.7	2,712.8	22.4	16.9	-153.13	421.7	-723.2	1,967.1	1,934.1	59.639		
3,800.0	3,574.7	2,958.0	2,777.4	23.1	17.5	-152.99	439.3	-750.4	2,036.1	2,002.3	60.230		
3,900.0	3,667.2	3,030.4	2,842.0	23.8	18.1	-152.85	456.9	-777.6	2,105.0	2,070.4	60.784		
4,000.0	3,759.6	3,102.7	2,906.6	24.5	18.7	-152.72	474.6	-804.8	2,174.0	2,138.6	61.305		
4,100.0	3,852.1	3,175.0	2,971.3	25.2	19.3	-152.60	492.2	-832.0	2,243.0	2,206.7	61.792		
4,200.0	3,944.5	3,247.3	3,035.9	25.9	19.9	-152.49	509.8	-859.3	2,312.0	2,274.9	62.250		
4,300.0	4,036.9	3,319.6	3,100.5	26.6	20.5	-152.38	527.4	-886.5	2,381.0	2,343.1	62.682		
4,400.0	4,129.4	3,391.9	3,165.1	27.3	21.1	-152.28	545.1	-913.7	2,450.1	2,411.2	63.088		
4,500.0	4,221.8	3,464.2	3,229.8	28.0	21.7	-152.18	562.7	-940.9	2,519.1	2,479.4	63.471		
4,600.0	4,314.2	3,536.5	3,294.4	28.7	22.3	-152.09	580.3	-968.1	2,588.1	2,547.5	63.833		
4,700.0	4,406.7	3,608.8	3,359.0	29.4	22.9	-152.01	597.9	-995.4	2,657.1	2,615.7	64.175		
4,800.0	4,499.1	3,681.1	3,423.6	30.1	23.5	-151.93	615.6	-1,022.6	2,726.1	2,683.9	64.498		
4,900.0	4,591.6	3,753.4	3,488.3	30.8	24.1	-151.85	633.2	-1,049.8	2,795.2	2,752.0	64.803		
5,000.0	4,684.0	3,825.7	3,552.9	31.5	24.7	-151.78	650.8	-1,077.0	2,864.2	2,820.2	65.093		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-16E - OH - Design #1												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	4,776.4	3,898.0	3,617.5	32.2	25.3	-151.71	668.4	-1,104.3	2,933.2	2,888.4	65.368		
5,200.0	4,868.9	3,970.3	3,682.1	32.9	25.9	-151.64	686.0	-1,131.5	3,002.3	2,956.5	65.628		
5,300.0	4,961.3	4,042.6	3,746.8	33.6	26.5	-151.58	703.7	-1,158.7	3,071.3	3,024.7	65.876		
5,400.0	5,053.7	4,114.9	3,811.4	34.3	27.1	-151.51	721.3	-1,185.9	3,140.3	3,092.8	66.111		
5,500.0	5,146.2	4,187.2	3,876.0	35.0	27.7	-151.46	738.9	-1,213.1	3,209.4	3,161.0	66.335		
5,600.0	5,238.6	4,259.5	3,940.6	35.7	28.4	-151.40	756.5	-1,240.4	3,278.4	3,229.2	66.547		
5,700.0	5,331.8	4,333.0	4,006.3	36.4	29.0	-152.38	774.5	-1,268.0	3,346.1	3,296.0	66.694		
5,800.0	5,426.5	4,409.0	4,074.2	36.9	29.6	-153.24	793.0	-1,296.6	3,410.9	3,359.8	66.713		
5,900.0	5,522.5	4,487.3	4,144.2	37.4	30.3	-153.95	812.1	-1,326.1	3,472.7	3,420.7	66.666		
6,000.0	5,619.7	4,567.7	4,216.0	37.9	31.0	-154.55	831.6	-1,356.4	3,531.4	3,478.4	66.564		
6,100.0	5,717.7	4,650.0	4,289.7	38.2	31.7	-155.04	851.7	-1,387.4	3,586.9	3,532.9	66.412		
6,200.0	5,816.6	4,734.3	4,365.0	38.5	32.4	-155.44	872.3	-1,419.1	3,639.2	3,584.2	66.221		
6,300.0	5,916.0	4,820.2	4,441.7	38.7	33.1	-155.75	893.2	-1,451.4	3,688.0	3,632.1	65.998		
6,400.0	6,015.7	4,907.6	4,519.9	38.8	33.9	-155.98	914.5	-1,484.4	3,733.4	3,676.6	65.758		
6,500.0	6,115.7	4,996.4	4,599.2	38.9	34.6	-86.14	936.1	-1,517.8	3,775.3	3,717.8	65.695		
6,600.0	6,215.7	5,085.8	4,679.1	38.9	35.4	-85.82	957.9	-1,551.4	3,815.5	3,757.5	65.738		
6,700.0	6,315.7	5,175.1	4,759.0	39.0	36.1	-85.51	979.7	-1,585.1	3,855.9	3,797.2	65.780		
6,800.0	6,415.7	5,264.4	4,838.9	39.0	36.9	-85.20	1,001.5	-1,618.8	3,896.2	3,837.5	65.821		
6,900.0	6,515.7	5,353.7	4,918.8	39.0	37.7	-84.89	1,023.3	-1,652.5	3,936.5	3,877.8	65.862		
7,000.0	6,615.7	5,443.0	5,000.0	39.1	38.5	-84.58	1,045.1	-1,686.2	3,976.8	3,918.1	65.903		
7,100.0	6,715.7	5,532.3	5,081.1	39.1	39.3	-84.27	1,066.9	-1,719.9	4,017.1	3,958.4	65.944		
7,200.0	6,815.7	5,621.6	5,162.2	39.1	40.1	-83.96	1,088.7	-1,753.6	4,057.4	3,998.7	65.985		
7,300.0	6,915.7	5,710.9	5,243.3	39.1	40.9	-83.65	1,110.5	-1,787.3	4,097.7	4,039.0	66.026		
7,400.0	7,015.7	5,800.2	5,324.4	39.2	41.7	-83.34	1,132.3	-1,821.0	4,138.0	4,079.3	66.067		
7,500.0	7,115.7	5,889.5	5,405.5	39.2	42.5	-83.03	1,154.1	-1,854.7	4,178.3	4,119.6	66.108		
7,600.0	7,215.7	5,978.8	5,486.6	39.2	43.3	-82.72	1,175.9	-1,888.4	4,218.6	4,159.9	66.149		
7,700.0	7,315.7	6,068.1	5,567.7	39.3	44.1	-82.41	1,197.7	-1,922.1	4,258.9	4,199.2	66.190		
7,800.0	7,415.7	6,157.4	5,648.8	39.3	44.9	-82.10	1,219.5	-1,955.8	4,299.2	4,239.5	66.231		
7,900.0	7,515.7	6,246.7	5,729.9	39.3	45.7	-81.79	1,241.3	-1,989.5	4,339.5	4,279.8	66.272		
8,000.0	7,615.7	6,336.0	5,811.0	39.3	46.5	-81.48	1,263.1	-2,023.2	4,379.8	4,319.1	66.313		
8,100.0	7,715.7	6,425.3	5,892.1	39.4	47.3	-81.17	1,284.9	-2,056.9	4,420.1	4,359.4	66.354		
8,200.0	7,815.7	6,514.6	5,973.2	39.4	48.1	-80.86	1,306.7	-2,090.6	4,460.4	4,399.7	66.395		
8,300.0	7,915.7	6,603.9	6,054.3	39.4	48.9	-80.55	1,328.5	-2,124.3	4,500.7	4,439.0	66.436		
8,400.0	8,015.7	6,693.2	6,135.4	39.5	49.7	-80.24	1,350.3	-2,158.0	4,541.0	4,479.3	66.477		
8,500.0	8,115.7	6,782.5	6,216.5	39.5	50.5	-79.93	1,372.1	-2,191.7	4,581.3	4,519.6	66.518		
8,600.0	8,215.7	6,871.8	6,297.6	39.5	51.3	-79.62	1,393.9	-2,225.4	4,621.6	4,559.9	66.559		
8,700.0	8,315.7	6,961.1	6,378.7	39.6	52.1	-79.31	1,415.7	-2,259.1	4,661.9	4,599.2	66.600		
8,800.0	8,415.7	7,050.4	6,459.8	39.6	52.9	-79.00	1,437.5	-2,292.8	4,702.2	4,639.5	66.641		
8,900.0	8,515.7	7,139.7	6,540.9	39.6	53.7	-78.69	1,459.3	-2,326.5	4,742.5	4,679.8	66.682		
9,000.0	8,615.7	7,229.0	6,622.0	39.6	54.5	-78.38	1,481.1	-2,360.2	4,782.8	4,719.1	66.723		
9,091.3	8,707.0	9,127.4	8,642.0	39.7	43.8	-82.85	1,183.8	-1,900.3	3,862.5	3,790.5	53.641		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-17E - OH - Design #1												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	-47.44	5.5	-5.9	8.1				
100.0	100.0	100.0	100.0	0.4	0.4	-47.44	5.5	-5.9	8.1	7.3	10.196		
200.0	200.0	200.0	200.0	1.2	1.2	-47.44	5.5	-5.9	8.1	5.6	3.269 CC		
300.0	300.0	300.0	300.0	1.7	1.7	-124.60	5.5	-5.9	8.7	5.4	2.636 ES, SF		
400.0	399.8	399.4	399.4	3.3	2.1	-146.96	5.4	-7.2	13.8	8.8	2.744		
500.0	499.3	497.4	497.2	4.6	3.5	-161.22	4.9	-12.4	28.0	20.2	3.582		
600.0	598.3	593.0	592.4	5.6	4.6	-166.79	4.1	-21.5	51.1	41.0	5.092		
700.0	696.6	685.7	684.2	6.5	5.0	-169.00	3.2	-34.1	82.3	71.1	7.353		
800.0	794.0	775.5	772.7	7.3	5.4	-169.07	4.2	-49.2	120.2	107.9	9.756		
900.0	890.3	861.5	857.0	8.0	6.0	-168.31	7.2	-66.2	164.5	151.0	12.175		
1,000.0	985.3	943.3	936.6	8.7	6.6	-167.29	11.8	-84.6	214.7	200.1	14.671		
1,100.0	1,078.9	1,020.5	1,011.0	9.4	7.2	-166.20	17.8	-104.1	270.6	255.0	17.306		
1,200.0	1,171.4	1,093.6	1,080.8	9.7	7.7	-165.41	24.9	-124.3	330.9	314.6	20.340		
1,300.0	1,263.8	1,164.0	1,147.5	10.0	8.1	-164.65	33.1	-145.4	392.9	376.1	23.287		
1,400.0	1,356.2	1,231.8	1,211.1	10.3	8.6	-163.86	42.2	-167.2	456.7	439.3	26.147		
1,500.0	1,448.7	1,300.0	1,274.3	10.6	9.0	-163.04	52.6	-190.7	522.2	504.1	28.848		
1,600.0	1,541.1	1,363.5	1,332.5	11.0	9.3	-162.28	63.2	-213.7	589.2	570.7	31.885		
1,700.0	1,633.6	1,437.2	1,399.9	11.3	9.5	-161.53	75.8	-240.7	656.6	637.5	34.502		
1,800.0	1,726.0	1,510.8	1,467.2	11.7	9.7	-160.92	88.4	-267.7	724.0	704.4	36.916		
1,900.0	1,818.4	1,584.4	1,534.6	12.1	10.0	-160.42	101.0	-294.6	791.5	771.2	39.135		
2,000.0	1,910.9	1,658.1	1,601.9	12.5	10.3	-159.99	113.6	-321.6	859.0	838.1	41.182		
2,100.0	2,003.3	1,731.7	1,669.2	12.9	10.5	-159.62	126.2	-348.6	926.5	905.0	43.073		
2,200.0	2,095.7	1,805.4	1,736.6	13.3	10.8	-159.31	138.8	-375.6	994.1	971.9	44.820		
2,300.0	2,188.2	1,879.0	1,803.9	13.8	11.1	-159.03	151.4	-402.6	1,061.6	1,038.7	46.427		
2,400.0	2,280.6	1,952.6	1,871.3	14.2	11.4	-158.79	164.0	-429.6	1,129.2	1,105.6	47.909		
2,500.0	2,373.1	2,026.3	1,938.6	14.7	11.8	-158.58	176.6	-456.6	1,196.8	1,172.5	49.292		
2,600.0	2,465.5	2,099.9	2,006.0	15.1	12.1	-158.38	189.2	-483.5	1,264.4	1,239.3	50.563		
2,700.0	2,557.9	2,173.5	2,073.3	15.6	12.5	-158.21	201.8	-510.5	1,332.0	1,306.2	51.739		
2,800.0	2,650.4	2,247.2	2,140.7	16.1	12.8	-158.05	214.4	-537.5	1,399.6	1,373.1	52.831		
2,900.0	2,742.8	2,320.8	2,208.0	16.8	13.2	-157.91	227.0	-564.5	1,467.2	1,439.9	53.846		
3,000.0	2,835.2	2,394.4	2,275.4	17.5	13.7	-157.78	239.6	-591.5	1,534.8	1,506.8	54.789		
3,100.0	2,927.7	2,468.1	2,342.7	18.2	14.1	-157.67	252.2	-618.5	1,602.4	1,573.6	55.666		
3,200.0	3,020.1	2,541.7	2,410.0	18.9	14.6	-157.56	264.8	-645.5	1,670.0	1,640.4	56.483		
3,300.0	3,112.6	2,615.4	2,477.4	19.6	15.1	-157.46	277.4	-672.4	1,737.6	1,707.3	57.247		
3,400.0	3,205.0	2,689.0	2,544.7	20.3	15.6	-157.36	290.0	-699.4	1,805.3	1,774.1	57.960		
3,500.0	3,297.4	2,762.6	2,612.1	21.0	16.1	-157.28	302.6	-726.4	1,872.9	1,840.9	58.627		
3,600.0	3,389.9	2,836.3	2,679.4	21.7	16.7	-157.20	315.2	-753.4	1,940.5	1,907.8	59.251		
3,700.0	3,482.3	2,909.9	2,746.8	22.4	17.2	-157.12	327.8	-780.4	2,008.1	1,974.6	59.838		
3,800.0	3,574.7	2,983.5	2,814.1	23.1	17.7	-157.05	340.4	-807.4	2,075.8	2,041.4	60.388		
3,900.0	3,667.2	3,057.2	2,881.5	23.8	18.3	-156.99	353.0	-834.4	2,143.4	2,108.2	60.905		
4,000.0	3,759.6	3,130.8	2,948.8	24.5	18.8	-156.93	365.6	-861.3	2,211.1	2,175.0	61.391		
4,100.0	3,852.1	3,204.4	3,016.1	25.2	19.4	-156.87	378.2	-888.3	2,278.7	2,241.8	61.850		
4,200.0	3,944.5	3,278.1	3,083.5	25.9	19.9	-156.81	390.8	-915.3	2,346.3	2,308.7	62.283		
4,300.0	4,036.9	3,351.7	3,150.8	26.6	20.5	-156.76	403.4	-942.3	2,414.0	2,375.5	62.691		
4,400.0	4,129.4	3,425.4	3,218.2	27.3	21.0	-156.71	416.0	-969.3	2,481.6	2,442.3	63.077		
4,500.0	4,221.8	3,499.0	3,285.5	28.0	21.6	-156.67	428.6	-996.3	2,549.3	2,509.1	63.442		
4,600.0	4,314.2	3,572.6	3,352.9	28.7	22.1	-156.62	441.2	-1,023.3	2,616.9	2,575.9	63.788		
4,700.0	4,406.7	3,646.3	3,420.2	29.4	22.7	-156.58	453.8	-1,050.2	2,684.5	2,642.7	64.115		
4,800.0	4,499.1	3,719.9	3,487.6	30.1	23.2	-156.54	466.4	-1,077.2	2,752.2	2,709.5	64.426		
4,900.0	4,591.6	3,793.5	3,554.9	30.8	23.8	-156.51	479.0	-1,104.2	2,819.8	2,776.3	64.721		
5,000.0	4,684.0	3,867.2	3,622.3	31.5	24.3	-156.47	491.6	-1,131.2	2,887.5	2,843.1	65.002		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-17E - OH - Design #1												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	4,776.4	3,940.8	3,689.6	32.2	24.9	-156.44	504.2	-1,158.2	2,955.1	2,909.8	65.268		
5,200.0	4,868.9	4,014.4	3,756.9	32.9	25.5	-156.40	516.8	-1,185.2	3,022.8	2,976.6	65.522		
5,300.0	4,961.3	4,088.1	3,824.3	33.6	26.0	-156.37	529.4	-1,212.1	3,090.4	3,043.4	65.764		
5,400.0	5,053.7	4,161.7	3,891.6	34.3	26.6	-156.34	542.0	-1,239.1	3,158.1	3,110.2	65.994		
5,500.0	5,146.2	4,235.4	3,959.0	35.0	27.1	-156.31	554.6	-1,266.1	3,225.7	3,177.0	66.214		
5,600.0	5,238.6	4,309.0	4,026.3	35.7	27.7	-156.29	567.2	-1,293.1	3,293.4	3,243.8	66.423		
5,700.0	5,331.8	4,383.9	4,094.8	36.4	28.3	-157.09	580.1	-1,320.6	3,359.6	3,309.1	66.561		
5,800.0	5,426.5	4,461.3	4,165.6	36.9	28.8	-157.80	593.3	-1,348.9	3,422.7	3,371.3	66.557		
5,900.0	5,522.5	4,541.1	4,238.6	37.4	29.5	-158.38	607.0	-1,378.2	3,482.7	3,430.3	66.480		
6,000.0	5,619.7	4,623.2	4,313.7	37.9	30.1	-158.87	621.0	-1,408.2	3,539.4	3,486.1	66.341		
6,100.0	5,717.7	4,707.3	4,390.6	38.2	30.7	-159.27	635.4	-1,439.1	3,592.8	3,538.5	66.148		
6,200.0	5,816.6	4,793.4	4,469.3	38.5	31.4	-159.58	650.1	-1,470.6	3,642.6	3,587.4	65.909		
6,300.0	5,916.0	4,881.2	4,549.6	38.7	32.0	-159.83	665.2	-1,502.8	3,688.9	3,632.7	65.634		
6,400.0	6,015.7	4,970.6	4,631.4	38.8	32.7	-160.00	680.5	-1,535.5	3,731.6	3,674.5	65.338		
6,500.0	6,115.7	5,061.4	4,714.4	38.9	33.4	-90.12	696.0	-1,568.8	3,770.6	3,712.8	65.225		
6,600.0	6,215.7	5,152.8	4,798.1	38.9	34.1	-89.87	711.6	-1,602.3	3,807.8	3,749.4	65.230		
6,700.0	6,315.7	5,244.4	4,881.8	39.0	34.8	-89.62	727.1	-1,635.8	3,841.5	3,781.8	65.006		
6,800.0	6,415.7	5,336.8	4,965.6	39.0	35.5	-89.37	742.6	-1,668.8	3,871.5	3,809.8	64.782		
6,900.0	6,515.7	5,429.2	5,050.0	39.0	36.2	-89.12	758.1	-1,701.8	3,901.5	3,837.8	64.558		
7,000.0	6,615.7	5,521.6	5,134.4	39.1	36.9	-88.87	773.6	-1,734.8	3,931.5	3,865.8	64.334		
7,100.0	6,715.7	5,614.0	5,218.8	39.1	37.6	-88.62	789.1	-1,767.8	3,961.5	3,893.8	64.110		
7,200.0	6,815.7	5,706.4	5,303.2	39.1	38.3	-88.37	804.6	-1,800.8	3,991.5	3,921.8	63.886		
7,300.0	6,915.7	5,798.8	5,387.6	39.1	39.0	-88.12	820.1	-1,833.8	4,021.5	3,949.8	63.662		
7,400.0	7,015.7	5,891.2	5,472.0	39.2	39.7	-87.87	835.6	-1,866.8	4,051.5	3,977.8	63.438		
7,500.0	7,115.7	5,983.6	5,556.4	39.2	40.4	-87.62	851.1	-1,899.8	4,081.5	3,999.8	63.214		
7,600.0	7,215.7	6,076.0	5,640.8	39.2	41.1	-87.37	866.6	-1,932.8	4,111.5	4,021.8	62.990		
7,700.0	7,315.7	6,168.4	5,725.2	39.3	41.8	-87.12	882.1	-1,965.8	4,141.5	4,043.8	62.766		
7,800.0	7,415.7	6,260.8	5,809.6	39.3	42.5	-86.87	897.6	-1,998.8	4,171.5	4,065.8	62.542		
7,900.0	7,515.7	6,353.2	5,894.0	39.3	43.2	-86.62	913.1	-2,031.8	4,201.5	4,087.8	62.318		
8,000.0	7,615.7	6,445.6	5,978.4	39.3	43.9	-86.37	928.6	-2,064.8	4,231.5	4,109.8	62.094		
8,100.0	7,715.7	6,538.0	6,062.8	39.4	44.6	-86.12	944.1	-2,097.8	4,261.5	4,131.8	61.870		
8,200.0	7,815.7	6,630.4	6,147.2	39.4	45.3	-85.87	959.6	-2,130.8	4,291.5	4,153.8	61.646		
8,300.0	7,915.7	6,722.8	6,231.6	39.4	46.0	-85.62	975.1	-2,163.8	4,321.5	4,175.8	61.422		
8,400.0	8,015.7	6,815.2	6,316.0	39.5	46.7	-85.37	990.6	-2,196.8	4,351.5	4,197.8	61.198		
8,500.0	8,115.7	6,907.6	6,400.4	39.5	47.4	-85.12	1,006.1	-2,229.8	4,381.5	4,219.8	60.974		
8,600.0	8,215.7	7,000.0	6,484.8	39.5	48.1	-84.87	1,021.6	-2,262.8	4,411.5	4,241.8	60.750		
8,700.0	8,315.7	7,092.4	6,569.2	39.6	48.8	-84.62	1,037.1	-2,295.8	4,441.5	4,263.8	60.526		
8,800.0	8,415.7	7,184.8	6,653.6	39.6	49.5	-84.37	1,052.6	-2,328.8	4,471.5	4,285.8	60.302		
8,900.0	8,515.7	7,277.2	6,738.0	39.6	50.2	-84.12	1,068.1	-2,361.8	4,501.5	4,307.8	60.078		
9,000.0	8,615.7	7,369.6	6,822.4	39.6	50.9	-83.87	1,083.6	-2,394.8	4,531.5	4,329.8	59.854		
9,091.3	8,707.0	7,461.9	6,906.7	39.7	51.6	-83.62	1,099.1	-2,427.8	4,561.5	4,351.8	59.630		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-18E - OH - Design #1											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 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	133.92	-5.5	5.7	7.9			
100.0	100.0	100.0	100.0	0.4	0.4	133.92	-5.5	5.7	7.9	7.1	9.936	
200.0	200.0	200.0	200.0	1.2	1.2	133.92	-5.5	5.7	7.9	5.4	3.186	
300.0	300.0	300.0	300.0	1.7	1.5	76.43	-5.6	5.1	7.2	4.2	2.403	Level 1
331.1	331.1	331.1	331.1	2.2	1.9	93.47	-5.8	4.3	6.9	3.6	2.106	Level 1, CC, ES
400.0	399.8	399.5	399.4	3.3	2.9	141.33	-6.5	0.9	10.3	5.1	1.969	Level 2, SF
500.0	499.3	497.1	496.6	4.6	4.2	168.52	-8.2	-7.3	26.9	18.3	3.150	
600.0	598.3	591.9	590.6	5.6	5.3	176.00	-10.8	-19.2	53.0	42.4	4.982	
700.0	696.6	684.0	681.5	6.5	5.6	179.59	-13.1	-34.2	87.0	75.2	7.360	
800.0	794.0	772.7	768.5	7.3	6.1	-177.49	-13.4	-51.6	127.5	114.5	9.781	
900.0	890.3	857.3	850.9	8.0	6.7	-175.10	-12.0	-70.8	174.3	160.1	12.275	
1,000.0	985.3	937.4	928.2	8.7	7.2	-173.11	-9.1	-91.2	227.1	211.8	14.881	
1,100.0	1,078.9	1,012.5	1,000.1	9.4	7.7	-171.41	-5.0	-112.4	285.5	269.3	17.608	
1,200.0	1,171.4	1,083.3	1,067.3	9.7	8.2	-170.13	0.1	-134.2	348.2	331.4	20.730	
1,300.0	1,263.8	1,151.3	1,131.2	10.0	8.6	-169.03	6.2	-156.7	412.8	395.4	23.777	
1,400.0	1,356.2	1,216.9	1,192.2	10.3	8.9	-168.02	13.0	-179.9	479.0	461.2	26.821	
1,500.0	1,448.7	1,290.8	1,260.5	10.6	9.2	-167.05	21.3	-206.8	546.1	527.7	29.746	
1,600.0	1,541.1	1,364.7	1,328.9	11.0	9.4	-166.29	29.5	-233.7	613.2	594.3	32.452	
1,700.0	1,633.6	1,438.6	1,397.2	11.3	9.7	-165.68	37.8	-260.6	680.4	660.9	34.962	
1,800.0	1,726.0	1,512.5	1,465.6	11.7	9.9	-165.18	46.0	-287.5	747.6	727.6	37.290	
1,900.0	1,818.4	1,586.4	1,533.9	12.1	10.2	-164.76	54.3	-314.3	814.8	794.2	39.443	
2,000.0	1,910.9	1,660.3	1,602.2	12.5	10.5	-164.40	62.5	-341.2	882.1	860.8	41.435	
2,100.0	2,003.3	1,734.2	1,670.6	12.9	10.8	-164.10	70.8	-368.1	949.4	927.4	43.280	
2,200.0	2,095.7	1,808.1	1,738.9	13.3	11.1	-163.83	79.1	-395.0	1,016.6	994.1	44.990	
2,300.0	2,188.2	1,882.1	1,807.3	13.8	11.4	-163.60	87.3	-421.9	1,083.9	1,060.7	46.571	
2,400.0	2,280.6	1,956.0	1,875.6	14.2	11.7	-163.39	95.6	-448.7	1,151.2	1,127.3	48.036	
2,500.0	2,373.1	2,029.9	1,944.0	14.7	12.1	-163.21	103.8	-475.6	1,218.6	1,193.9	49.397	
2,600.0	2,465.5	2,103.8	2,012.3	15.1	12.4	-163.05	112.1	-502.5	1,285.9	1,260.5	50.661	
2,700.0	2,557.9	2,177.7	2,080.6	15.6	12.8	-162.90	120.3	-529.4	1,353.2	1,327.1	51.833	
2,800.0	2,650.4	2,251.6	2,149.0	16.1	13.1	-162.77	128.6	-556.3	1,420.5	1,393.7	52.925	
2,900.0	2,742.8	2,325.5	2,217.3	16.8	13.5	-162.65	136.8	-583.2	1,487.9	1,460.3	53.943	
3,000.0	2,835.2	2,399.4	2,285.7	17.5	13.9	-162.54	145.1	-610.0	1,555.2	1,526.9	54.892	
3,100.0	2,927.7	2,473.3	2,354.0	18.2	14.3	-162.43	153.3	-636.9	1,622.5	1,593.4	55.777	
3,200.0	3,020.1	2,547.2	2,422.3	18.9	14.8	-162.34	161.6	-663.8	1,689.9	1,660.0	56.605	
3,300.0	3,112.6	2,621.1	2,490.7	19.6	15.2	-162.25	169.9	-690.7	1,757.2	1,726.6	57.380	
3,400.0	3,205.0	2,695.0	2,559.0	20.3	15.7	-162.17	178.1	-717.6	1,824.5	1,793.1	58.107	
3,500.0	3,297.4	2,768.9	2,627.4	21.0	16.2	-162.10	186.4	-744.5	1,891.9	1,859.7	58.788	
3,600.0	3,389.9	2,842.8	2,695.7	21.7	16.7	-162.03	194.6	-771.3	1,959.2	1,926.3	59.427	
3,700.0	3,482.3	2,916.7	2,764.1	22.4	17.2	-161.97	202.9	-798.2	2,026.6	1,992.8	60.029	
3,800.0	3,574.7	2,990.6	2,832.4	23.1	17.7	-161.91	211.1	-825.1	2,093.9	2,059.4	60.596	
3,900.0	3,667.2	3,064.5	2,900.7	23.8	18.2	-161.85	219.4	-852.0	2,161.3	2,125.9	61.129	
4,000.0	3,759.6	3,138.4	2,969.1	24.5	18.7	-161.80	227.6	-878.9	2,228.6	2,192.5	61.633	
4,100.0	3,852.1	3,212.3	3,037.4	25.2	19.2	-161.75	235.9	-905.8	2,296.0	2,259.0	62.109	
4,200.0	3,944.5	3,286.2	3,105.8	25.9	19.7	-161.70	244.2	-932.6	2,363.3	2,325.6	62.558	
4,300.0	4,036.9	3,360.1	3,174.1	26.6	20.2	-161.66	252.4	-959.5	2,430.7	2,392.1	62.983	
4,400.0	4,129.4	3,434.0	3,242.5	27.3	20.7	-161.61	260.7	-986.4	2,498.1	2,458.6	63.386	
4,500.0	4,221.8	3,507.9	3,310.8	28.0	21.3	-161.57	268.9	-1,013.3	2,565.4	2,525.2	63.768	
4,600.0	4,314.2	3,581.8	3,379.1	28.7	21.8	-161.53	277.2	-1,040.2	2,632.8	2,591.7	64.130	
4,700.0	4,406.7	3,655.7	3,447.5	29.4	22.3	-161.50	285.4	-1,067.1	2,700.1	2,658.3	64.474	
4,800.0	4,499.1	3,729.6	3,515.8	30.1	22.8	-161.46	293.7	-1,093.9	2,767.5	2,724.8	64.801	
4,900.0	4,591.6	3,803.5	3,584.2	30.8	23.3	-161.43	301.9	-1,120.8	2,834.8	2,791.3	65.113	

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-18E - OH - Design #1												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	
5,000.0	4,684.0	3,877.4	3,652.5	31.5	23.8	-161.40	310.2	-1,147.7	2,902.2	2,857.8	65.409		
5,100.0	4,776.4	3,951.3	3,720.8	32.2	24.4	-161.37	318.4	-1,174.6	2,969.6	2,924.4	65.691		
5,200.0	4,868.9	4,025.2	3,789.2	32.9	24.9	-161.34	326.7	-1,201.5	3,036.9	2,990.9	65.960		
5,300.0	4,961.3	4,099.1	3,857.5	33.6	25.4	-161.32	335.0	-1,228.3	3,104.3	3,057.4	66.216		
5,400.0	5,053.7	4,173.0	3,925.9	34.3	25.9	-161.29	343.2	-1,255.2	3,171.6	3,123.9	66.461		
5,500.0	5,146.2	4,246.9	3,994.2	35.0	26.5	-161.26	351.5	-1,282.1	3,239.0	3,190.4	66.695		
5,600.0	5,238.6	4,320.8	4,062.6	35.7	27.0	-161.24	359.7	-1,309.0	3,306.4	3,257.0	66.918		
5,700.0	5,331.8	4,396.0	4,132.1	36.4	27.5	-161.88	368.1	-1,336.4	3,372.3	3,322.0	67.064		
5,800.0	5,426.5	4,473.8	4,204.1	36.9	28.1	-162.43	376.8	-1,364.7	3,435.0	3,383.7	67.053		
5,900.0	5,522.5	4,554.1	4,278.3	37.4	28.6	-162.89	385.8	-1,393.9	3,494.4	3,442.2	66.964		
6,000.0	5,619.7	4,636.7	4,354.7	37.9	29.2	-163.27	395.0	-1,423.9	3,550.4	3,497.3	66.807		
6,100.0	5,717.7	4,721.5	4,433.1	38.2	29.8	-163.58	404.5	-1,454.8	3,602.9	3,548.8	66.589		
6,200.0	5,816.6	4,808.3	4,513.4	38.5	30.4	-163.82	414.2	-1,486.3	3,651.9	3,596.8	66.320		
6,300.0	5,916.0	4,896.9	4,595.4	38.7	31.1	-164.00	424.1	-1,518.6	3,697.1	3,641.1	66.012		
6,400.0	6,015.7	4,987.2	4,678.9	38.8	31.7	-164.13	434.2	-1,551.4	3,738.7	3,681.7	65.679		
6,500.0	6,115.7	5,079.0	4,763.7	38.9	32.4	-94.21	444.4	-1,584.8	3,776.4	3,718.7	65.536		
6,600.0	6,215.7	5,171.5	4,849.3	38.9	33.0	-94.01	454.7	-1,618.5	3,812.2	3,754.0	65.525		
6,700.0	6,315.7	5,263.9	4,935.7	39.0	33.7	-92.39	465.1	-1,652.2	3,841.3	3,772.4	55.758		
6,800.0	6,415.7	5,356.9	5,022.1	39.0	34.3	-92.39	475.1	-1,685.9	3,841.3	3,772.4	55.718		
6,900.0	6,515.7	5,449.9	5,108.1	39.0	34.9	-92.39	485.1	-1,719.6	3,841.3	3,772.3	55.678		
7,000.0	6,615.7	5,542.9	5,194.1	39.1	35.5	-92.39	495.1	-1,753.3	3,841.3	3,772.3	55.637		
7,100.0	6,715.7	5,635.9	5,279.1	39.1	36.1	-92.39	505.1	-1,787.0	3,841.3	3,772.2	55.597		
7,200.0	6,815.7	5,728.9	5,364.1	39.1	36.7	-92.39	515.1	-1,820.7	3,841.3	3,772.2	55.556		
7,300.0	6,915.7	5,821.9	5,449.1	39.1	37.3	-92.39	525.1	-1,854.4	3,841.3	3,772.1	55.515		
7,400.0	7,015.7	5,914.9	5,534.1	39.2	37.9	-92.39	535.1	-1,888.1	3,841.3	3,772.1	55.473		
7,500.0	7,115.7	6,007.9	5,619.1	39.2	38.5	-92.39	545.1	-1,921.8	3,841.3	3,772.0	55.432		
7,600.0	7,215.7	6,100.9	5,704.1	39.2	39.1	-92.39	555.1	-1,955.5	3,841.3	3,772.0	55.390		
7,700.0	7,315.7	6,193.9	5,789.1	39.3	39.7	-92.39	565.1	-1,989.2	3,841.3	3,771.9	55.348		
7,800.0	7,415.7	6,286.9	5,874.1	39.3	40.3	-92.39	575.1	-2,022.9	3,841.3	3,771.9	55.306		
7,900.0	7,515.7	6,379.9	5,959.1	39.3	40.9	-92.39	585.1	-2,056.6	3,841.3	3,771.8	55.264		
8,000.0	7,615.7	6,472.9	6,044.1	39.3	41.5	-92.39	595.1	-2,090.3	3,841.3	3,771.8	55.222		
8,100.0	7,715.7	6,565.9	6,129.1	39.4	42.1	-92.39	605.1	-2,124.0	3,841.3	3,771.7	55.179		
8,200.0	7,815.7	6,658.9	6,214.1	39.4	42.7	-92.39	615.1	-2,157.7	3,841.3	3,771.6	55.136		
8,300.0	7,915.7	6,751.9	6,299.1	39.4	43.3	-92.39	625.1	-2,191.4	3,841.3	3,771.6	55.093		
8,400.0	8,015.7	6,844.9	6,384.1	39.5	43.9	-92.39	635.1	-2,225.1	3,841.3	3,771.5	55.049		
8,500.0	8,115.7	6,937.9	6,469.1	39.5	44.5	-92.39	645.1	-2,258.8	3,841.3	3,771.5	55.006		
8,600.0	8,215.7	7,030.9	6,554.1	39.5	45.1	-92.39	655.1	-2,292.5	3,841.3	3,771.4	54.962		
8,700.0	8,315.7	7,123.9	6,639.1	39.6	45.7	-92.39	665.1	-2,326.2	3,841.3	3,771.4	54.918		
8,800.0	8,415.7	7,216.9	6,724.1	39.6	46.3	-92.39	675.1	-2,359.9	3,841.3	3,771.3	54.874		
8,900.0	8,515.7	7,309.9	6,809.1	39.6	46.9	-92.39	685.1	-2,393.6	3,841.3	3,771.3	54.830		
9,000.0	8,615.7	7,402.9	6,894.1	39.6	47.5	-92.39	695.1	-2,427.3	3,841.3	3,771.2	54.789		
9,091.3	8,707.0	7,495.2	6,979.4	39.7	48.1	-92.39	705.1	-2,461.0	3,842.2	3,772.0	54.786		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-11W - OH - Design #1												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 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	-46.69	65.9	-69.9	96.1				
100.0	100.0	100.0	100.0	0.4	0.4	-46.69	65.9	-69.9	96.1	95.3	121.340		
200.0	200.0	200.0	200.0	1.2	1.2	-46.69	65.9	-69.9	96.1	93.6	38.902	CC, ES	
300.0	300.0	299.3	299.2	1.7	1.7	-116.62	67.0	-69.3	96.9	93.9	31.549		
400.0	399.8	398.2	398.0	3.3	3.3	-116.33	71.6	-66.7	100.7	96.4	23.562		
500.0	499.3	496.8	496.2	4.6	4.5	-115.85	79.9	-62.0	107.4	102.0	20.091		
600.0	598.3	595.2	593.6	5.6	5.5	-115.24	91.9	-55.2	117.0	110.8	18.652		
700.0	696.6	693.0	689.8	6.5	6.4	-114.55	107.3	-46.4	129.6	122.5	18.149	SF	
800.0	794.0	790.3	784.6	7.3	7.2	-113.84	126.2	-35.7	145.1	137.1	18.150		
900.0	890.3	886.8	877.7	8.0	7.9	-113.12	148.4	-23.0	163.4	154.6	18.431		
1,000.0	985.3	982.6	968.9	8.7	8.6	-112.40	173.8	-8.6	184.5	174.8	18.858		
1,100.0	1,078.9	1,077.5	1,057.9	9.4	9.3	-111.70	202.2	7.5	208.4	197.6	19.343		
1,200.0	1,171.4	1,171.5	1,144.8	9.7	9.9	-111.22	233.4	25.3	234.5	222.8	20.029		
1,300.0	1,263.8	1,264.6	1,229.3	10.0	10.4	-110.13	267.4	44.6	261.7	249.0	20.520		
1,400.0	1,356.2	1,356.6	1,311.2	10.3	11.0	-108.52	303.9	65.4	290.3	276.4	20.904		
1,500.0	1,448.7	1,447.3	1,390.2	10.6	11.5	-106.58	342.6	87.4	320.4	305.3	21.230		
1,600.0	1,541.1	1,536.3	1,465.9	11.0	12.0	-104.43	383.2	110.5	352.3	336.0	21.579		
1,700.0	1,633.6	1,627.8	1,542.3	11.3	12.3	-102.18	427.0	135.3	385.8	368.2	21.906		
1,800.0	1,726.0	1,720.9	1,620.0	11.7	12.6	-100.24	471.6	160.7	419.8	400.8	22.151		
1,900.0	1,818.4	1,814.1	1,697.7	12.1	12.9	-98.58	516.3	186.1	454.1	433.8	22.362		
2,000.0	1,910.9	1,907.2	1,775.4	12.5	13.2	-97.15	560.9	211.5	488.8	467.1	22.552		
2,100.0	2,003.3	2,000.4	1,853.1	12.9	13.6	-95.91	605.6	236.9	523.7	500.7	22.727		
2,200.0	2,095.7	2,093.5	1,930.8	13.3	13.9	-94.83	650.2	262.3	558.8	534.4	22.883		
2,300.0	2,188.2	2,186.6	2,008.5	13.8	14.3	-93.87	694.8	287.6	594.0	568.2	23.026		
2,400.0	2,280.6	2,279.8	2,086.2	14.2	14.6	-93.02	739.5	313.0	629.4	602.2	23.154		
2,500.0	2,373.1	2,372.9	2,164.0	14.7	15.1	-92.25	784.1	338.4	664.9	636.4	23.316		
2,600.0	2,465.5	2,466.1	2,241.7	15.1	16.0	-91.57	828.8	363.8	700.5	670.6	23.407		
2,700.0	2,557.9	2,559.2	2,319.4	15.6	16.9	-90.95	873.4	389.2	736.2	704.8	23.510		
2,800.0	2,650.4	2,652.3	2,397.1	16.1	17.8	-90.39	918.1	414.5	771.9	739.2	23.608		
2,900.0	2,742.8	2,745.5	2,474.8	16.8	18.7	-89.87	962.7	439.9	807.7	773.6	23.699		
3,000.0	2,835.2	2,838.6	2,552.5	17.5	19.5	-89.40	1,007.4	465.3	843.5	808.1	23.784		
3,100.0	2,927.7	2,931.8	2,630.2	18.2	20.4	-88.97	1,052.0	490.7	879.4	842.6	23.864		
3,200.0	3,020.1	3,024.9	2,707.9	18.9	21.3	-88.58	1,096.7	516.1	915.3	877.1	23.938		
3,300.0	3,112.6	3,118.0	2,785.6	19.6	22.2	-88.21	1,141.3	541.5	951.3	911.7	24.008		
3,400.0	3,205.0	3,211.2	2,863.3	20.3	23.0	-87.87	1,185.9	566.8	987.3	946.3	24.073		
3,500.0	3,297.4	3,304.3	2,941.0	21.0	23.9	-87.55	1,230.6	592.2	1,023.3	980.9	24.135		
3,600.0	3,389.9	3,397.5	3,018.7	21.7	24.8	-87.25	1,275.2	617.6	1,059.4	1,015.6	24.193		
3,700.0	3,482.3	3,490.6	3,096.4	22.4	25.7	-86.98	1,319.9	643.0	1,095.4	1,050.3	24.247		
3,800.0	3,574.7	3,583.8	3,174.1	23.1	26.6	-86.72	1,364.5	668.4	1,131.5	1,085.0	24.298		
3,900.0	3,667.2	3,676.9	3,251.8	23.8	27.5	-86.48	1,409.2	693.8	1,167.6	1,119.7	24.346		
4,000.0	3,759.6	3,770.0	3,329.5	24.5	28.3	-86.25	1,453.8	719.1	1,203.8	1,154.4	24.392		
4,100.0	3,852.1	3,863.2	3,407.2	25.2	29.2	-86.03	1,498.5	744.5	1,239.9	1,189.2	24.435		
4,200.0	3,944.5	3,956.3	3,484.9	25.9	30.1	-85.83	1,543.1	769.9	1,276.1	1,223.9	24.476		
4,300.0	4,036.9	4,049.5	3,562.6	26.6	31.0	-85.64	1,587.8	795.3	1,312.2	1,258.7	24.515		
4,400.0	4,129.4	4,142.6	3,640.3	27.3	31.9	-85.46	1,632.4	820.7	1,348.4	1,293.5	24.552		
4,500.0	4,221.8	4,235.7	3,718.0	28.0	32.8	-85.29	1,677.0	846.1	1,384.6	1,328.3	24.587		
4,600.0	4,314.2	4,328.9	3,795.7	28.7	33.7	-85.12	1,721.7	871.4	1,420.8	1,363.1	24.621		
4,700.0	4,406.7	4,422.0	3,873.4	29.4	34.5	-84.97	1,766.3	896.8	1,457.0	1,397.9	24.652		
4,800.0	4,499.1	4,515.2	3,951.1	30.1	35.4	-84.82	1,811.0	922.2	1,493.3	1,432.8	24.683		
4,900.0	4,591.6	4,608.3	4,028.8	30.8	36.3	-84.68	1,855.6	947.6	1,529.5	1,467.6	24.711		
5,000.0	4,684.0	4,701.5	4,106.5	31.5	37.2	-84.55	1,900.3	973.0	1,565.7	1,502.5	24.739		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-11W - OH - Design #1												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 Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,776.4	4,794.6	4,184.2	32.2	38.1	-84.42	1,944.9	998.4	1,602.0	1,537.3	24.765		
5,200.0	4,868.9	4,887.7	4,261.9	32.9	39.0	-84.30	1,989.6	1,023.7	1,638.2	1,572.2	24.791		
5,300.0	4,961.3	4,980.9	4,339.6	33.6	39.9	-84.18	2,034.2	1,049.1	1,674.5	1,607.0	24.815		
5,400.0	5,053.7	5,074.0	4,417.3	34.3	40.8	-84.07	2,078.9	1,074.5	1,710.8	1,641.9	24.838		
5,500.0	5,146.2	5,167.2	4,495.1	35.0	41.6	-83.96	2,123.5	1,099.9	1,747.0	1,676.8	24.860		
5,600.0	5,238.6	5,260.3	4,572.8	35.7	42.5	-83.86	2,168.1	1,125.3	1,783.3	1,711.6	24.881		
5,700.0	5,331.8	5,353.3	4,650.3	36.4	43.4	-84.64	2,212.7	1,150.6	1,819.8	1,746.8	24.922		
5,800.0	5,426.5	5,445.8	4,727.5	36.9	44.3	-85.33	2,257.0	1,175.8	1,856.7	1,782.4	25.002		
5,900.0	5,522.5	5,537.6	4,804.1	37.4	45.2	-85.90	2,301.1	1,200.8	1,894.0	1,818.6	25.121		
6,000.0	5,619.7	5,685.5	4,928.6	37.9	46.5	-86.04	2,370.5	1,240.3	1,931.1	1,853.8	24.993		
6,100.0	5,717.7	5,914.8	5,130.7	38.2	48.4	-85.76	2,464.5	1,293.8	1,963.3	1,883.3	24.550		
6,200.0	5,816.6	6,157.8	5,355.4	38.5	50.0	-85.50	2,544.5	1,339.2	1,989.1	1,906.9	24.205		
6,300.0	5,916.0	6,412.2	5,599.8	38.7	51.2	-85.31	2,605.6	1,374.0	2,007.9	1,924.2	23.980		
6,400.0	6,015.7	6,675.0	5,858.8	38.8	51.9	-85.19	2,643.5	1,395.6	2,019.2	1,934.7	23.894		
6,500.0	6,115.7	6,932.4	6,115.7	38.9	52.2	-15.17	2,655.5	1,402.4	2,022.7	1,938.2	23.956		
6,600.0	6,215.7	7,032.4	6,215.7	38.9	52.2	-15.17	2,655.5	1,402.4	2,022.7	1,938.1	23.933		
6,700.0	6,315.7	7,132.4	6,315.7	39.0	52.2	-15.17	2,655.5	1,402.4	2,022.7	1,938.1	23.918		
6,800.0	6,415.7	7,232.4	6,415.7	39.0	52.2	-15.17	2,655.5	1,402.4	2,022.7	1,938.0	23.904		
6,900.0	6,515.7	7,332.4	6,515.7	39.0	52.2	-15.17	2,655.5	1,402.4	2,022.7	1,938.0	23.889		
7,000.0	6,615.7	7,432.4	6,615.7	39.1	52.2	-15.17	2,655.5	1,402.4	2,022.7	1,937.9	23.875		
7,100.0	6,715.7	7,532.4	6,715.7	39.1	52.3	-15.17	2,655.5	1,402.4	2,022.7	1,937.9	23.860		
7,200.0	6,815.7	7,632.4	6,815.7	39.1	52.3	-15.17	2,655.5	1,402.4	2,022.7	1,937.8	23.845		
7,300.0	6,915.7	7,732.4	6,915.7	39.1	52.3	-15.17	2,655.5	1,402.4	2,022.7	1,937.8	23.830		
7,400.0	7,015.7	7,832.4	7,015.7	39.2	52.3	-15.17	2,655.5	1,402.4	2,022.7	1,937.7	23.815		
7,500.0	7,115.7	7,932.4	7,115.7	39.2	52.3	-15.17	2,655.5	1,402.4	2,022.7	1,937.7	23.800		
7,600.0	7,215.7	8,032.4	7,215.7	39.2	52.3	-15.17	2,655.5	1,402.4	2,022.7	1,937.6	23.785		
7,700.0	7,315.7	8,132.4	7,315.7	39.3	52.4	-15.17	2,655.5	1,402.4	2,022.7	1,937.6	23.770		
7,800.0	7,415.7	8,232.4	7,415.7	39.3	52.4	-15.17	2,655.5	1,402.4	2,022.7	1,937.5	23.755		
7,900.0	7,515.7	8,332.4	7,515.7	39.3	52.4	-15.17	2,655.5	1,402.4	2,022.7	1,937.5	23.739		
8,000.0	7,615.7	8,432.4	7,615.7	39.3	52.4	-15.17	2,655.5	1,402.4	2,022.7	1,937.4	23.724		
8,100.0	7,715.7	8,532.4	7,715.7	39.4	52.4	-15.17	2,655.5	1,402.4	2,022.7	1,937.4	23.709		
8,200.0	7,815.7	8,632.4	7,815.7	39.4	52.4	-15.17	2,655.5	1,402.4	2,022.7	1,937.3	23.693		
8,300.0	7,915.7	8,732.4	7,915.7	39.4	52.5	-15.17	2,655.5	1,402.4	2,022.7	1,937.2	23.678		
8,400.0	8,015.7	8,832.4	8,015.7	39.5	52.5	-15.17	2,655.5	1,402.4	2,022.7	1,937.2	23.662		
8,500.0	8,115.7	8,932.4	8,115.7	39.5	52.5	-15.17	2,655.5	1,402.4	2,022.7	1,937.1	23.647		
8,600.0	8,215.7	9,032.4	8,215.7	39.5	52.5	-15.17	2,655.5	1,402.4	2,022.7	1,937.1	23.631		
8,700.0	8,315.7	9,132.4	8,315.7	39.6	52.5	-15.17	2,655.5	1,402.4	2,022.7	1,937.0	23.615		
8,800.0	8,415.7	9,232.4	8,415.7	39.6	52.5	-15.17	2,655.5	1,402.4	2,022.7	1,937.0	23.600		
8,900.0	8,515.7	9,332.4	8,515.7	39.6	52.6	-15.17	2,655.5	1,402.4	2,022.7	1,936.9	23.584		
9,000.0	8,615.7	9,432.4	8,615.7	39.6	52.6	-15.17	2,655.5	1,402.4	2,022.7	1,936.8	23.568		
9,013.5	8,629.2	9,445.9	8,629.2	39.6	52.6	-15.17	2,655.5	1,402.4	2,022.7	1,936.8	23.566		
9,091.3	8,707.0	9,518.7	8,702.0	39.7	52.6	-15.17	2,655.5	1,402.4	2,022.7	1,936.8	23.548		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-12W - OH - Design #1												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	-46.77	54.8	-58.3	80.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.77	54.8	-58.3	80.0	79.2	101.031		
200.0	200.0	200.0	200.0	1.2	1.2	-46.77	54.8	-58.3	80.0	77.6	32.391 CC, ES		
300.0	300.0	299.4	299.4	1.7	2.4	-116.00	56.6	-57.1	80.9	77.6	24.479		
400.0	399.8	398.7	398.5	3.3	3.9	-114.91	61.9	-53.4	84.4	80.0	19.047		
500.0	499.3	497.8	497.0	4.6	5.0	-113.67	70.8	-47.4	90.6	85.1	16.740		
600.0	598.3	596.5	594.5	5.6	6.0	-112.42	83.0	-39.0	99.4	93.1	15.851		
700.0	696.6	694.8	691.0	6.5	6.8	-111.22	98.7	-28.3	110.8	103.7	15.641 SF		
800.0	794.0	792.6	786.0	7.3	7.6	-110.12	117.7	-15.3	124.8	116.9	15.798		
900.0	890.3	889.8	879.4	8.0	8.3	-109.14	139.8	-0.1	141.4	132.6	16.152		
1,000.0	985.3	986.2	970.9	8.7	8.9	-108.26	165.0	17.1	160.5	150.8	16.595		
1,100.0	1,078.9	1,082.0	1,060.4	9.4	9.5	-107.47	193.1	36.4	182.0	171.3	17.058		
1,200.0	1,171.4	1,176.9	1,147.6	9.7	10.1	-106.85	224.1	57.5	205.5	193.8	17.642		
1,300.0	1,263.8	1,271.1	1,232.5	10.0	10.7	-105.54	257.6	80.5	230.2	217.5	18.041		
1,400.0	1,356.2	1,364.2	1,314.7	10.3	11.3	-103.64	293.6	105.1	256.3	242.4	18.337		
1,500.0	1,448.7	1,458.1	1,396.2	10.6	11.7	-101.44	332.3	131.6	283.9	268.6	18.588		
1,600.0	1,541.1	1,553.6	1,478.8	11.0	12.1	-99.53	371.9	158.7	311.9	295.3	18.792		
1,700.0	1,633.6	1,649.1	1,561.4	11.3	12.4	-97.93	411.5	185.8	340.2	322.3	18.969		
1,800.0	1,726.0	1,744.7	1,643.9	11.7	12.7	-96.57	451.1	212.9	368.7	349.4	19.119		
1,900.0	1,818.4	1,840.2	1,726.5	12.1	13.0	-95.41	490.6	240.0	397.4	376.8	19.248		
2,000.0	1,910.9	1,935.7	1,809.1	12.5	13.4	-94.41	530.2	267.0	426.2	404.2	19.361		
2,100.0	2,003.3	2,031.2	1,891.7	12.9	13.8	-93.53	569.8	294.1	455.1	431.7	19.461		
2,200.0	2,095.7	2,126.7	1,974.3	13.3	14.1	-92.75	609.4	321.2	484.1	459.4	19.551		
2,300.0	2,188.2	2,222.2	2,056.9	13.8	14.5	-92.07	649.0	348.3	513.2	487.0	19.631		
2,400.0	2,280.6	2,317.7	2,139.5	14.2	14.9	-91.45	688.6	375.4	542.3	514.8	19.701		
2,500.0	2,373.1	2,413.2	2,222.1	14.7	15.3	-90.90	728.2	402.5	571.5	542.6	19.771		
2,600.0	2,465.5	2,508.7	2,304.7	15.1	16.0	-90.41	767.8	429.6	600.7	570.4	19.835		
2,700.0	2,557.9	2,604.2	2,387.2	15.6	16.8	-89.95	807.4	456.7	630.0	598.3	19.888		
2,800.0	2,650.4	2,699.8	2,469.8	16.1	17.6	-89.54	846.9	483.8	659.3	626.2	19.938		
2,900.0	2,742.8	2,795.3	2,552.4	16.8	18.5	-89.17	886.5	510.9	688.6	654.1	19.984		
3,000.0	2,835.2	2,890.8	2,635.0	17.5	19.3	-88.82	926.1	538.0	718.0	682.1	20.027		
3,100.0	2,927.7	2,986.3	2,717.6	18.2	20.1	-88.50	965.7	565.1	747.3	710.1	20.066		
3,200.0	3,020.1	3,081.8	2,800.2	18.9	20.9	-88.21	1,005.3	592.2	776.7	738.1	20.102		
3,300.0	3,112.6	3,177.3	2,882.8	19.6	21.8	-87.94	1,044.9	619.3	806.1	766.1	20.136		
3,400.0	3,205.0	3,272.8	2,965.4	20.3	22.6	-87.68	1,084.5	646.3	835.5	794.1	20.167		
3,500.0	3,297.4	3,368.3	3,048.0	21.0	23.4	-87.45	1,124.1	673.4	865.0	822.2	20.196		
3,600.0	3,389.9	3,463.8	3,130.5	21.7	24.3	-87.22	1,163.7	700.5	894.4	850.2	20.223		
3,700.0	3,482.3	3,559.3	3,213.1	22.4	25.1	-87.02	1,203.2	727.6	923.9	878.3	20.248		
3,800.0	3,574.7	3,654.9	3,295.7	23.1	25.9	-86.82	1,242.8	754.7	953.4	906.3	20.272		
3,900.0	3,667.2	3,750.4	3,378.3	23.8	26.8	-86.64	1,282.4	781.8	982.8	934.4	20.294		
4,000.0	3,759.6	3,845.9	3,460.9	24.5	27.6	-86.47	1,322.0	808.9	1,012.3	962.5	20.315		
4,100.0	3,852.1	3,941.4	3,543.5	25.2	28.4	-86.31	1,361.6	836.0	1,041.8	990.6	20.334		
4,200.0	3,944.5	4,036.9	3,626.1	25.9	29.2	-86.15	1,401.2	863.1	1,071.3	1,018.7	20.353		
4,300.0	4,036.9	4,132.4	3,708.7	26.6	30.1	-86.01	1,440.8	890.2	1,100.8	1,046.8	20.370		
4,400.0	4,129.4	4,227.9	3,791.3	27.3	30.9	-85.87	1,480.4	917.3	1,130.4	1,074.9	20.386		
4,500.0	4,221.8	4,323.4	3,873.8	28.0	31.7	-85.74	1,520.0	944.4	1,159.9	1,103.0	20.402		
4,600.0	4,314.2	4,418.9	3,956.4	28.7	32.6	-85.62	1,559.6	971.5	1,189.4	1,131.2	20.417		
4,700.0	4,406.7	4,514.4	4,039.0	29.4	33.4	-85.50	1,599.1	998.6	1,219.0	1,159.3	20.431		
4,800.0	4,499.1	4,610.0	4,121.6	30.1	34.2	-85.39	1,638.7	1,025.6	1,248.5	1,187.4	20.444		
4,900.0	4,591.6	4,705.5	4,204.2	30.8	35.1	-85.28	1,678.3	1,052.7	1,278.0	1,215.6	20.456		
5,000.0	4,684.0	4,801.0	4,286.8	31.5	35.9	-85.18	1,717.9	1,079.8	1,307.6	1,243.7	20.468		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-12W - OH - Design #1												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	4,776.4	4,896.5	4,369.4	32.2	36.8	-85.08	1,757.5	1,106.9	1,337.1	1,271.8	20.480		
5,200.0	4,868.9	4,992.0	4,452.0	32.9	37.6	-84.98	1,797.1	1,134.0	1,366.7	1,300.0	20.490		
5,300.0	4,961.3	5,087.5	4,534.5	33.6	38.4	-84.90	1,836.7	1,161.1	1,396.2	1,328.1	20.501		
5,400.0	5,053.7	5,183.0	4,617.1	34.3	39.3	-84.81	1,876.3	1,188.2	1,425.8	1,356.3	20.510		
5,500.0	5,146.2	5,278.5	4,699.7	35.0	40.1	-84.73	1,915.9	1,215.3	1,455.4	1,384.4	20.520		
5,600.0	5,238.6	5,374.0	4,782.3	35.7	40.9	-84.65	1,955.4	1,242.4	1,484.9	1,412.6	20.529		
5,700.0	5,331.8	5,469.4	4,864.8	36.4	41.8	-85.25	1,995.0	1,269.4	1,514.7	1,441.0	20.554		
5,800.0	5,426.5	5,564.4	4,946.9	36.9	42.6	-85.72	2,034.4	1,296.4	1,544.8	1,469.8	20.612		
5,900.0	5,522.5	5,718.4	5,082.1	37.4	43.9	-85.83	2,095.1	1,338.0	1,573.8	1,496.9	20.460		
6,000.0	5,619.7	5,888.4	5,236.7	37.9	45.1	-85.88	2,153.4	1,377.9	1,598.8	1,520.0	20.279		
6,100.0	5,717.7	6,063.2	5,400.7	38.2	46.1	-85.91	2,203.3	1,412.0	1,619.7	1,539.2	20.137		
6,200.0	5,816.6	6,242.2	5,572.8	38.5	46.9	-85.93	2,243.6	1,439.6	1,636.1	1,554.4	20.032		
6,300.0	5,916.0	6,424.3	5,751.4	38.7	47.6	-85.94	2,273.0	1,459.7	1,647.8	1,565.3	19.969		
6,400.0	6,015.7	6,608.7	5,934.5	38.8	47.9	-85.95	2,290.8	1,471.9	1,654.8	1,571.9	19.950		
6,500.0	6,115.7	6,794.2	6,119.8	38.9	48.1	-15.97	2,296.4	1,475.7	1,657.0	1,574.1	19.979		
6,502.3	6,118.0	6,798.5	6,124.1	38.9	48.1	-15.97	2,296.4	1,475.7	1,657.0	1,574.1	19.980		
6,600.0	6,215.7	6,890.1	6,215.7	38.9	48.1	-15.97	2,296.4	1,475.7	1,657.0	1,574.0	19.957		
6,700.0	6,315.7	6,990.1	6,315.7	39.0	48.1	-15.97	2,296.4	1,475.7	1,657.0	1,573.9	19.944		
6,800.0	6,415.7	7,090.1	6,415.7	39.0	48.1	-15.97	2,296.4	1,475.7	1,657.0	1,573.9	19.932		
6,900.0	6,515.7	7,190.1	6,515.7	39.0	48.1	-15.97	2,296.4	1,475.7	1,657.0	1,573.8	19.919		
7,000.0	6,615.7	7,290.1	6,615.7	39.1	48.2	-15.97	2,296.4	1,475.7	1,657.0	1,573.8	19.906		
7,100.0	6,715.7	7,390.1	6,715.7	39.1	48.2	-15.97	2,296.4	1,475.7	1,657.0	1,573.7	19.894		
7,200.0	6,815.7	7,490.1	6,815.7	39.1	48.2	-15.97	2,296.4	1,475.7	1,657.0	1,573.7	19.881		
7,300.0	6,915.7	7,590.1	6,915.7	39.1	48.2	-15.97	2,296.4	1,475.7	1,657.0	1,573.6	19.868		
7,400.0	7,015.7	7,690.1	7,015.7	39.2	48.2	-15.97	2,296.4	1,475.7	1,657.0	1,573.6	19.855		
7,500.0	7,115.7	7,790.1	7,115.7	39.2	48.3	-15.97	2,296.4	1,475.7	1,657.0	1,573.5	19.842		
7,600.0	7,215.7	7,890.1	7,215.7	39.2	48.3	-15.97	2,296.4	1,475.7	1,657.0	1,573.5	19.829		
7,700.0	7,315.7	7,990.1	7,315.7	39.3	48.3	-15.97	2,296.4	1,475.7	1,657.0	1,573.4	19.816		
7,800.0	7,415.7	8,090.1	7,415.7	39.3	48.3	-15.97	2,296.4	1,475.7	1,657.0	1,573.4	19.803		
7,900.0	7,515.7	8,190.1	7,515.7	39.3	48.3	-15.97	2,296.4	1,475.7	1,657.0	1,573.3	19.790		
8,000.0	7,615.7	8,290.1	7,615.7	39.3	48.4	-15.97	2,296.4	1,475.7	1,657.0	1,573.2	19.776		
8,100.0	7,715.7	8,390.1	7,715.7	39.4	48.4	-15.97	2,296.4	1,475.7	1,657.0	1,573.2	19.763		
8,200.0	7,815.7	8,490.1	7,815.7	39.4	48.4	-15.97	2,296.4	1,475.7	1,657.0	1,573.1	19.750		
8,202.6	7,818.3	8,492.7	7,818.3	39.4	48.4	-15.97	2,296.4	1,475.7	1,657.0	1,573.1	19.750		
8,300.0	7,915.7	8,560.4	7,886.0	39.4	48.4	-15.97	2,296.4	1,475.7	1,657.3	1,573.2	19.706		
8,400.0	8,015.7	8,560.4	7,886.0	39.5	48.4	-15.97	2,296.4	1,475.7	1,662.1	1,577.6	19.671		
8,500.0	8,115.7	8,560.4	7,886.0	39.5	48.4	-15.97	2,296.4	1,475.7	1,672.9	1,588.2	19.763		
8,600.0	8,215.7	8,560.4	7,886.0	39.5	48.4	-15.97	2,296.4	1,475.7	1,689.5	1,604.9	19.979		
8,700.0	8,315.7	8,560.4	7,886.0	39.6	48.4	-15.97	2,296.4	1,475.7	1,711.8	1,627.6	20.314		
8,800.0	8,415.7	8,560.4	7,886.0	39.6	48.4	-15.97	2,296.4	1,475.7	1,739.6	1,655.9	20.764		
8,900.0	8,515.7	8,560.4	7,886.0	39.6	48.4	-15.97	2,296.4	1,475.7	1,772.7	1,689.5	21.326		
9,000.0	8,615.7	8,560.4	7,886.0	39.6	48.4	-15.97	2,296.4	1,475.7	1,810.6	1,728.3	21.993		
9,091.3	8,707.0	8,560.4	7,886.0	39.7	48.4	-15.97	2,296.4	1,475.7	1,849.3	1,767.8	22.691		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-13W - OH - Design #1												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 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	-46.91	43.7	-46.7	64.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.91	43.7	-46.7	64.0	63.2	80.776		
200.0	200.0	200.0	200.0	1.2	1.2	-46.91	43.7	-46.7	64.0	61.5	25.897 CC		
300.0	300.0	300.1	300.1	1.7	2.4	-115.92	45.2	-45.2	64.4	61.2	19.785 ES		
400.0	399.8	400.1	399.9	3.3	3.9	-114.46	49.8	-40.5	66.7	62.3	15.440		
500.0	499.3	500.0	499.1	4.6	5.0	-112.77	57.4	-32.7	70.7	65.5	13.573		
600.0	598.3	599.7	597.6	5.6	6.0	-111.00	68.0	-21.8	76.6	70.6	12.823		
700.0	696.6	699.1	695.2	6.5	6.8	-109.28	81.5	-8.0	84.3	77.6	12.589 SF		
800.0	794.0	798.3	791.5	7.3	7.6	-107.68	97.9	8.9	93.9	86.5	12.612		
900.0	890.3	897.1	886.4	8.0	8.3	-106.25	117.2	28.6	105.3	97.0	12.756		
1,000.0	985.3	995.6	979.7	8.7	9.0	-104.99	139.2	51.1	118.4	109.3	12.938		
1,100.0	1,078.9	1,093.7	1,071.2	9.4	9.6	-103.89	163.8	76.4	133.3	123.1	13.111		
1,200.0	1,171.4	1,191.4	1,160.7	9.7	10.2	-102.74	191.1	104.4	149.6	138.4	13.351		
1,300.0	1,263.8	1,288.4	1,248.0	10.0	10.8	-100.52	220.8	134.9	166.7	154.3	13.443		
1,400.0	1,356.2	1,384.5	1,332.5	10.3	11.4	-97.49	252.7	167.6	185.1	171.4	13.471		
1,500.0	1,448.7	1,480.6	1,415.2	10.6	11.7	-94.02	286.8	202.6	205.1	189.9	13.540		
1,600.0	1,541.1	1,577.8	1,498.6	11.0	12.0	-90.99	321.7	238.3	225.8	209.2	13.577		
1,700.0	1,633.6	1,675.0	1,582.0	11.3	12.3	-88.46	356.6	274.1	247.1	229.0	13.627		
1,800.0	1,726.0	1,772.1	1,665.3	11.7	12.7	-86.34	391.4	309.8	268.8	249.2	13.692		
1,900.0	1,818.4	1,869.3	1,748.7	12.1	13.0	-84.53	426.3	345.5	290.8	269.7	13.770		
2,000.0	1,910.9	1,966.5	1,832.0	12.5	13.4	-82.98	461.1	381.3	313.1	290.5	13.854		
2,100.0	2,003.3	2,063.6	1,915.4	12.9	13.7	-81.63	496.0	417.0	335.5	311.4	13.941		
2,200.0	2,095.7	2,160.8	1,998.7	13.3	14.1	-80.45	530.9	452.8	358.0	332.5	14.029		
2,300.0	2,188.2	2,258.0	2,082.1	13.8	14.5	-79.41	565.7	488.5	380.7	353.7	14.102		
2,400.0	2,280.6	2,355.1	2,165.5	14.2	15.2	-78.49	600.6	524.3	403.6	375.2	14.213		
2,500.0	2,373.1	2,452.3	2,248.8	14.7	16.1	-77.67	635.5	560.0	426.4	396.6	14.290		
2,600.0	2,465.5	2,549.5	2,332.2	15.1	17.0	-76.93	670.3	595.8	449.4	418.1	14.368		
2,700.0	2,557.9	2,646.7	2,415.5	15.6	17.9	-76.26	705.2	631.5	472.5	439.7	14.444		
2,800.0	2,650.4	2,743.8	2,498.9	16.1	18.8	-75.65	740.0	667.3	495.5	461.4	14.516		
2,900.0	2,742.8	2,841.0	2,582.3	16.8	19.7	-75.10	774.9	703.0	518.7	483.1	14.585		
3,000.0	2,835.2	2,938.2	2,665.6	17.5	20.6	-74.59	809.8	738.8	541.9	504.9	14.650		
3,100.0	2,927.7	3,035.3	2,749.0	18.2	21.5	-74.13	844.6	774.5	565.1	526.7	14.712		
3,200.0	3,020.1	3,132.5	2,832.3	18.9	22.4	-73.70	879.5	810.2	588.3	548.5	14.771		
3,300.0	3,112.6	3,229.7	2,915.7	19.6	23.3	-73.31	914.4	846.0	611.6	570.4	14.827		
3,400.0	3,205.0	3,326.8	2,999.1	20.3	24.2	-72.94	949.2	881.7	634.9	592.2	14.880		
3,500.0	3,297.4	3,424.0	3,082.4	21.0	25.1	-72.60	984.1	917.5	658.2	614.2	14.930		
3,600.0	3,389.9	3,521.2	3,165.8	21.7	26.0	-72.28	1,018.9	953.2	681.6	636.1	14.978		
3,700.0	3,482.3	3,618.4	3,249.1	22.4	26.9	-71.99	1,053.8	989.0	705.0	658.0	15.023		
3,800.0	3,574.7	3,715.5	3,332.5	23.1	27.8	-71.71	1,088.7	1,024.7	728.3	680.0	15.066		
3,900.0	3,667.2	3,812.7	3,415.9	23.8	28.7	-71.45	1,123.5	1,060.5	751.7	702.0	15.107		
4,000.0	3,759.6	3,909.9	3,499.2	24.5	29.6	-71.21	1,158.4	1,096.2	775.1	724.0	15.146		
4,100.0	3,852.1	4,007.0	3,582.6	25.2	30.5	-70.98	1,193.3	1,132.0	798.6	746.0	15.184		
4,200.0	3,944.5	4,104.2	3,665.9	25.9	31.4	-70.76	1,228.1	1,167.7	822.0	768.0	15.219		
4,300.0	4,036.9	4,201.4	3,749.3	26.6	32.3	-70.56	1,263.0	1,203.4	845.4	790.0	15.253		
4,400.0	4,129.4	4,298.5	3,832.7	27.3	33.2	-70.36	1,297.8	1,239.2	868.9	812.1	15.285		
4,500.0	4,221.8	4,395.7	3,916.0	28.0	34.1	-70.18	1,332.7	1,274.9	892.4	834.1	15.316		
4,600.0	4,314.2	4,492.9	3,999.4	28.7	35.0	-70.01	1,367.6	1,310.7	915.8	856.2	15.346		
4,700.0	4,406.7	4,590.0	4,082.7	29.4	35.9	-69.84	1,402.4	1,346.4	939.3	878.2	15.374		
4,800.0	4,499.1	4,687.2	4,166.1	30.1	36.8	-69.68	1,437.3	1,382.2	962.8	900.3	15.401		
4,900.0	4,591.6	4,784.4	4,249.5	30.8	37.7	-69.53	1,472.1	1,417.9	986.3	922.4	15.427		
5,000.0	4,684.0	4,881.6	4,332.8	31.5	38.6	-69.39	1,507.0	1,453.7	1,009.8	944.4	15.452		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-13W - OH - Design #1												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 Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,776.4	4,978.7	4,416.2	32.2	39.5	-69.25	1,541.9	1,489.4	1,033.3	966.5	15.475		
5,200.0	4,868.9	5,075.9	4,499.5	32.9	40.4	-69.12	1,576.7	1,525.2	1,056.8	988.6	15.498		
5,300.0	4,961.3	5,173.1	4,582.9	33.6	41.3	-69.00	1,611.6	1,560.9	1,080.3	1,010.7	15.520		
5,400.0	5,053.7	5,270.2	4,666.3	34.3	42.2	-68.88	1,646.5	1,596.6	1,103.8	1,032.8	15.542		
5,500.0	5,146.2	5,367.4	4,749.6	35.0	43.1	-68.77	1,681.3	1,632.4	1,127.4	1,054.9	15.562		
5,600.0	5,238.6	5,464.6	4,833.0	35.7	44.0	-68.66	1,716.2	1,668.1	1,150.9	1,077.0	15.581		
5,700.0	5,331.8	5,561.5	4,916.1	36.4	44.9	-69.02	1,751.0	1,703.8	1,175.2	1,099.9	15.622		
5,800.0	5,426.5	5,698.5	5,035.0	36.9	46.2	-69.15	1,798.4	1,752.5	1,199.8	1,122.7	15.565		
5,900.0	5,522.5	5,852.3	5,173.0	37.4	47.4	-69.21	1,845.8	1,801.1	1,221.6	1,142.6	15.473		
6,000.0	5,619.7	6,009.2	5,318.2	37.9	48.4	-69.25	1,887.4	1,843.7	1,240.3	1,159.8	15.401		
6,100.0	5,717.7	6,168.8	5,469.6	38.2	49.3	-69.29	1,922.5	1,879.7	1,255.9	1,174.1	15.354		
6,200.0	5,816.6	6,330.6	5,626.3	38.5	50.0	-69.32	1,950.4	1,908.3	1,268.1	1,185.4	15.329		
6,300.0	5,916.0	6,494.1	5,787.2	38.7	50.5	-69.34	1,970.8	1,929.2	1,276.9	1,193.6	15.327		
6,400.0	6,015.7	6,658.9	5,951.0	38.8	50.8	-69.35	1,983.1	1,941.9	1,282.2	1,198.7	15.352		
6,500.0	6,115.7	6,824.2	6,116.2	38.9	50.9	0.64	1,987.2	1,946.1	1,283.9	1,200.6	15.405		
6,533.1	6,148.8	6,856.9	6,148.8	38.9	50.9	0.64	1,987.2	1,946.1	1,283.9	1,200.6	15.399		
6,600.0	6,215.7	6,923.8	6,215.7	38.9	50.9	0.64	1,987.2	1,946.1	1,283.9	1,200.5	15.389		
6,700.0	6,315.7	7,023.8	6,315.7	39.0	50.9	0.64	1,987.2	1,946.1	1,283.9	1,200.5	15.379		
6,800.0	6,415.7	7,123.8	6,415.7	39.0	51.0	0.64	1,987.2	1,946.1	1,283.9	1,200.4	15.369		
6,900.0	6,515.7	7,223.8	6,515.7	39.0	51.0	0.64	1,987.2	1,946.1	1,283.9	1,200.4	15.359		
7,000.0	6,615.7	7,323.8	6,615.7	39.1	51.0	0.64	1,987.2	1,946.1	1,283.9	1,200.3	15.349		
7,100.0	6,715.7	7,423.8	6,715.7	39.1	51.0	0.64	1,987.2	1,946.1	1,283.9	1,200.2	15.338		
7,200.0	6,815.7	7,523.8	6,815.7	39.1	51.0	0.64	1,987.2	1,946.1	1,283.9	1,200.2	15.328		
7,300.0	6,915.7	7,623.8	6,915.7	39.1	51.1	0.64	1,987.2	1,946.1	1,283.9	1,200.1	15.318		
7,400.0	7,015.7	7,723.8	7,015.7	39.2	51.1	0.64	1,987.2	1,946.1	1,283.9	1,200.1	15.308		
7,500.0	7,115.7	7,823.8	7,115.7	39.2	51.1	0.64	1,987.2	1,946.1	1,283.9	1,200.0	15.297		
7,600.0	7,215.7	7,923.8	7,215.7	39.2	51.1	0.64	1,987.2	1,946.1	1,283.9	1,200.0	15.287		
7,700.0	7,315.7	8,023.8	7,315.7	39.3	51.1	0.64	1,987.2	1,946.1	1,283.9	1,199.9	15.277		
7,800.0	7,415.7	8,123.8	7,415.7	39.3	51.2	0.64	1,987.2	1,946.1	1,283.9	1,199.8	15.266		
7,900.0	7,515.7	8,223.8	7,515.7	39.3	51.2	0.64	1,987.2	1,946.1	1,283.9	1,199.8	15.256		
8,000.0	7,615.7	8,323.8	7,615.7	39.3	51.2	0.64	1,987.2	1,946.1	1,283.9	1,199.7	15.245		
8,100.0	7,715.7	8,423.8	7,715.7	39.4	51.2	0.64	1,987.2	1,946.1	1,283.9	1,199.7	15.235		
8,200.0	7,815.7	8,523.8	7,815.7	39.4	51.2	0.64	1,987.2	1,946.1	1,283.9	1,199.6	15.224		
8,300.0	7,915.7	8,623.8	7,915.7	39.4	51.3	0.64	1,987.2	1,946.1	1,283.9	1,199.6	15.214		
8,400.0	8,015.7	8,723.8	8,015.7	39.5	51.3	0.64	1,987.2	1,946.1	1,283.9	1,199.5	15.203		
8,500.0	8,115.7	8,823.8	8,115.7	39.5	51.3	0.64	1,987.2	1,946.1	1,283.9	1,199.4	15.192		
8,600.0	8,215.7	8,923.8	8,215.7	39.5	51.3	0.64	1,987.2	1,946.1	1,283.9	1,199.4	15.182		
8,700.0	8,315.7	9,023.8	8,315.7	39.6	51.3	0.64	1,987.2	1,946.1	1,283.9	1,199.3	15.171		
8,800.0	8,415.7	9,123.8	8,415.7	39.6	51.4	0.64	1,987.2	1,946.1	1,283.9	1,199.3	15.160		
8,900.0	8,515.7	9,223.8	8,515.7	39.6	51.4	0.64	1,987.2	1,946.1	1,283.9	1,199.2	15.150		
9,000.0	8,615.7	9,323.8	8,615.7	39.6	51.4	0.64	1,987.2	1,946.1	1,283.9	1,199.1	15.139		
9,091.3	8,707.0	9,415.1	8,707.0	39.7	51.4	0.64	1,987.2	1,946.1	1,283.9	1,199.1	15.129		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-14W - OH - Design #1												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	-46.97	32.8	-35.1	48.0				
100.0	100.0	100.0	100.0	0.4	0.4	-46.97	32.8	-35.1	48.0	47.2	60.645		
200.0	200.0	200.0	200.0	1.2	1.2	-46.97	32.8	-35.1	48.0	45.6	19.443 CC		
300.0	300.0	300.2	300.2	1.7	1.7	-116.81	33.6	-34.2	48.4	45.4	15.829 ES		
400.0	399.8	400.5	400.3	3.3	3.3	-116.13	37.0	-29.9	50.2	46.0	11.979		
500.0	499.3	500.6	500.0	4.6	4.6	-115.03	43.3	-22.3	53.4	48.2	10.353		
600.0	598.3	600.7	599.1	5.6	5.6	-113.64	52.3	-11.4	58.0	52.0	9.740		
700.0	696.6	700.7	697.3	6.5	6.5	-112.12	64.0	2.9	64.0	57.4	9.589 SF		
800.0	794.0	800.5	794.5	7.3	7.3	-110.59	78.5	20.4	71.5	64.1	9.669		
900.0	890.3	900.2	890.5	8.0	8.0	-109.12	95.5	41.1	80.5	72.3	9.851		
1,000.0	985.3	999.6	985.0	8.7	8.7	-107.75	115.2	65.0	90.8	81.8	10.060		
1,100.0	1,078.9	1,098.8	1,077.8	9.4	9.4	-106.51	137.4	92.0	102.6	92.6	10.248		
1,200.0	1,171.4	1,197.8	1,168.8	9.7	10.0	-105.00	162.0	121.9	115.4	104.4	10.497		
1,300.0	1,263.8	1,296.3	1,257.7	10.0	10.6	-101.99	189.0	154.7	128.6	116.5	10.613		
1,400.0	1,356.2	1,394.3	1,344.3	10.3	11.0	-97.94	218.1	190.2	142.8	129.4	10.680		
1,500.0	1,448.7	1,492.7	1,430.7	10.6	11.3	-94.22	248.0	226.5	157.9	143.1	10.673		
1,600.0	1,541.1	1,591.0	1,517.1	11.0	11.6	-91.15	277.9	262.8	173.4	157.2	10.659		
1,700.0	1,633.6	1,689.4	1,603.5	11.3	12.0	-88.58	307.8	299.1	189.4	171.7	10.660		
1,800.0	1,726.0	1,787.8	1,689.9	11.7	12.3	-86.42	337.7	335.5	205.7	186.5	10.678		
1,900.0	1,818.4	1,886.2	1,776.3	12.1	12.7	-84.58	367.6	371.8	222.3	201.5	10.708		
2,000.0	1,910.9	1,984.6	1,862.7	12.5	13.1	-82.99	397.5	408.1	239.0	216.8	10.748		
2,100.0	2,003.3	2,083.0	1,949.1	12.9	13.5	-81.61	427.4	444.5	255.9	232.2	10.793		
2,200.0	2,095.7	2,181.4	2,035.5	13.3	13.9	-80.40	457.3	480.8	273.0	247.8	10.842		
2,300.0	2,188.2	2,279.7	2,121.9	13.8	14.3	-79.33	487.2	517.1	290.1	263.5	10.892		
2,400.0	2,280.6	2,378.1	2,208.4	14.2	14.8	-78.39	517.1	553.4	307.3	279.2	10.945		
2,500.0	2,373.1	2,476.5	2,294.8	14.7	15.6	-77.54	547.0	589.8	324.6	295.1	10.996		
2,600.0	2,465.5	2,574.9	2,381.2	15.1	16.4	-76.78	576.9	626.1	342.0	311.0	11.045		
2,700.0	2,557.9	2,673.3	2,467.6	15.6	17.3	-76.09	606.7	662.4	359.4	327.0	11.092		
2,800.0	2,650.4	2,771.7	2,554.0	16.1	18.1	-75.46	636.6	698.8	376.8	343.0	11.139		
2,900.0	2,742.8	2,870.1	2,640.4	16.8	19.0	-74.89	666.5	735.1	394.3	359.1	11.183		
3,000.0	2,835.2	2,968.4	2,726.8	17.5	19.8	-74.37	696.4	771.4	411.8	375.1	11.226		
3,100.0	2,927.7	3,066.8	2,813.2	18.2	20.7	-73.90	726.3	807.7	429.4	391.3	11.267		
3,200.0	3,020.1	3,165.2	2,899.6	18.9	21.5	-73.45	756.2	844.1	447.0	407.4	11.306		
3,300.0	3,112.6	3,263.6	2,986.0	19.6	22.4	-73.05	786.1	880.4	464.6	423.6	11.343		
3,400.0	3,205.0	3,362.0	3,072.4	20.3	23.2	-72.67	816.0	916.7	482.2	439.8	11.379		
3,500.0	3,297.4	3,460.4	3,158.8	21.0	24.1	-72.32	845.9	953.1	499.9	456.1	11.413		
3,600.0	3,389.9	3,558.8	3,245.3	21.7	24.9	-71.99	875.8	989.4	517.5	472.3	11.445		
3,700.0	3,482.3	3,657.1	3,331.7	22.4	25.8	-71.68	905.7	1,025.7	535.2	488.6	11.476		
3,800.0	3,574.7	3,755.5	3,418.1	23.1	26.6	-71.40	935.6	1,062.1	552.9	504.8	11.506		
3,900.0	3,667.2	3,853.9	3,504.5	23.8	27.5	-71.13	965.5	1,098.4	570.6	521.1	11.534		
4,000.0	3,759.6	3,952.3	3,590.9	24.5	28.3	-70.88	995.4	1,134.7	588.3	537.4	11.561		
4,100.0	3,852.1	4,050.7	3,677.3	25.2	29.2	-70.64	1,025.3	1,171.0	606.0	553.7	11.587		
4,200.0	3,944.5	4,149.1	3,763.7	25.9	30.0	-70.42	1,055.1	1,207.4	623.8	570.1	11.611		
4,300.0	4,036.9	4,247.5	3,850.1	26.6	30.9	-70.21	1,085.0	1,243.7	641.5	586.4	11.635		
4,400.0	4,129.4	4,345.8	3,936.5	27.3	31.7	-70.00	1,114.9	1,280.0	659.3	602.7	11.658		
4,500.0	4,221.8	4,444.2	4,022.9	28.0	32.6	-69.82	1,144.8	1,316.4	677.0	619.1	11.679		
4,600.0	4,314.2	4,542.6	4,109.3	28.7	33.5	-69.64	1,174.7	1,352.7	694.8	635.4	11.700		
4,700.0	4,406.7	4,641.0	4,195.7	29.4	34.3	-69.46	1,204.6	1,389.0	712.6	651.8	11.720		
4,800.0	4,499.1	4,739.4	4,282.2	30.1	35.2	-69.30	1,234.5	1,425.3	730.4	668.1	11.739		
4,900.0	4,591.6	4,837.8	4,368.6	30.8	36.0	-69.15	1,264.4	1,461.7	748.1	684.5	11.757		
5,000.0	4,684.0	4,936.2	4,455.0	31.5	36.9	-69.00	1,294.3	1,498.0	765.9	700.9	11.775		

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-14W - OH - Design #1												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 Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning	
5,100.0	4,776.4	5,034.5	4,541.4	32.2	37.7	-68.86	1,324.2	1,534.3	783.7	717.3	11.791		
5,200.0	4,868.9	5,132.9	4,627.8	32.9	38.6	-68.72	1,354.1	1,570.7	801.5	733.7	11.808		
5,300.0	4,961.3	5,231.3	4,714.2	33.6	39.5	-68.59	1,384.0	1,607.0	819.3	750.0	11.823		
5,400.0	5,053.7	5,329.7	4,800.6	34.3	40.3	-68.47	1,413.9	1,643.3	837.1	766.4	11.838		
5,500.0	5,146.2	5,428.1	4,887.0	35.0	41.2	-68.35	1,443.8	1,679.6	855.0	782.8	11.853		
5,600.0	5,238.6	5,526.5	4,973.4	35.7	42.0	-68.24	1,473.7	1,716.0	872.8	799.2	11.867		
5,700.0	5,331.8	5,639.9	5,073.4	36.4	43.0	-68.42	1,507.7	1,757.3	891.0	815.8	11.859		
5,800.0	5,426.5	5,771.5	5,192.3	36.9	44.0	-68.52	1,543.5	1,800.8	907.6	830.8	11.815		
5,900.0	5,522.5	5,904.5	5,315.5	37.4	44.9	-68.61	1,575.3	1,839.4	922.3	844.0	11.777		
6,000.0	5,619.7	6,038.7	5,442.6	37.9	45.6	-68.69	1,602.7	1,872.7	934.8	855.2	11.752		
6,100.0	5,717.7	6,174.0	5,573.1	38.2	46.3	-68.76	1,625.4	1,900.4	945.1	864.5	11.736		
6,200.0	5,816.6	6,310.3	5,706.3	38.5	46.8	-68.81	1,643.4	1,922.3	953.1	871.9	11.729		
6,300.0	5,916.0	6,447.2	5,841.7	38.7	47.1	-68.84	1,656.3	1,938.0	958.9	877.2	11.734		
6,400.0	6,015.7	6,584.5	5,978.5	38.8	47.3	-68.86	1,664.1	1,947.5	962.4	880.5	11.748		
6,500.0	6,115.7	6,722.1	6,116.0	38.9	47.4	1.12	1,666.7	1,950.6	963.5	881.7	11.773		
6,533.1	6,148.8	6,755.0	6,148.8	38.9	47.4	1.12	1,666.7	1,950.6	963.5	881.7	11.768		
6,600.0	6,215.7	6,821.9	6,215.7	38.9	47.4	1.12	1,666.7	1,950.6	963.5	881.6	11.760		
6,700.0	6,315.7	6,921.9	6,315.7	39.0	47.5	1.12	1,666.7	1,950.6	963.5	881.6	11.752		
6,800.0	6,415.7	7,021.9	6,415.7	39.0	47.5	1.12	1,666.7	1,950.6	963.5	881.5	11.744		
6,900.0	6,515.7	7,121.9	6,515.7	39.0	47.5	1.12	1,666.7	1,950.6	963.5	881.4	11.736		
7,000.0	6,615.7	7,221.9	6,615.7	39.1	47.5	1.12	1,666.7	1,950.6	963.5	881.4	11.728		
7,100.0	6,715.7	7,321.9	6,715.7	39.1	47.5	1.12	1,666.7	1,950.6	963.5	881.3	11.720		
7,200.0	6,815.7	7,421.9	6,815.7	39.1	47.6	1.12	1,666.7	1,950.6	963.5	881.3	11.712		
7,300.0	6,915.7	7,521.9	6,915.7	39.1	47.6	1.12	1,666.7	1,950.6	963.5	881.2	11.704		
7,400.0	7,015.7	7,621.9	7,015.7	39.2	47.6	1.12	1,666.7	1,950.6	963.5	881.2	11.696		
7,500.0	7,115.7	7,721.9	7,115.7	39.2	47.6	1.12	1,666.7	1,950.6	963.5	881.1	11.688		
7,600.0	7,215.7	7,821.9	7,215.7	39.2	47.6	1.12	1,666.7	1,950.6	963.5	881.0	11.680		
7,700.0	7,315.7	7,921.9	7,315.7	39.3	47.7	1.12	1,666.7	1,950.6	963.5	881.0	11.672		
7,800.0	7,415.7	8,021.9	7,415.7	39.3	47.7	1.12	1,666.7	1,950.6	963.5	880.9	11.663		
7,900.0	7,515.7	8,121.9	7,515.7	39.3	47.7	1.12	1,666.7	1,950.6	963.5	880.9	11.655		
8,000.0	7,615.7	8,221.9	7,615.7	39.3	47.7	1.12	1,666.7	1,950.6	963.5	880.8	11.647		
8,100.0	7,715.7	8,321.9	7,715.7	39.4	47.8	1.12	1,666.7	1,950.6	963.5	880.8	11.638		
8,200.0	7,815.7	8,421.9	7,815.7	39.4	47.8	1.12	1,666.7	1,950.6	963.5	880.7	11.630		
8,205.1	7,820.8	8,427.0	7,820.8	39.4	47.8	1.12	1,666.7	1,950.6	963.5	880.7	11.630		
8,300.0	7,915.7	8,496.1	7,890.0	39.4	47.8	1.12	1,666.7	1,950.6	963.9	880.7	11.587		
8,400.0	8,015.7	8,496.1	7,890.0	39.5	47.8	1.12	1,666.7	1,950.6	971.7	887.8	11.585		
8,500.0	8,115.7	8,496.1	7,890.0	39.5	47.8	1.12	1,666.7	1,950.6	989.6	905.8	11.800		
8,600.0	8,215.7	8,496.1	7,890.0	39.5	47.8	1.12	1,666.7	1,950.6	1,017.1	933.9	12.222		
8,700.0	8,315.7	8,496.1	7,890.0	39.6	47.8	1.12	1,666.7	1,950.6	1,053.4	971.3	12.835		
8,800.0	8,415.7	8,496.1	7,890.0	39.6	47.8	1.12	1,666.7	1,950.6	1,097.6	1,017.1	13.625		
8,900.0	8,515.7	8,496.1	7,890.0	39.6	47.8	1.12	1,666.7	1,950.6	1,148.9	1,070.1	14.577		
9,000.0	8,615.7	8,496.1	7,890.0	39.6	47.8	1.12	1,666.7	1,950.6	1,206.3	1,129.3	15.676		
9,091.3	8,707.0	8,496.1	7,890.0	39.7	47.8	1.12	1,666.7	1,950.6	1,263.3	1,188.1	16.795		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-15W - OH - Design #1											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	-46.73	21.9	-23.2	31.9			
100.0	100.0	100.0	100.0	0.4	0.4	-46.73	21.9	-23.2	31.9	31.1	40.253	
200.0	200.0	200.0	200.0	1.2	1.2	-46.73	21.9	-23.2	31.9	29.4	12.905 CC	
300.0	300.0	300.2	300.2	1.7	1.6	-117.30	22.3	-22.6	32.3	29.2	10.672 ES	
400.0	399.8	400.5	400.4	3.3	3.0	-117.54	25.0	-18.6	33.7	29.4	7.952	
500.0	499.3	500.8	500.3	4.6	4.4	-117.12	30.1	-10.9	36.0	30.7	6.776	
600.0	598.3	601.1	599.7	5.6	5.4	-116.18	37.7	0.3	39.4	33.2	6.355	
700.0	696.6	701.4	698.3	6.5	6.4	-114.91	47.7	15.2	43.8	36.8	6.281 SF	
800.0	794.0	801.6	796.0	7.3	7.2	-113.46	60.1	33.5	49.2	41.5	6.389	
900.0	890.3	901.8	892.6	8.0	7.9	-111.96	74.9	55.4	55.6	47.1	6.585	
1,000.0	985.3	1,001.9	987.9	8.7	8.6	-110.49	92.0	80.8	63.0	53.7	6.806	
1,100.0	1,078.9	1,101.8	1,081.7	9.4	9.3	-109.10	111.4	109.5	71.4	61.2	7.012	
1,200.0	1,171.4	1,201.7	1,173.7	9.7	10.0	-107.08	133.1	141.6	80.4	69.4	7.271	
1,300.0	1,263.8	1,301.2	1,263.7	10.0	10.5	-102.82	156.8	176.8	89.4	77.4	7.450	
1,400.0	1,356.2	1,400.5	1,352.8	10.3	10.7	-98.43	181.3	213.1	99.0	85.8	7.505	
1,500.0	1,448.7	1,499.8	1,441.9	10.6	11.1	-94.82	205.8	249.5	109.0	94.5	7.494	
1,600.0	1,541.1	1,599.1	1,531.0	11.0	11.4	-91.83	230.3	285.8	119.4	103.4	7.473	
1,700.0	1,633.6	1,698.3	1,620.0	11.3	11.7	-89.32	254.9	322.1	130.0	112.6	7.458	
1,800.0	1,726.0	1,797.6	1,709.1	11.7	12.1	-87.19	279.4	358.5	140.9	122.0	7.453	
1,900.0	1,818.4	1,896.9	1,798.2	12.1	12.5	-85.37	303.9	394.8	151.9	131.5	7.456	
2,000.0	1,910.9	1,996.2	1,887.3	12.5	12.9	-83.79	328.4	431.1	163.0	141.2	7.466	
2,100.0	2,003.3	2,095.5	1,976.4	12.9	13.3	-82.42	352.9	467.5	174.3	151.0	7.481	
2,200.0	2,095.7	2,194.8	2,065.5	13.3	13.7	-81.21	377.4	503.8	185.6	160.9	7.500	
2,300.0	2,188.2	2,294.0	2,154.6	13.8	14.1	-80.15	401.9	540.2	197.0	170.8	7.521	
2,400.0	2,280.6	2,393.3	2,243.6	14.2	14.5	-79.20	426.4	576.5	208.5	180.9	7.544	
2,500.0	2,373.1	2,492.6	2,332.7	14.7	15.0	-78.35	451.0	612.8	220.0	191.0	7.567	
2,600.0	2,465.5	2,591.9	2,421.8	15.1	15.8	-77.58	475.5	649.2	231.6	201.1	7.593	
2,700.0	2,557.9	2,691.2	2,510.9	15.6	16.5	-76.89	500.0	685.5	243.2	211.3	7.615	
2,800.0	2,650.4	2,790.5	2,600.0	16.1	17.3	-76.26	524.5	721.8	254.9	221.5	7.638	
2,900.0	2,742.8	2,889.7	2,689.1	16.8	18.1	-75.68	549.0	758.2	266.5	231.7	7.661	
3,000.0	2,835.2	2,989.0	2,778.2	17.5	18.9	-75.16	573.5	794.5	278.2	242.0	7.683	
3,100.0	2,927.7	3,088.3	2,867.2	18.2	19.7	-74.67	598.0	830.8	289.9	252.3	7.705	
3,200.0	3,020.1	3,187.6	2,956.3	18.9	20.5	-74.22	622.5	867.2	301.6	262.6	7.725	
3,300.0	3,112.6	3,286.9	3,045.4	19.6	21.3	-73.81	647.1	903.5	313.4	272.9	7.745	
3,400.0	3,205.0	3,386.2	3,134.5	20.3	22.1	-73.43	671.6	939.8	325.2	283.3	7.764	
3,500.0	3,297.4	3,485.4	3,223.6	21.0	22.9	-73.07	696.1	976.2	336.9	293.6	7.783	
3,600.0	3,389.9	3,584.7	3,312.7	21.7	23.7	-72.74	720.6	1,012.5	348.7	304.0	7.800	
3,700.0	3,482.3	3,684.0	3,401.8	22.4	24.5	-72.43	745.1	1,048.8	360.5	314.4	7.817	
3,800.0	3,574.7	3,783.3	3,490.8	23.1	25.3	-72.14	769.6	1,085.2	372.3	324.8	7.834	
3,900.0	3,667.2	3,882.6	3,579.9	23.8	26.1	-71.86	794.1	1,121.5	384.1	335.2	7.849	
4,000.0	3,759.6	3,981.9	3,669.0	24.5	26.9	-71.61	818.6	1,157.8	396.0	345.6	7.864	
4,100.0	3,852.1	4,081.1	3,758.1	25.2	27.7	-71.37	843.2	1,194.2	407.8	356.0	7.879	
4,200.0	3,944.5	4,180.4	3,847.2	25.9	28.5	-71.14	867.7	1,230.5	419.6	366.5	7.892	
4,300.0	4,036.9	4,279.7	3,936.3	26.6	29.3	-70.92	892.2	1,266.8	431.5	376.9	7.906	
4,400.0	4,129.4	4,379.0	4,025.3	27.3	30.1	-70.72	916.7	1,303.2	443.3	387.3	7.918	
4,500.0	4,221.8	4,478.3	4,114.4	28.0	30.9	-70.52	941.2	1,339.5	455.2	397.8	7.930	
4,600.0	4,314.2	4,577.6	4,203.5	28.7	31.7	-70.34	965.7	1,375.8	467.0	408.2	7.942	
4,700.0	4,406.7	4,676.8	4,292.6	29.4	32.5	-70.17	990.2	1,412.2	478.9	418.7	7.953	
4,800.0	4,499.1	4,776.1	4,381.7	30.1	33.3	-70.00	1,014.7	1,448.5	490.8	429.1	7.964	
4,900.0	4,591.6	4,875.4	4,470.8	30.8	34.1	-69.84	1,039.3	1,484.8	502.6	439.6	7.975	
5,000.0	4,684.0	4,974.7	4,559.9	31.5	34.9	-69.69	1,063.8	1,521.2	514.5	450.1	7.985	

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-15W - OH - Design #1												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	4,776.4	5,074.0	4,648.9	32.2	35.7	-69.55	1,088.3	1,557.5	526.4	460.5	7.995		
5,200.0	4,868.9	5,173.3	4,738.0	32.9	36.5	-69.41	1,112.8	1,593.8	538.3	471.0	8.004		
5,300.0	4,961.3	5,272.5	4,827.1	33.6	37.3	-69.28	1,137.3	1,630.2	550.2	481.5	8.013		
5,400.0	5,053.7	5,371.8	4,916.2	34.3	38.1	-69.15	1,161.8	1,666.5	562.0	492.0	8.022		
5,500.0	5,146.2	5,471.1	5,005.3	35.0	38.9	-69.03	1,186.3	1,702.8	573.9	502.5	8.030		
5,600.0	5,238.6	5,570.4	5,094.4	35.7	39.7	-68.91	1,210.8	1,739.2	585.8	512.9	8.038		
5,700.0	5,331.8	5,664.4	5,197.7	36.4	40.6	-69.01	1,237.9	1,779.2	597.4	522.9	8.025		
5,800.0	5,426.5	5,801.1	5,305.7	36.9	41.4	-69.10	1,262.5	1,815.7	607.7	531.8	8.009		
5,900.0	5,522.5	5,918.3	5,416.3	37.4	42.0	-69.18	1,284.1	1,847.8	616.7	539.6	7.998		
6,000.0	5,619.7	6,036.0	5,529.2	37.9	42.6	-69.24	1,302.6	1,875.2	624.4	546.2	7.990		
6,100.0	5,717.7	6,154.0	5,644.1	38.2	43.1	-69.29	1,317.9	1,897.9	630.7	551.7	7.986		
6,200.0	5,816.6	6,272.5	5,760.5	38.5	43.5	-69.33	1,329.9	1,915.6	635.7	556.1	7.986		
6,300.0	5,916.0	6,391.1	5,878.2	38.7	43.7	-69.35	1,338.5	1,928.4	639.2	559.2	7.988		
6,400.0	6,015.7	6,509.9	5,996.6	38.8	43.9	-69.37	1,343.7	1,936.1	641.4	561.2	7.994		
6,500.0	6,115.7	6,628.9	6,115.5	38.9	44.0	0.63	1,345.5	1,938.8	642.2	561.9	8.003		
6,600.0	6,215.7	6,729.1	6,215.7	38.9	44.0	0.63	1,345.5	1,938.8	642.2	561.8	7.995		
6,700.0	6,315.7	6,829.1	6,315.7	39.0	44.0	0.63	1,345.5	1,938.8	642.2	561.8	7.989		
6,800.0	6,415.7	6,929.1	6,415.7	39.0	44.0	0.63	1,345.5	1,938.8	642.2	561.7	7.984		
6,900.0	6,515.7	7,029.1	6,515.7	39.0	44.1	0.63	1,345.5	1,938.8	642.2	561.7	7.978		
7,000.0	6,615.7	7,129.1	6,615.7	39.1	44.1	0.63	1,345.5	1,938.8	642.2	561.6	7.972		
7,100.0	6,715.7	7,229.1	6,715.7	39.1	44.1	0.63	1,345.5	1,938.8	642.2	561.5	7.967		
7,200.0	6,815.7	7,329.1	6,815.7	39.1	44.1	0.63	1,345.5	1,938.8	642.2	561.5	7.961		
7,300.0	6,915.7	7,429.1	6,915.7	39.1	44.2	0.63	1,345.5	1,938.8	642.2	561.4	7.955		
7,400.0	7,015.7	7,529.1	7,015.7	39.2	44.2	0.63	1,345.5	1,938.8	642.2	561.4	7.950		
7,500.0	7,115.7	7,629.1	7,115.7	39.2	44.2	0.63	1,345.5	1,938.8	642.2	561.3	7.944		
7,600.0	7,215.7	7,729.1	7,215.7	39.2	44.2	0.63	1,345.5	1,938.8	642.2	561.3	7.938		
7,700.0	7,315.7	7,829.1	7,315.7	39.3	44.3	0.63	1,345.5	1,938.8	642.2	561.2	7.932		
7,800.0	7,415.7	7,929.1	7,415.7	39.3	44.3	0.63	1,345.5	1,938.8	642.2	561.1	7.927		
7,900.0	7,515.7	8,029.1	7,515.7	39.3	44.3	0.63	1,345.5	1,938.8	642.2	561.1	7.921		
8,000.0	7,615.7	8,129.1	7,615.7	39.3	44.3	0.63	1,345.5	1,938.8	642.2	561.0	7.915		
8,100.0	7,715.7	8,229.1	7,715.7	39.4	44.4	0.63	1,345.5	1,938.8	642.2	561.0	7.909		
8,200.0	7,815.7	8,329.1	7,815.7	39.4	44.4	0.63	1,345.5	1,938.8	642.2	560.9	7.903		
8,300.0	7,915.7	8,429.1	7,915.7	39.4	44.4	0.63	1,345.5	1,938.8	642.2	560.8	7.897		
8,400.0	8,015.7	8,529.1	8,015.7	39.5	44.4	0.63	1,345.5	1,938.8	642.2	560.8	7.891		
8,500.0	8,115.7	8,629.1	8,115.7	39.5	44.5	0.63	1,345.5	1,938.8	642.2	560.7	7.885		
8,600.0	8,215.7	8,729.1	8,215.7	39.5	44.5	0.63	1,345.5	1,938.8	642.2	560.7	7.879		
8,700.0	8,315.7	8,829.1	8,315.7	39.6	44.5	0.63	1,345.5	1,938.8	642.2	560.6	7.874		
8,800.0	8,415.7	8,929.1	8,415.7	39.6	44.5	0.63	1,345.5	1,938.8	642.2	560.5	7.868		
8,900.0	8,515.7	9,029.1	8,515.7	39.6	44.6	0.63	1,345.5	1,938.8	642.2	560.5	7.862		
9,000.0	8,615.7	9,129.1	8,615.7	39.6	44.6	0.63	1,345.5	1,938.8	642.2	560.4	7.856		
9,091.3	8,707.0	9,220.4	8,707.0	39.7	44.6	0.63	1,345.5	1,938.8	642.2	560.4	7.850		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-16W - OH - Design #1											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	-46.72	10.9	-11.6	15.9			
100.0	100.0	100.0	100.0	0.4	0.4	-46.72	10.9	-11.6	15.9	15.2	20.131	
200.0	200.0	200.0	200.0	1.2	1.2	-46.72	10.9	-11.6	15.9	13.5	6.454 CC	
300.0	300.0	300.2	300.2	1.7	1.7	-116.48	11.5	-10.5	16.1	13.0	5.236	
400.0	399.8	400.4	400.2	3.3	3.3	-115.48	14.0	-5.7	16.7	12.4	3.881 ES	
500.0	499.3	500.6	499.9	4.6	4.6	-113.87	18.6	3.1	17.9	12.6	3.363	
600.0	598.3	600.8	599.1	5.6	5.6	-111.89	25.1	15.7	19.7	13.5	3.217 SF	
700.0	696.6	701.0	697.6	6.5	6.5	-109.78	33.7	32.1	21.9	15.2	3.240	
800.0	794.0	801.2	795.1	7.3	7.3	-107.70	44.2	52.3	24.8	17.4	3.344	
900.0	890.3	901.3	891.5	8.0	8.0	-105.78	56.6	76.3	28.2	20.1	3.480	
1,000.0	985.3	1,001.4	986.6	8.7	8.7	-104.06	71.0	104.0	32.2	23.3	3.613	
1,100.0	1,078.9	1,101.4	1,080.2	9.4	9.4	-102.54	87.3	135.3	36.7	26.8	3.725	
1,200.0	1,171.4	1,201.4	1,172.2	9.7	9.9	-99.57	105.4	170.1	41.5	30.7	3.862	
1,300.0	1,263.8	1,301.2	1,263.3	10.0	10.2	-95.32	124.2	206.3	46.4	34.6	3.917	
1,400.0	1,356.2	1,401.1	1,354.4	10.3	10.5	-91.90	143.0	242.5	51.5	38.4	3.919	
1,500.0	1,448.7	1,500.9	1,445.5	10.6	10.9	-89.10	161.8	278.6	56.8	42.3	3.910	
1,600.0	1,541.1	1,600.7	1,536.7	11.0	11.2	-86.78	180.6	314.8	62.2	46.3	3.901	
1,700.0	1,633.6	1,700.5	1,627.8	11.3	11.6	-84.84	199.4	350.9	67.7	50.3	3.896	
1,800.0	1,726.0	1,800.4	1,718.9	11.7	11.9	-83.19	218.2	387.1	73.3	54.5	3.895	
1,900.0	1,818.4	1,900.2	1,810.0	12.1	12.3	-81.77	237.1	423.3	78.9	58.6	3.896	
2,000.0	1,910.9	2,000.0	1,901.2	12.5	12.7	-80.54	255.9	459.4	84.5	62.8	3.901	
2,100.0	2,003.3	2,099.8	1,992.3	12.9	13.1	-79.47	274.7	495.6	90.2	67.1	3.907	
2,200.0	2,095.7	2,199.7	2,083.4	13.3	13.5	-78.52	293.5	531.8	95.9	71.4	3.914	
2,300.0	2,188.2	2,299.5	2,174.5	13.8	14.0	-77.68	312.3	567.9	101.6	75.7	3.921	
2,400.0	2,280.6	2,399.3	2,265.7	14.2	14.4	-76.93	331.1	604.1	107.4	80.0	3.930	
2,500.0	2,373.1	2,499.1	2,356.8	14.7	14.9	-76.26	349.9	640.2	113.1	84.4	3.938	
2,600.0	2,465.5	2,599.0	2,447.9	15.1	15.3	-75.65	368.7	676.4	118.9	88.8	3.946	
2,700.0	2,557.9	2,698.8	2,539.0	15.6	16.0	-75.10	387.5	712.6	124.7	93.2	3.955	
2,800.0	2,650.4	2,798.6	2,630.2	16.1	16.7	-74.59	406.3	748.7	130.5	97.6	3.963	
2,900.0	2,742.8	2,898.5	2,721.3	16.8	17.5	-74.13	425.1	784.9	136.3	102.0	3.970	
3,000.0	2,835.2	2,998.3	2,812.4	17.5	18.2	-73.71	443.9	821.1	142.1	106.4	3.978	
3,100.0	2,927.7	3,098.1	2,903.5	18.2	18.9	-73.32	462.7	857.2	147.9	110.8	3.985	
3,200.0	3,020.1	3,197.9	2,994.7	18.9	19.7	-72.96	481.5	893.4	153.8	115.3	3.993	
3,300.0	3,112.6	3,297.8	3,085.8	19.6	20.4	-72.63	500.3	929.5	159.6	119.7	3.999	
3,400.0	3,205.0	3,397.6	3,176.9	20.3	21.2	-72.32	519.1	965.7	165.4	124.1	4.006	
3,500.0	3,297.4	3,497.4	3,268.0	21.0	21.9	-72.03	537.9	1,001.9	171.3	128.6	4.012	
3,600.0	3,389.9	3,597.2	3,359.2	21.7	22.7	-71.76	556.7	1,038.0	177.1	133.1	4.018	
3,700.0	3,482.3	3,697.1	3,450.3	22.4	23.4	-71.50	575.5	1,074.2	183.0	137.5	4.024	
3,800.0	3,574.7	3,796.9	3,541.4	23.1	24.2	-71.27	594.3	1,110.4	188.9	142.0	4.029	
3,900.0	3,667.2	3,896.7	3,632.5	23.8	24.9	-71.04	613.1	1,146.5	194.7	146.5	4.035	
4,000.0	3,759.6	3,996.5	3,723.7	24.5	25.6	-70.83	631.9	1,182.7	200.6	150.9	4.040	
4,100.0	3,852.1	4,096.4	3,814.8	25.2	26.4	-70.64	650.7	1,218.8	206.4	155.4	4.045	
4,200.0	3,944.5	4,196.2	3,905.9	25.9	27.1	-70.45	669.5	1,255.0	212.3	159.9	4.049	
4,300.0	4,036.9	4,296.0	3,997.0	26.6	27.9	-70.27	688.3	1,291.2	218.2	164.4	4.054	
4,400.0	4,129.4	4,395.8	4,088.2	27.3	28.6	-70.11	707.1	1,327.3	224.1	168.8	4.058	
4,500.0	4,221.8	4,495.7	4,179.3	28.0	29.4	-69.95	725.9	1,363.5	229.9	173.3	4.062	
4,600.0	4,314.2	4,595.5	4,270.4	28.7	30.1	-69.80	744.7	1,399.7	235.8	177.8	4.066	
4,700.0	4,406.7	4,695.3	4,361.5	29.4	30.9	-69.65	763.5	1,435.8	241.7	182.3	4.070	
4,800.0	4,499.1	4,795.1	4,452.7	30.1	31.6	-69.51	782.3	1,472.0	247.6	186.8	4.073	
4,900.0	4,591.6	4,895.0	4,543.8	30.8	32.4	-69.38	801.1	1,508.1	253.4	191.3	4.077	
5,000.0	4,684.0	4,994.8	4,634.9	31.5	33.1	-69.26	819.9	1,544.3	259.3	195.8	4.080	

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-16W - OH - Design #1											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
5,100.0	4,776.4	5,094.6	4,726.0	32.2	33.9	-69.14	838.8	1,580.5	265.2	200.3	4.084	
5,200.0	4,868.9	5,194.4	4,817.2	32.9	34.6	-69.03	857.6	1,616.6	271.1	204.7	4.087	
5,300.0	4,961.3	5,294.3	4,908.3	33.6	35.4	-68.92	876.4	1,652.8	277.0	209.2	4.090	
5,400.0	5,053.7	5,394.1	4,999.4	34.3	36.1	-68.81	895.2	1,689.0	282.8	213.7	4.093	
5,500.0	5,146.2	5,493.9	5,090.5	35.0	36.8	-68.71	914.0	1,725.1	288.7	218.2	4.095	
5,600.0	5,238.6	5,593.8	5,181.8	35.7	37.6	-68.62	932.8	1,761.3	294.6	222.7	4.098	
5,700.0	5,331.8	5,700.2	5,279.9	36.4	38.3	-68.68	951.7	1,797.8	300.1	226.8	4.094	
5,800.0	5,426.5	5,806.8	5,380.0	36.9	39.0	-68.73	968.6	1,830.2	305.0	230.4	4.090	
5,900.0	5,522.5	5,913.5	5,481.8	37.4	39.6	-68.78	983.3	1,858.5	309.3	233.6	4.087	
6,000.0	5,619.7	6,020.3	5,585.1	37.9	40.0	-68.82	995.9	1,882.6	312.9	236.3	4.085	
6,100.0	5,717.7	6,127.3	5,689.7	38.2	40.4	-68.85	1,006.2	1,902.4	315.9	238.6	4.085	
6,200.0	5,816.6	6,234.3	5,795.3	38.5	40.7	-68.87	1,014.2	1,917.9	318.3	240.3	4.085	
6,300.0	5,916.0	6,341.4	5,901.7	38.7	41.0	-68.88	1,020.0	1,929.0	319.9	241.6	4.086	
6,400.0	6,015.7	6,448.6	6,008.6	38.8	41.1	-68.89	1,023.5	1,935.7	320.9	242.4	4.087	
6,500.0	6,115.7	6,555.8	6,115.7	38.9	41.2	1.11	1,024.6	1,937.9	321.3	242.7	4.089	
6,600.0	6,215.7	6,655.8	6,215.7	38.9	41.2	1.11	1,024.6	1,937.9	321.3	242.6	4.084	
6,700.0	6,315.7	6,755.8	6,315.7	39.0	41.2	1.11	1,024.6	1,937.9	321.3	242.6	4.081	
6,800.0	6,415.7	6,855.8	6,415.7	39.0	41.2	1.11	1,024.6	1,937.9	321.3	242.5	4.079	
6,900.0	6,515.7	6,955.8	6,515.7	39.0	41.3	1.11	1,024.6	1,937.9	321.3	242.5	4.076	
7,000.0	6,615.7	7,055.8	6,615.7	39.1	41.3	1.11	1,024.6	1,937.9	321.3	242.4	4.073	
7,100.0	6,715.7	7,155.8	6,715.7	39.1	41.3	1.11	1,024.6	1,937.9	321.3	242.3	4.070	
7,200.0	6,815.7	7,255.8	6,815.7	39.1	41.3	1.11	1,024.6	1,937.9	321.3	242.3	4.067	
7,300.0	6,915.7	7,355.8	6,915.7	39.1	41.4	1.11	1,024.6	1,937.9	321.3	242.2	4.064	
7,400.0	7,015.7	7,455.8	7,015.7	39.2	41.4	1.11	1,024.6	1,937.9	321.3	242.2	4.061	
7,500.0	7,115.7	7,555.8	7,115.7	39.2	41.4	1.11	1,024.6	1,937.9	321.3	242.1	4.057	
7,600.0	7,215.7	7,655.8	7,215.7	39.2	41.5	1.11	1,024.6	1,937.9	321.3	242.1	4.054	
7,700.0	7,315.7	7,755.8	7,315.7	39.3	41.5	1.11	1,024.6	1,937.9	321.3	242.0	4.051	
7,800.0	7,415.7	7,855.8	7,415.7	39.3	41.5	1.11	1,024.6	1,937.9	321.3	241.9	4.048	
7,900.0	7,515.7	7,955.8	7,515.7	39.3	41.5	1.11	1,024.6	1,937.9	321.3	241.9	4.045	
8,000.0	7,615.7	8,055.8	7,615.7	39.3	41.6	1.11	1,024.6	1,937.9	321.3	241.8	4.042	
8,100.0	7,715.7	8,155.8	7,715.7	39.4	41.6	1.11	1,024.6	1,937.9	321.3	241.8	4.039	
8,200.0	7,815.7	8,255.8	7,815.7	39.4	41.6	1.11	1,024.6	1,937.9	321.3	241.7	4.036	
8,205.7	7,821.4	8,261.5	7,821.4	39.4	41.6	1.11	1,024.6	1,937.9	321.3	241.7	4.036	
8,300.0	7,915.7	8,331.1	7,891.0	39.4	41.6	1.11	1,024.6	1,937.9	322.2	242.1	4.021	
8,400.0	8,015.7	8,331.1	7,891.0	39.5	41.6	1.11	1,024.6	1,937.9	344.7	266.1	4.389	
8,500.0	8,115.7	8,331.1	7,891.0	39.5	41.6	1.11	1,024.6	1,937.9	392.1	318.8	5.348	
8,600.0	8,215.7	8,331.1	7,891.0	39.5	41.6	1.11	1,024.6	1,937.9	456.8	389.4	6.774	
8,700.0	8,315.7	8,331.1	7,891.0	39.6	41.6	1.11	1,024.6	1,937.9	532.6	470.2	8.545	
8,800.0	8,415.7	8,331.1	7,891.0	39.6	41.6	1.11	1,024.6	1,937.9	615.3	557.0	10.560	
8,900.0	8,515.7	8,331.1	7,891.0	39.6	41.6	1.11	1,024.6	1,937.9	702.5	647.4	12.739	
9,000.0	8,615.7	8,331.1	7,891.0	39.6	41.6	1.11	1,024.6	1,937.9	792.7	740.0	15.026	
9,091.3	8,707.0	8,331.1	7,891.0	39.7	41.6	1.11	1,024.6	1,937.9	877.0	825.9	17.171	



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-18W - OH - Design #1											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	133.25	-10.9	11.6	15.9			
100.0	100.0	100.0	100.0	0.4	0.4	133.25	-10.9	11.6	15.9	15.1	20.122	
200.0	200.0	200.0	200.0	1.2	1.2	133.25	-10.9	11.6	15.9	13.5	6.451 CC	
300.0	300.0	299.6	299.6	1.7	2.3	60.83	-10.4	13.7	16.6	13.2	4.929	
400.0	399.8	399.1	398.9	3.3	3.8	59.27	-9.0	20.0	17.8	12.7	3.453 ES	
500.0	499.3	498.6	497.8	4.6	5.0	58.89	-6.6	30.6	19.5	12.9	2.938	
600.0	598.3	598.0	596.0	5.6	5.9	59.44	-3.3	45.2	21.6	13.8	2.766	
700.0	696.6	697.4	693.5	6.5	6.8	60.83	0.9	64.1	24.2	15.4	2.754 SF	
800.0	794.0	796.7	790.0	7.3	7.5	62.23	6.1	87.0	27.2	17.6	2.833	
900.0	890.3	896.0	885.3	8.0	8.3	64.04	12.2	113.9	30.6	20.3	2.966	
1,000.0	985.3	995.1	979.3	8.7	8.9	65.91	19.1	144.8	34.6	23.5	3.126	
1,100.0	1,078.9	1,094.6	1,072.2	9.4	9.3	68.29	27.0	179.4	38.8	27.2	3.342	
1,200.0	1,171.4	1,194.4	1,165.2	9.7	9.6	73.28	34.9	214.7	42.5	30.6	3.571	
1,300.0	1,263.8	1,294.3	1,258.3	10.0	9.9	77.61	42.9	250.1	46.4	33.8	3.692	
1,400.0	1,356.2	1,394.2	1,351.4	10.3	10.2	81.25	50.9	285.5	50.5	37.0	3.745	
1,500.0	1,448.7	1,494.0	1,444.4	10.6	10.5	84.33	58.9	320.8	54.8	40.2	3.760	
1,600.0	1,541.1	1,593.9	1,537.5	11.0	10.9	86.95	66.9	356.2	59.2	43.4	3.756	
1,700.0	1,633.6	1,693.8	1,630.5	11.3	11.3	89.21	74.8	391.5	63.7	46.7	3.744	
1,800.0	1,726.0	1,793.7	1,723.6	11.7	11.6	91.17	82.8	426.9	68.3	50.0	3.730	
1,900.0	1,818.4	1,893.5	1,816.7	12.1	12.0	92.88	90.8	462.2	73.0	53.4	3.717	
2,000.0	1,910.9	1,993.4	1,909.7	12.5	12.4	94.38	98.8	497.6	77.7	56.8	3.705	
2,100.0	2,003.3	2,093.3	2,002.8	12.9	12.9	95.70	106.8	533.0	82.5	60.2	3.695	
2,200.0	2,095.7	2,193.1	2,095.8	13.3	13.3	96.88	114.8	568.3	87.3	63.7	3.687	
2,300.0	2,188.2	2,293.0	2,188.9	13.8	13.7	97.94	122.7	603.7	92.2	67.2	3.681	
2,400.0	2,280.6	2,392.9	2,281.9	14.2	14.1	98.89	130.7	639.0	97.1	70.7	3.676	
2,500.0	2,373.1	2,492.7	2,375.0	14.7	14.6	99.75	138.7	674.4	102.0	74.2	3.673	
2,600.0	2,465.5	2,592.6	2,468.1	15.1	15.0	100.53	146.7	709.7	106.9	77.8	3.671	
2,700.0	2,557.9	2,692.5	2,561.1	15.6	15.5	101.24	154.7	745.1	111.9	81.4	3.669	
2,800.0	2,650.4	2,792.3	2,654.2	16.1	16.0	101.90	162.7	780.4	116.8	85.0	3.668	
2,900.0	2,742.8	2,892.2	2,747.2	16.8	16.5	102.49	170.6	815.8	121.8	88.6	3.668	
3,000.0	2,835.2	2,992.1	2,840.3	17.5	17.1	103.05	178.6	851.2	126.8	92.2	3.668	
3,100.0	2,927.7	3,091.9	2,933.4	18.2	17.7	103.55	186.6	886.5	131.8	95.9	3.668	
3,200.0	3,020.1	3,191.8	3,026.4	18.9	18.4	104.03	194.6	921.9	136.8	99.5	3.669	
3,300.0	3,112.6	3,291.7	3,119.5	19.6	19.1	104.47	202.6	957.2	141.8	103.2	3.670	
3,400.0	3,205.0	3,391.5	3,212.5	20.3	19.7	104.87	210.5	992.6	146.9	106.9	3.672	
3,500.0	3,297.4	3,491.4	3,305.6	21.0	20.4	105.26	218.5	1,027.9	151.9	110.5	3.673	
3,600.0	3,389.9	3,591.3	3,398.6	21.7	21.0	105.61	226.5	1,063.3	156.9	114.2	3.674	
3,700.0	3,482.3	3,691.2	3,491.7	22.4	21.7	105.95	234.5	1,098.7	162.0	117.9	3.676	
3,800.0	3,574.7	3,791.0	3,584.8	23.1	22.4	106.26	242.5	1,134.0	167.0	121.6	3.678	
3,900.0	3,667.2	3,890.9	3,677.8	23.8	23.0	106.56	250.5	1,169.4	172.1	125.3	3.679	
4,000.0	3,759.6	3,990.8	3,770.9	24.5	23.7	106.84	258.4	1,204.7	177.2	129.0	3.681	
4,100.0	3,852.1	4,090.6	3,863.9	25.2	24.4	107.10	266.4	1,240.1	182.2	132.7	3.683	
4,200.0	3,944.5	4,190.5	3,957.0	25.9	25.0	107.35	274.4	1,275.4	187.3	136.5	3.685	
4,300.0	4,036.9	4,290.4	4,050.1	26.6	25.7	107.59	282.4	1,310.8	192.4	140.2	3.686	
4,400.0	4,129.4	4,390.2	4,143.1	27.3	26.4	107.81	290.4	1,346.1	197.4	143.9	3.688	
4,500.0	4,221.8	4,490.1	4,236.2	28.0	27.1	108.02	298.3	1,381.5	202.5	147.6	3.690	
4,600.0	4,314.2	4,590.0	4,329.2	28.7	27.7	108.23	306.3	1,416.9	207.6	151.4	3.692	
4,700.0	4,406.7	4,689.8	4,422.3	29.4	28.4	108.42	314.3	1,452.2	212.7	155.1	3.693	
4,800.0	4,499.1	4,789.7	4,515.3	30.1	29.1	108.60	322.3	1,487.6	217.8	158.8	3.695	
4,900.0	4,591.6	4,889.6	4,608.4	30.8	29.7	108.78	330.3	1,522.9	222.9	162.6	3.696	
5,000.0	4,684.0	4,989.4	4,701.5	31.5	30.4	108.95	338.3	1,558.3	227.9	166.3	3.698	

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 Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-18W - OH - Design #1											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
5,100.0	4,776.4	5,089.3	4,794.5	32.2	31.1	109.11	346.2	1,593.6	233.0	170.0	3.700	
5,200.0	4,868.9	5,189.2	4,887.6	32.9	31.7	109.26	354.2	1,629.0	238.1	173.8	3.701	
5,300.0	4,961.3	5,289.0	4,980.6	33.6	32.4	109.41	362.2	1,664.4	243.2	177.5	3.703	
5,400.0	5,053.7	5,388.9	5,073.7	34.3	33.1	109.55	370.2	1,699.7	248.3	181.3	3.704	
5,500.0	5,146.2	5,488.8	5,166.8	35.0	33.8	109.68	378.2	1,735.1	253.4	185.0	3.706	
5,600.0	5,238.6	5,588.6	5,259.8	35.7	34.4	109.81	386.1	1,770.4	258.5	188.8	3.707	
5,700.0	5,331.8	5,686.7	5,351.6	36.4	35.0	109.87	393.7	1,804.1	263.2	192.2	3.706	
5,800.0	5,426.5	5,784.0	5,444.0	36.9	35.6	109.90	400.5	1,833.8	267.3	195.1	3.705	
5,900.0	5,522.5	5,881.4	5,537.7	37.4	36.1	109.93	406.3	1,859.7	270.9	197.7	3.704	
6,000.0	5,619.7	5,978.8	5,632.5	37.9	36.5	109.95	411.3	1,881.6	273.9	199.9	3.704	
6,100.0	5,717.7	6,076.2	5,728.1	38.2	36.8	109.97	415.3	1,899.7	276.4	201.7	3.703	
6,200.0	5,816.6	6,173.6	5,824.4	38.5	37.1	109.98	418.5	1,913.7	278.3	203.2	3.703	
6,300.0	5,916.0	6,270.9	5,921.2	38.7	37.3	109.99	420.8	1,923.7	279.7	204.1	3.702	
6,400.0	6,015.7	6,368.3	6,018.4	38.8	37.4	110.00	422.1	1,929.8	280.5	204.7	3.700	
6,500.0	6,115.7	6,465.7	6,115.7	38.9	37.4	180.00	422.6	1,931.7	280.8	204.9	3.697	
6,600.0	6,215.7	6,565.7	6,215.7	38.9	37.5	180.00	422.6	1,931.7	280.8	204.8	3.693	
6,700.0	6,315.7	6,665.7	6,315.7	39.0	37.5	180.00	422.6	1,931.7	280.8	204.7	3.690	
6,800.0	6,415.7	6,765.7	6,415.7	39.0	37.5	180.00	422.6	1,931.7	280.8	204.7	3.687	
6,900.0	6,515.7	6,865.7	6,515.7	39.0	37.6	180.00	422.6	1,931.7	280.8	204.6	3.685	
7,000.0	6,615.7	6,965.7	6,615.7	39.1	37.6	180.00	422.6	1,931.7	280.8	204.5	3.682	
7,100.0	6,715.7	7,065.7	6,715.7	39.1	37.6	180.00	422.6	1,931.7	280.8	204.5	3.679	
7,200.0	6,815.7	7,165.7	6,815.7	39.1	37.6	180.00	422.6	1,931.7	280.8	204.4	3.676	
7,300.0	6,915.7	7,265.7	6,915.7	39.1	37.7	180.00	422.6	1,931.7	280.8	204.4	3.673	
7,400.0	7,015.7	7,365.7	7,015.7	39.2	37.7	180.00	422.6	1,931.7	280.8	204.3	3.670	
7,500.0	7,115.7	7,465.7	7,115.7	39.2	37.7	180.00	422.6	1,931.7	280.8	204.2	3.668	
7,600.0	7,215.7	7,565.7	7,215.7	39.2	37.8	180.00	422.6	1,931.7	280.8	204.2	3.665	
7,700.0	7,315.7	7,665.7	7,315.7	39.3	37.8	180.00	422.6	1,931.7	280.8	204.1	3.662	
7,800.0	7,415.7	7,765.7	7,415.7	39.3	37.8	180.00	422.6	1,931.7	280.8	204.1	3.659	
7,900.0	7,515.7	7,865.7	7,515.7	39.3	37.9	180.00	422.6	1,931.7	280.8	204.0	3.656	
8,000.0	7,615.7	7,965.7	7,615.7	39.3	37.9	180.00	422.6	1,931.7	280.8	203.9	3.653	
8,100.0	7,715.7	8,065.7	7,715.7	39.4	37.9	180.00	422.6	1,931.7	280.8	203.9	3.650	
8,200.0	7,815.7	8,165.7	7,815.7	39.4	37.9	180.00	422.6	1,931.7	280.8	203.8	3.647	
8,205.1	7,820.8	8,170.8	7,820.8	39.4	37.9	180.00	422.6	1,931.7	280.8	203.8	3.647	
8,300.0	7,915.7	8,240.0	7,890.0	39.4	38.0	180.00	422.6	1,931.7	282.0	205.7	3.697	
8,400.0	8,015.7	8,240.0	7,890.0	39.5	38.0	180.00	422.6	1,931.7	307.7	238.2	4.426	
8,500.0	8,115.7	8,240.0	7,890.0	39.5	38.0	180.00	422.6	1,931.7	360.3	299.6	5.933	
8,600.0	8,215.7	8,240.0	7,890.0	39.5	38.0	180.00	422.6	1,931.7	430.1	376.7	8.055	
8,700.0	8,315.7	8,240.0	7,890.0	39.6	38.0	180.00	422.6	1,931.7	510.0	461.8	10.585	
8,800.0	8,415.7	8,240.0	7,890.0	39.6	38.0	180.00	422.6	1,931.7	596.0	551.3	13.336	
8,900.0	8,515.7	8,240.0	7,890.0	39.6	38.0	180.00	422.6	1,931.7	685.8	643.4	16.177	
9,000.0	8,615.7	8,240.0	7,890.0	39.6	38.0	180.00	422.6	1,931.7	778.2	737.3	19.029	
9,091.3	8,707.0	8,240.0	7,890.0	39.7	38.0	180.00	422.6	1,931.7	863.9	823.9	21.606	



Anticollision Report

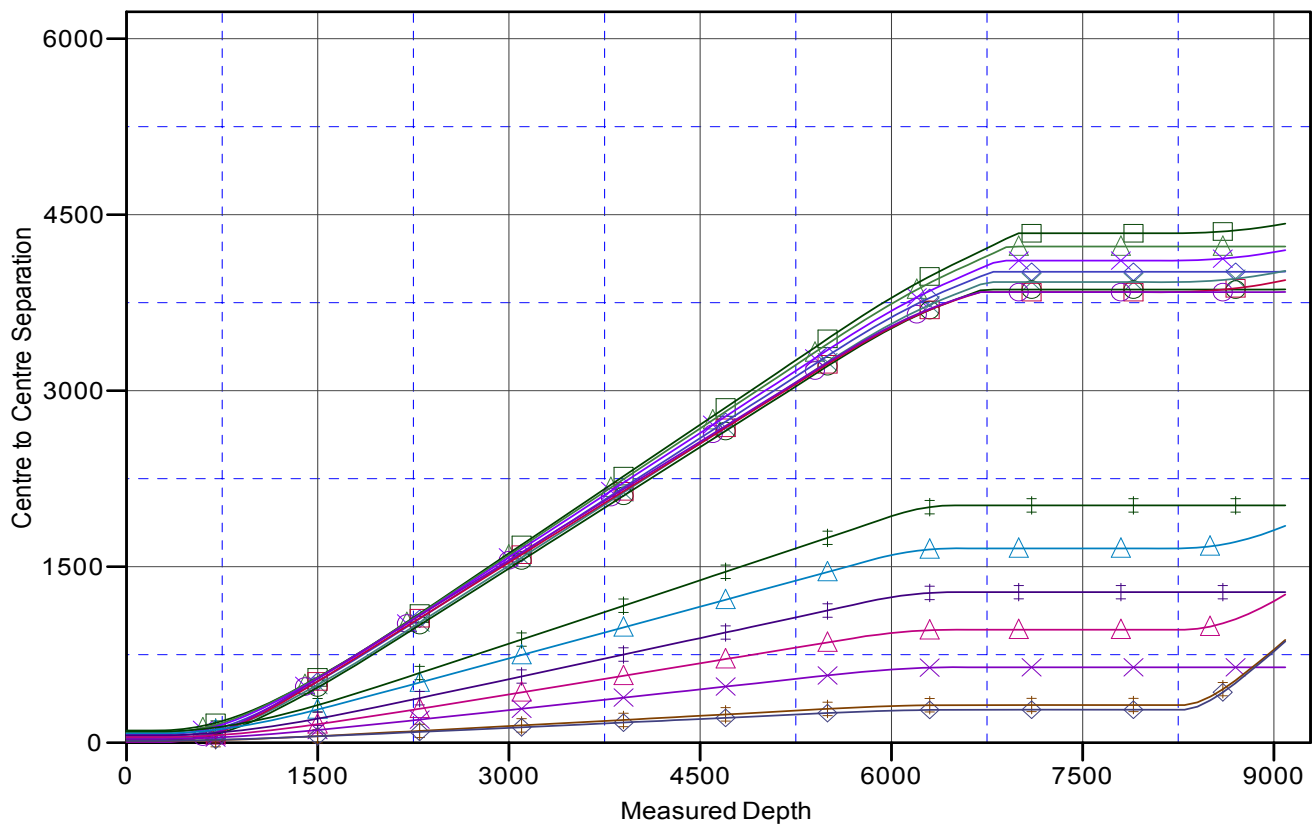


Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=30'; @ 7493.0usft (TBD)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Laramie 29-01 Fed 0993-21-17W - Slot A-14
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.44°

Ladder Plot



LEGEND

29-01 0993-20-11E, OH, Design #1 V0	Laramie 29-01 0993-20-16E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-13W, OH,
29-01 0993-20-12E, OH, Design #1 V0	Laramie 29-01 0993-20-17E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-14W, OH,
29-01 0993-20-13E, OH, Design #1 V0	Laramie 29-01 0993-20-18E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-15W, OH,
29-01 0993-20-14E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-11W, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-16W, OH,
29-01 0993-20-15E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-12W, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-18W, OH,



Anticollision Report

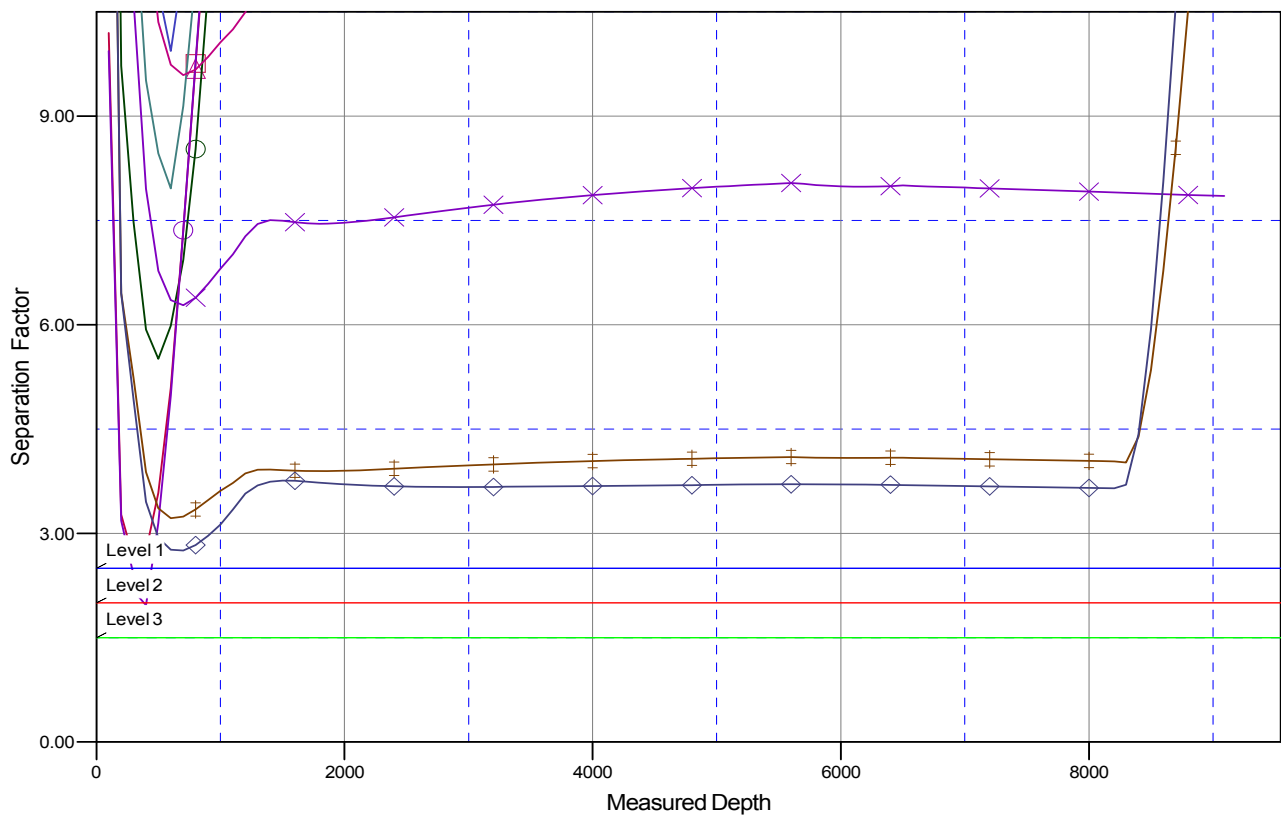


Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A-14
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Laramie 29-01 Fed 0993-21-17W	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=30'; @ 7493.0usft (TBD)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Laramie 29-01 Fed 0993-21-17W - Slot A-14
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.44°

Separation Factor Plot



LEGEND

29-01 0993-20-11E, OH, Design #1 V0	Laramie 29-01 0993-20-16E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-13W, OH,
29-01 0993-20-12E, OH, Design #1 V0	Laramie 29-01 0993-20-17E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-14W, OH,
29-01 0993-20-13E, OH, Design #1 V0	Laramie 29-01 0993-20-18E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-15W, OH,
29-01 0993-20-14E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-11W, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-16W, OH,
29-01 0993-20-15E, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-12W, OH, Design #1 V0	Laramie 29-01 Fed 0993-21-18W, OH,