



Laramie Energy, LLC

Mesa County, CO

Laramie 0993-29-01

Laramie 29-01 Fed 0993-21-17W

OH

Design #2

KLX Anticollision Report

08 May, 2025





Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference	Design #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0usft
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	5/8/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,096.3	Design #2 (OH)	OWSG (REV5) MWD HD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Separation Factor	Warning	
Offset Well - Wellbore - Design						
Laramie 0993-29-01						
Laramie 29-01 0993-20-11E - OH - Design #2	200.0	200.0	70.0	67.2	24.741	CC, ES
Laramie 29-01 0993-20-11E - OH - Design #2	500.0	490.0	93.2	85.8	12.485	SF
Laramie 29-01 0993-20-12E - OH - Design #2	200.0	200.0	70.7	67.9	24.992	CC, ES
Laramie 29-01 0993-20-12E - OH - Design #2	500.0	488.9	96.8	88.8	12.145	SF
Laramie 29-01 0993-20-13E - OH - Design #2	200.0	200.0	60.8	58.0	21.500	CC
Laramie 29-01 0993-20-13E - OH - Design #2	204.4	204.4	60.8	58.0	21.374	ES
Laramie 29-01 0993-20-13E - OH - Design #2	500.0	490.8	85.0	77.9	12.040	SF
Laramie 29-01 0993-20-14E - OH - Design #2	200.0	200.0	51.0	48.2	18.026	CC
Laramie 29-01 0993-20-14E - OH - Design #2	204.4	204.4	51.0	48.1	17.876	ES
Laramie 29-01 0993-20-14E - OH - Design #2	500.0	492.7	72.1	64.4	9.354	SF
Laramie 29-01 0993-20-15E - OH - Design #2	200.0	200.0	41.2	38.4	14.569	CC
Laramie 29-01 0993-20-15E - OH - Design #2	300.0	300.0	41.6	38.1	11.859	ES
Laramie 29-01 0993-20-15E - OH - Design #2	500.0	494.5	58.9	51.3	7.732	SF
Laramie 29-01 0993-20-16E - OH - Design #2	200.0	200.0	22.4	19.5	7.900	CC
Laramie 29-01 0993-20-16E - OH - Design #2	204.4	204.4	22.4	19.5	7.837	ES
Laramie 29-01 0993-20-16E - OH - Design #2	400.0	398.1	30.7	25.1	5.491	SF
Laramie 29-01 0993-20-17E - OH - Design #2	200.0	200.0	14.1	11.3	4.998	CC
Laramie 29-01 0993-20-17E - OH - Design #2	300.0	300.0	14.7	11.1	4.153	ES
Laramie 29-01 0993-20-17E - OH - Design #2	400.0	399.3	20.1	14.9	3.905	SF
Laramie 29-01 0993-20-18E - OH - Design #2	200.0	200.0	14.1	11.3	4.998	CC
Laramie 29-01 0993-20-18E - OH - Design #2	300.0	300.0	14.3	10.8	4.089	ES
Laramie 29-01 0993-20-18E - OH - Design #2	400.0	399.8	16.5	12.1	3.730	SF
Laramie 29-01 Fed 0993-21-11W - OH - Design #2	200.0	200.0	60.0	57.2	21.209	CC
Laramie 29-01 Fed 0993-21-11W - OH - Design #2	204.4	204.4	60.0	57.2	21.100	ES
Laramie 29-01 Fed 0993-21-11W - OH - Design #2	600.0	596.0	80.2	73.8	12.434	SF
Laramie 29-01 Fed 0993-21-12W - OH - Design #2	200.0	200.0	50.0	47.2	17.675	CC
Laramie 29-01 Fed 0993-21-12W - OH - Design #2	300.0	299.6	50.6	47.1	14.340	ES
Laramie 29-01 Fed 0993-21-12W - OH - Design #2	600.0	597.0	68.5	62.1	10.767	SF
Laramie 29-01 Fed 0993-21-13W - OH - Design #2	200.0	200.0	40.0	37.2	14.134	CC
Laramie 29-01 Fed 0993-21-13W - OH - Design #2	300.0	300.0	40.2	36.9	12.137	ES
Laramie 29-01 Fed 0993-21-13W - OH - Design #2	600.0	599.5	51.4	45.5	8.760	SF
Laramie 29-01 Fed 0993-21-14W - OH - Design #2	200.0	200.0	30.0	27.2	10.600	CC
Laramie 29-01 Fed 0993-21-14W - OH - Design #2	300.0	300.1	30.1	26.6	8.737	ES
Laramie 29-01 Fed 0993-21-14W - OH - Design #2	500.0	500.1	34.4	29.3	6.729	SF
Laramie 29-01 Fed 0993-21-15W - OH - Design #2	200.0	200.0	20.0	17.2	7.068	CC
Laramie 29-01 Fed 0993-21-15W - OH - Design #2	300.0	300.1	20.1	16.9	6.182	ES

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



Anticollision Report



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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:	KLXDirectional-AD
Reference Design:	Design #2	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 0993-21-15W - OH - Design #2	600.0	600.6	26.3	20.4	4.425	SF
Laramie 29-01 Fed 0993-21-16W - OH - Design #2	200.0	200.0	10.0	7.2	3.534	CC
Laramie 29-01 Fed 0993-21-16W - OH - Design #2	300.0	300.0	10.3	6.8	2.933	ES
Laramie 29-01 Fed 0993-21-16W - OH - Design #2	600.0	600.8	16.5	8.3	2.017	Level 1, SF
Laramie 29-01 Fed 0993-21-18W - OH - Design #2	353.7	353.5	9.7	5.8	2.471	Level 1, CC
Laramie 29-01 Fed 0993-21-18W - OH - Design #2	500.0	499.6	10.5	5.4	2.078	Level 1, ES, SF

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis 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	-46.74	48.0	-51.0	70.0			
100.0	100.0	100.0	100.0	0.8	0.8	-46.74	48.0	-51.0	70.0	68.4	44.186	
200.0	200.0	200.0	200.0	1.4	1.4	-46.74	48.0	-51.0	70.0	67.2	24.741	CC, ES
300.0	300.0	297.3	297.3	1.7	2.5	-116.77	49.9	-51.7	72.1	68.2	18.221	
400.0	399.9	394.1	393.9	3.0	3.9	-117.35	55.7	-53.8	79.8	74.0	13.653	
500.0	499.5	490.0	489.2	4.3	5.0	-118.82	65.2	-57.2	93.2	85.8	12.485	SF
600.0	598.6	584.4	582.6	5.4	5.9	-120.56	78.2	-62.0	112.4	103.6	12.730	
700.0	697.1	676.2	672.8	6.3	6.7	-122.35	94.1	-68.2	137.6	127.5	13.707	
800.0	794.7	765.2	759.6	7.1	7.3	-124.15	112.1	-76.5	168.8	157.7	15.152	
900.0	891.3	851.0	842.4	7.9	7.9	-125.71	131.8	-86.6	206.2	194.0	16.916	
1,000.0	986.7	933.0	920.9	8.6	8.5	-126.95	152.9	-98.1	249.3	236.2	18.920	
1,100.0	1,080.6	1,011.2	994.8	9.3	9.0	-127.83	175.0	-110.8	298.1	283.9	21.112	
1,200.0	1,173.2	1,085.3	1,064.0	9.6	9.5	-128.90	197.6	-124.4	351.8	336.9	23.691	
1,300.0	1,265.5	1,156.6	1,129.8	9.9	9.9	-130.10	221.0	-138.8	408.5	392.9	26.277	
1,400.0	1,357.8	1,225.3	1,192.4	10.2	10.3	-130.88	244.9	-154.0	467.5	451.3	28.799	
1,500.0	1,450.1	1,291.4	1,251.7	10.5	10.7	-131.36	269.3	-169.8	528.7	511.8	31.268	
1,600.0	1,542.4	1,354.9	1,308.0	10.9	11.1	-131.65	293.9	-186.1	591.9	574.3	33.684	
1,700.0	1,634.6	1,415.9	1,361.3	11.3	11.4	-131.79	318.6	-202.7	657.0	638.8	36.055	
1,800.0	1,726.9	1,474.6	1,411.7	11.6	11.8	-131.83	343.4	-219.5	723.8	705.0	38.383	
1,900.0	1,819.2	1,530.8	1,459.3	12.0	12.1	-131.80	368.0	-236.5	792.3	772.8	40.675	
2,000.0	1,911.5	1,584.8	1,504.3	12.4	12.4	-131.72	392.4	-253.5	862.4	842.3	42.937	
2,100.0	2,003.8	1,636.5	1,546.8	12.8	12.6	-131.61	416.6	-270.5	933.9	913.2	45.232	
2,200.0	2,096.1	1,686.2	1,587.0	13.3	12.9	-131.47	440.5	-287.4	1,006.7	985.5	47.528	
2,300.0	2,188.4	1,754.0	1,641.3	13.7	13.1	-131.28	473.5	-310.8	1,080.3	1,058.3	49.230	
2,400.0	2,280.7	1,821.7	1,695.6	14.1	13.3	-131.11	506.4	-334.3	1,153.8	1,131.1	50.770	
2,500.0	2,373.0	1,889.4	1,750.0	14.6	13.6	-130.96	539.4	-357.7	1,227.3	1,203.8	52.172	
2,600.0	2,465.3	1,957.2	1,804.3	15.0	13.9	-130.83	572.4	-381.2	1,300.9	1,276.5	53.461	
2,700.0	2,557.5	2,024.9	1,858.6	15.5	14.2	-130.72	605.4	-404.6	1,374.4	1,349.3	54.681	
2,800.0	2,649.8	2,092.7	1,912.9	16.1	14.5	-130.61	638.3	-428.1	1,447.9	1,421.9	55.675	
2,900.0	2,742.1	2,160.4	1,967.3	16.8	15.0	-130.51	671.3	-451.5	1,521.5	1,494.6	56.630	
3,000.0	2,834.4	2,228.1	2,021.6	17.5	15.6	-130.43	704.3	-474.9	1,595.0	1,567.3	57.543	
3,100.0	2,926.7	2,295.9	2,075.9	18.2	16.3	-130.35	737.2	-498.4	1,668.6	1,640.0	58.373	
3,200.0	3,019.0	2,363.6	2,130.2	18.9	17.0	-130.28	770.2	-521.8	1,742.1	1,712.7	59.124	
3,300.0	3,111.3	2,431.3	2,184.6	19.6	17.7	-130.21	803.2	-545.3	1,815.7	1,785.3	59.823	
3,400.0	3,203.6	2,499.1	2,238.9	20.3	18.5	-130.15	836.2	-568.7	1,889.2	1,858.0	60.471	
3,500.0	3,295.9	2,566.8	2,293.2	21.0	19.2	-130.09	869.1	-592.2	1,962.8	1,930.7	61.063	

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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Measured Offset 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	
3,600.0	3,388.1	2,634.6	2,347.6	21.7	20.0	-130.04	902.1	-615.6	2,036.3	2,003.3	61.615		
3,700.0	3,480.4	2,702.3	2,401.9	22.4	20.7	-129.99	935.1	-639.1	2,109.9	2,075.9	62.129		
3,800.0	3,572.7	2,770.0	2,456.2	23.1	21.5	-129.95	968.1	-662.5	2,183.5	2,148.6	62.603		
3,900.0	3,665.0	2,837.8	2,510.5	23.8	22.2	-129.91	1,001.0	-685.9	2,257.0	2,221.2	63.045		
4,000.0	3,757.3	2,905.5	2,564.9	24.5	23.0	-129.87	1,034.0	-709.4	2,330.6	2,293.8	63.459		
4,100.0	3,849.6	2,973.2	2,619.2	25.2	23.7	-129.83	1,067.0	-732.8	2,404.1	2,366.5	63.843		
4,200.0	3,941.9	3,041.0	2,673.5	25.9	24.5	-129.79	1,099.9	-756.3	2,477.7	2,439.1	64.203		
4,300.0	4,034.2	3,108.7	2,727.8	26.6	25.3	-129.76	1,132.9	-779.7	2,551.2	2,511.7	64.540		
4,400.0	4,126.5	3,176.4	2,782.2	27.3	26.0	-129.73	1,165.9	-803.2	2,624.8	2,584.3	64.855		
4,500.0	4,218.8	3,244.2	2,836.5	28.1	26.8	-129.70	1,198.9	-826.6	2,698.4	2,656.9	65.151		
4,600.0	4,311.0	3,311.9	2,890.8	28.8	27.6	-129.67	1,231.8	-850.1	2,771.9	2,729.6	65.430		
4,700.0	4,403.3	3,379.7	2,945.1	29.5	28.3	-129.64	1,264.8	-873.5	2,845.5	2,802.2	65.691		
4,800.0	4,495.6	3,447.4	2,999.5	30.2	29.1	-129.62	1,297.8	-897.0	2,919.0	2,874.8	65.937		
4,900.0	4,587.9	3,515.1	3,053.8	30.9	29.9	-129.60	1,330.8	-920.4	2,992.6	2,947.4	66.169		
5,000.0	4,680.2	3,582.9	3,108.1	31.6	30.6	-129.57	1,363.7	-943.8	3,066.2	3,020.0	66.388		
5,100.0	4,772.5	3,650.6	3,162.4	32.3	31.4	-129.55	1,396.7	-967.3	3,139.7	3,092.6	66.594		
5,200.0	4,864.8	3,718.3	3,216.8	33.0	32.2	-129.53	1,429.7	-990.7	3,213.3	3,165.2	66.789		
5,300.0	4,957.1	3,786.1	3,271.1	33.7	33.0	-129.51	1,462.6	-1,014.2	3,286.8	3,237.8	66.974		
5,400.0	5,049.4	3,853.8	3,325.4	34.5	33.7	-129.49	1,495.6	-1,037.6	3,360.4	3,310.4	67.148		
5,500.0	5,141.7	3,921.5	3,379.8	35.2	34.5	-129.47	1,528.6	-1,061.1	3,434.0	3,383.0	67.314		
5,600.0	5,233.9	3,989.3	3,434.1	35.9	35.3	-129.49	1,561.6	-1,084.5	3,507.5	3,455.5	67.471		
5,700.0	5,327.1	4,058.0	3,489.2	36.6	36.0	-131.44	1,595.0	-1,108.3	3,580.1	3,527.1	67.535		
5,800.0	5,421.7	4,128.6	3,545.9	37.2	36.8	-133.15	1,629.4	-1,132.8	3,650.7	3,596.7	67.619		
5,900.0	5,517.6	4,201.0	3,603.9	37.7	37.7	-134.65	1,664.6	-1,157.8	3,719.1	3,664.1	67.684		
6,000.0	5,614.7	4,275.0	3,663.2	38.1	38.5	-135.96	1,700.6	-1,183.4	3,785.3	3,729.4	67.732		
6,100.0	5,712.8	4,350.4	3,723.7	38.5	39.4	-137.10	1,737.3	-1,209.5	3,849.1	3,792.3	67.768		
6,200.0	5,811.6	4,427.1	3,785.2	38.8	40.3	-138.08	1,774.7	-1,236.1	3,910.6	3,852.9	67.795		
6,300.0	5,910.9	4,505.0	3,847.7	39.0	41.1	-138.92	1,812.6	-1,263.0	3,969.5	3,911.0	67.819		
6,400.0	6,010.7	4,583.9	3,911.0	39.1	42.0	-139.63	1,851.0	-1,290.3	4,025.9	3,966.6	67.847		
6,500.0	6,110.7	4,663.7	3,975.0	39.2	43.0	-140.22	1,889.8	-1,317.9	4,079.7	4,019.7	67.999		
6,600.0	6,210.7	4,743.9	4,039.3	39.2	43.9	-69.39	1,928.9	-1,345.7	4,132.2	4,071.6	68.198		
6,700.0	6,310.7	4,824.1	4,103.6	39.3	44.8	-68.95	1,967.9	-1,373.5	4,184.8	4,123.7	68.403		
6,800.0	6,410.7	4,904.3	4,168.0	39.3	45.7	-68.53	2,007.0	-1,401.2	4,237.7	4,175.9	68.607		
6,900.0	6,510.7	4,984.5	4,232.3	39.3	46.6	-68.12	2,046.0	-1,429.0	4,290.7	4,228.3	68.809		
7,000.0	6,610.7	5,064.7	4,300.5	39.3	47.5	-67.71	2,084.8	-1,456.8	4,342.4	4,295.9	69.011		
7,100.0	6,710.7	5,144.9	4,368.7	39.3	48.4	-67.30	2,123.6	-1,484.6	4,394.4	4,367.9	69.213		
7,200.0	6,810.7	5,225.1	4,436.9	39.3	49.3	-66.89	2,162.4	-1,512.4	4,446.4	4,435.9	69.415		
7,300.0	6,910.7	5,305.3	4,505.1	39.3	50.2	-66.48	2,201.2	-1,540.2	4,498.4	4,507.9	69.617		
7,400.0	7,010.7	5,385.5	4,573.3	39.3	51.1	-66.07	2,240.0	-1,568.0	4,550.4	4,579.9	69.819		
7,500.0	7,110.7	5,465.7	4,641.5	39.3	52.0	-65.66	2,278.8	-1,595.8	4,602.4	4,651.9	70.021		
7,600.0	7,210.7	5,545.9	4,709.7	39.3	52.9	-65.25	2,317.6	-1,623.6	4,654.4	4,723.9	70.223		
7,700.0	7,310.7	5,626.1	4,777.9	39.3	53.8	-64.84	2,356.4	-1,651.4	4,706.4	4,795.9	70.425		
7,800.0	7,410.7	5,706.3	4,846.1	39.3	54.7	-64.43	2,395.2	-1,679.2	4,758.4	4,867.9	70.627		
7,900.0	7,510.7	5,786.5	4,914.3	39.3	55.6	-64.02	2,434.0	-1,707.0	4,810.4	4,939.9	70.829		
8,000.0	7,610.7	5,866.7	4,982.5	39.3	56.5	-63.61	2,472.8	-1,734.8	4,862.4	5,011.9	71.031		
8,100.0	7,710.7	5,946.9	5,050.7	39.3	57.4	-63.20	2,511.6	-1,762.6	4,914.4	5,083.9	71.233		
8,200.0	7,810.7	6,027.1	5,118.9	39.3	58.3	-62.79	2,550.4	-1,790.4	4,966.4	5,155.9	71.435		
8,300.0	7,910.7	6,107.3	5,187.1	39.3	59.2	-62.38	2,589.2	-1,818.2	5,018.4	5,227.9	71.637		
8,400.0	8,010.7	6,187.5	5,255.3	39.3	60.1	-61.97	2,628.0	-1,846.0	5,070.4	5,299.9	71.839		
8,500.0	8,110.7	6,267.7	5,323.5	39.3	61.0	-61.56	2,666.8	-1,873.8	5,122.4	5,371.9	72.041		
8,600.0	8,210.7	6,347.9	5,391.7	39.3	61.9	-61.15	2,705.6	-1,901.6	5,174.4	5,443.9	72.243		
8,700.0	8,310.7	6,428.1	5,459.9	39.3	62.8	-60.74	2,744.4	-1,929.4	5,226.4	5,515.9	72.445		
8,800.0	8,410.7	6,508.3	5,528.1	39.3	63.7	-60.33	2,783.2	-1,957.2	5,278.4	5,587.9	72.647		
8,900.0	8,510.7	6,588.5	5,596.3	39.3	64.6	-59.92	2,822.0	-1,985.0	5,330.4	5,659.9	72.849		
9,000.0	8,610.7	6,668.7	5,664.5	39.3	65.5	-59.51	2,860.8	-2,012.8	5,382.4	5,731.9	73.051		
9,100.0	8,710.7	6,748.9	5,732.7	39.3	66.4	-59.10	2,899.6	-2,040.6	5,434.4	5,803.9	73.253		
9,200.0	8,810.7	6,829.1	5,800.9	39.3	67.3	-58.69	2,938.4	-2,068.4	5,486.4	5,875.9	73.455		
9,300.0	8,910.7	6,909.3	5,869.1	39.3	68.2	-58.28	2,977.2	-2,096.2	5,538.4	5,947.9	73.657		
9,400.0	9,010.7	6,989.5	5,937.3	39.3	69.1	-57.87	3,016.0	-2,124.0	5,590.4	6,019.9	73.859		
9,500.0	9,110.7	7,069.7	6,005.5	39.3	70.0	-57.46	3,054.8	-2,151.8	5,642.4	6,091.9	74.061		
9,600.0	9,210.7	7,149.9	6,073.7	39.3	70.9	-57.05	3,093.6	-2,179.6	5,694.4	6,163.9	74.263		
9,700.0	9,310.7	7,230.1	6,141.9	39.3	71.8	-56.64	3,132.4	-2,207.4	5,746.4	6,235.9	74.465		
9,800.0	9,410.7	7,310.3	6,210.1	39.3	72.7	-56.23	3,171.2	-2,235.2	5,798.4	6,307.9	74.667		
9,900.0	9,510.7	7,390.5	6,278.3	39.3	73.6	-55.82	3,210.0	-2,263.0	5,850.4	6,379.9	74.869		
10,000.0	9,610.7	7,470.7	6,346.5	39.3	74.5	-55.41	3,248.8	-2,290.8	5,902.4	6,451.9	75.071		
10,100.0	9,710.7	7,550.9	6,414.7	39.3	75.4	-55.00	3,287.6	-2,318.6	5,954.4	6,523.9	75.273		
10,200.0	9,810.7	7,631.1	6,482.9	39.3	76.3	-54.59	3,326.4	-2,346.4	6,006.4	6,595.9	75.475		
10,300.0	9,910.7	7,711.3	6,551.1	39.3	77.2	-54.18	3,365.2	-2,374.2	6,058.4	6,667.9	75.677		
10,400.0	10,010.7	7,791.5	6,619.3	39.3	78.1	-53.77	3,404.0	-2,402.0	6,110.4	6,739.9	75.879		
10,500.0	10,110.7	7,871.7	6,687.5	39.3	79.0	-53.36	3,442.8	-2,430.0	6,162.4	6,811.9	76.081		
10,600.0	10,210.7	7,951.9	6,755.7	39.3	79.9	-52.95	3,481.6	-2,457.8	6,214.4	6,883.9	76.283		
10,700.0	10,310.7	8,032.1	6,823.9	39.3	80.8	-52.54	3,520.4	-2,485.6	6,266.4	6,955.9	76.485		
10,800.0	10,410.7	8,112.3	6,892.1	39.3	81.7	-52.13	3,559.2	-2,513.4	6,318.4	7,027.9	76.687		
10,900.0	10,510.7	8,192.5	6,960.3	39.3	82.6	-51.72	3,598.0	-2,541.2	6,370.4	7,099.9	76.889		
11,000.0	10,610.7	8,272.7	7,028.5	39.3	83.5	-51.31	3,636.8	-2,569.0	6,422.4	7,171.9	77.091		
11,100.0	10,710.7	8,352.9	7,096.7	39.3	84.4	-50.90	3,675.6	-2,596.8	6,474.4	7,243.9	77.293		
11,200.0	10,810.7	8,433.1	7,164.9	39.3	85.3	-50.49	3,714.4	-2,624.6	6,526.4	7,315.9	77.495		
11,300.0	10,910.7	8,513.3	7,233.1	39.3	86.2	-50.08	3,753.2	-2,652.4	6,578.4	7,387.9	77.697		
11,400.0	11,010.7	8,593.5	7,301.3	39.3	87.1	-49.67	3,792.0	-2,680.2	6,630.4	7,459.9	77.899		
11,500.0													



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-11E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	
8,600.0	8,210.7	8,828.6	7,859.0	39.8	61.9	-62.31	2,708.8	-1,900.3	4,356.6	4,274.9	53.275		
8,700.0	8,310.7	8,828.6	7,859.0	39.8	61.9	-62.31	2,708.8	-1,900.3	4,365.9	4,284.0	53.338		
8,800.0	8,410.7	8,828.6	7,859.0	39.9	61.9	-62.31	2,708.8	-1,900.3	4,377.3	4,295.4	53.448		
8,900.0	8,510.7	8,828.6	7,859.0	39.9	61.9	-62.31	2,708.8	-1,900.3	4,391.1	4,309.1	53.605		
9,000.0	8,610.7	8,828.6	7,859.0	39.9	61.9	-62.31	2,708.8	-1,900.3	4,407.0	4,325.1	53.809		
9,097.1	8,707.8	8,828.6	7,859.0	40.0	61.9	-62.31	2,708.8	-1,900.3	4,424.6	4,342.8	54.104		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-12E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-54.86	40.7	-57.8	70.7				
100.0	100.0	100.0	100.0	0.8	0.8	-54.86	40.7	-57.8	70.7	69.1	44.635		
200.0	200.0	200.0	200.0	1.4	1.4	-54.86	40.7	-57.8	70.7	67.9	24.992	CC, ES	
300.0	300.0	297.1	297.0	1.7	2.4	-125.12	42.3	-59.1	73.0	69.1	18.296		
400.0	399.9	393.6	393.4	3.0	3.9	-126.10	47.2	-62.8	81.6	75.5	13.353		
500.0	499.5	488.9	488.1	4.3	5.0	-127.95	55.1	-68.9	96.8	88.8	12.145	SF	
600.0	598.6	582.3	580.5	5.4	5.9	-129.96	65.9	-77.2	118.5	109.0	12.464		
700.0	697.1	673.3	669.9	6.3	6.7	-131.71	79.3	-87.5	146.8	135.9	13.519		
800.0	794.7	761.3	755.7	7.1	7.3	-133.06	94.9	-99.5	181.4	169.3	15.033		
900.0	891.3	845.9	837.4	7.9	8.0	-134.02	112.4	-112.9	222.0	208.8	16.869		
1,000.0	986.7	926.8	914.7	8.6	8.5	-134.61	131.3	-127.5	268.3	254.2	18.945		
1,100.0	1,080.6	1,000.0	983.9	9.3	9.0	-134.83	150.3	-142.1	320.1	305.1	21.307		
1,200.0	1,173.2	1,076.6	1,055.3	9.6	9.5	-135.41	172.0	-158.8	376.6	360.8	23.862		
1,300.0	1,265.5	1,146.7	1,120.0	9.9	10.0	-136.15	193.5	-175.3	435.8	419.3	26.521		
1,400.0	1,357.8	1,214.3	1,181.5	10.2	10.4	-136.55	215.7	-192.4	497.0	479.9	29.107		
1,500.0	1,450.1	1,279.4	1,240.0	10.5	10.8	-136.72	238.5	-209.9	560.0	542.3	31.629		
1,600.0	1,542.4	1,342.2	1,295.5	10.9	11.2	-136.74	261.7	-227.7	624.9	606.6	34.091		
1,700.0	1,634.6	1,400.0	1,345.9	11.3	11.5	-136.65	284.1	-245.0	691.4	672.5	36.589		
1,800.0	1,726.9	1,460.5	1,397.9	11.6	11.8	-136.49	308.6	-263.8	759.6	740.0	38.859		
1,900.0	1,819.2	1,516.2	1,445.0	12.0	12.1	-136.28	332.2	-281.9	829.2	809.1	41.232		
2,000.0	1,911.5	1,571.4	1,491.0	12.4	12.3	-136.03	356.4	-300.5	900.2	879.6	43.655		
2,100.0	2,003.8	1,641.2	1,548.8	12.8	12.5	-135.72	387.4	-324.4	971.8	950.4	45.548		
2,200.0	2,096.1	1,710.9	1,606.5	13.3	12.8	-135.46	418.4	-348.2	1,043.4	1,021.3	47.265		
2,300.0	2,188.4	1,780.6	1,664.3	13.7	13.0	-135.23	449.4	-372.1	1,115.0	1,092.1	48.816		
2,400.0	2,280.7	1,850.4	1,722.0	14.1	13.2	-135.03	480.4	-395.9	1,186.6	1,163.0	50.232		
2,500.0	2,373.0	1,920.1	1,779.7	14.6	13.5	-134.85	511.4	-419.7	1,258.2	1,233.8	51.523		
2,600.0	2,465.3	1,989.9	1,837.5	15.0	13.7	-134.70	542.4	-443.6	1,329.8	1,304.6	52.699		
2,700.0	2,557.5	2,059.6	1,895.2	15.5	14.0	-134.55	573.4	-467.4	1,401.5	1,375.4	53.788		
2,800.0	2,649.8	2,129.3	1,952.9	16.1	14.3	-134.42	604.4	-491.3	1,473.1	1,446.2	54.788		
2,900.0	2,742.1	2,199.1	2,010.7	16.8	14.8	-134.31	635.5	-515.1	1,544.7	1,517.0	55.664		
3,000.0	2,834.4	2,268.8	2,068.4	17.5	15.5	-134.20	666.5	-538.9	1,616.4	1,587.8	56.483		
3,100.0	2,926.7	2,338.5	2,126.2	18.2	16.3	-134.10	697.5	-562.8	1,688.0	1,658.5	57.255		
3,200.0	3,019.0	2,408.3	2,183.9	18.9	17.0	-134.01	728.5	-586.6	1,759.7	1,729.3	57.967		
3,300.0	3,111.3	2,478.0	2,241.6	19.6	17.7	-133.93	759.5	-610.5	1,831.3	1,800.1	58.617		
3,400.0	3,203.6	2,547.8	2,299.4	20.3	18.5	-133.86	790.5	-634.3	1,903.0	1,870.8	59.219		
3,500.0	3,295.9	2,617.5	2,357.1	21.0	19.2	-133.79	821.5	-658.1	1,974.6	1,941.6	59.779		
3,600.0	3,388.1	2,687.2	2,414.8	21.7	19.9	-133.72	852.5	-682.0	2,046.3	2,012.3	60.298		
3,700.0	3,480.4	2,757.0	2,472.6	22.4	20.7	-133.66	883.5	-705.8	2,117.9	2,083.1	60.777		
3,800.0	3,572.7	2,826.7	2,530.3	23.1	21.4	-133.60	914.5	-729.7	2,189.6	2,153.8	61.226		
3,900.0	3,665.0	2,896.5	2,588.1	23.8	22.1	-133.55	945.5	-753.5	2,261.2	2,224.5	61.645		
4,000.0	3,757.3	2,966.2	2,645.8	24.5	22.9	-133.50	976.5	-777.3	2,332.9	2,295.3	62.032		
4,100.0	3,849.6	3,035.9	2,703.5	25.2	23.6	-133.45	1,007.5	-801.2	2,404.5	2,366.0	62.396		
4,200.0	3,941.9	3,105.7	2,761.3	25.9	24.3	-133.40	1,038.5	-825.0	2,476.2	2,436.7	62.738		
4,300.0	4,034.2	3,175.4	2,819.0	26.6	25.1	-133.36	1,069.5	-848.9	2,547.9	2,507.4	63.056		
4,400.0	4,126.5	3,245.1	2,876.8	27.3	25.8	-133.32	1,100.5	-872.7	2,619.5	2,578.2	63.354		
4,500.0	4,218.8	3,314.9	2,934.5	28.1	26.6	-133.28	1,131.6	-896.5	2,691.2	2,648.9	63.636		
4,600.0	4,311.0	3,384.6	2,992.2	28.8	27.3	-133.25	1,162.6	-920.4	2,762.8	2,719.6	63.900		
4,700.0	4,403.3	3,454.4	3,050.0	29.5	28.0	-133.21	1,193.6	-944.2	2,834.5	2,790.3	64.147		
4,800.0	4,495.6	3,524.1	3,107.7	30.2	28.8	-133.18	1,224.6	-968.1	2,906.2	2,861.0	64.382		
4,900.0	4,587.9	3,593.8	3,165.4	30.9	29.5	-133.15	1,255.6	-991.9	2,977.8	2,931.7	64.602		
5,000.0	4,680.2	3,663.6	3,223.2	31.6	30.3	-133.12	1,286.6	-1,015.7	3,049.5	3,002.4	64.810		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-12E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,772.5	3,733.3	3,280.9	32.3	31.0	-133.09	1,317.6	-1,039.6	3,121.1	3,073.1	65.007		
5,200.0	4,864.8	3,803.0	3,338.7	33.0	31.8	-133.07	1,348.6	-1,063.4	3,192.8	3,143.8	65.193		
5,300.0	4,957.1	3,872.8	3,396.4	33.7	32.5	-133.04	1,379.6	-1,087.3	3,264.5	3,214.5	65.369		
5,400.0	5,049.4	3,942.5	3,454.1	34.5	33.2	-133.02	1,410.6	-1,111.1	3,336.1	3,285.2	65.535		
5,500.0	5,141.7	4,012.3	3,511.9	35.2	34.0	-132.99	1,441.6	-1,134.9	3,407.8	3,355.9	65.693		
5,600.0	5,233.9	4,082.0	3,569.6	35.9	34.7	-133.00	1,472.6	-1,158.8	3,479.5	3,426.6	65.843		
5,700.0	5,327.1	4,152.8	3,628.2	36.6	35.5	-134.74	1,504.1	-1,183.0	3,550.0	3,496.2	65.895		
5,800.0	5,421.7	4,225.5	3,688.5	37.2	36.3	-136.25	1,536.4	-1,207.8	3,618.4	3,563.5	65.956		
5,900.0	5,517.6	4,300.1	3,750.2	37.7	37.0	-137.58	1,569.6	-1,233.3	3,684.4	3,628.6	65.992		
6,000.0	5,614.7	4,376.3	3,813.3	38.1	37.9	-138.72	1,603.5	-1,259.4	3,748.1	3,691.3	66.006		
6,100.0	5,712.8	4,454.1	3,877.7	38.5	38.7	-139.70	1,638.0	-1,286.0	3,809.2	3,751.5	66.002		
6,200.0	5,811.6	4,533.2	3,943.2	38.8	39.5	-140.54	1,673.2	-1,313.0	3,867.7	3,809.1	65.984		
6,300.0	5,910.9	4,613.6	4,009.7	39.0	40.4	-141.25	1,709.0	-1,340.5	3,923.6	3,864.1	65.959		
6,400.0	6,010.7	4,695.0	4,077.1	39.1	41.3	-141.84	1,745.2	-1,368.3	3,976.7	3,916.4	65.934		
6,500.0	6,110.7	4,777.3	4,145.3	39.2	42.1	-142.32	1,781.8	-1,396.5	4,027.0	3,966.0	66.037		
6,600.0	6,210.7	4,860.1	4,213.9	39.2	43.0	-71.50	1,818.6	-1,424.8	4,075.9	4,014.4	66.192		
6,700.0	6,310.7	4,942.9	4,282.4	39.3	43.9	-71.09	1,855.4	-1,453.1	4,125.0	4,062.8	66.353		
6,800.0	6,410.7	5,025.7	4,350.9	39.3	44.8	-70.68	1,892.2	-1,481.4	4,174.3	4,111.5	66.513		
6,900.0	6,510.7	5,108.5	4,419.5	39.3	45.7	-70.28	1,929.0	-1,509.7	4,223.7	4,160.3	66.673		
7,000.0	6,610.7	5,191.3	4,488.1	39.3	46.6	-69.87	1,965.8	-1,538.0	4,273.1	4,209.7	66.833		
7,100.0	6,710.7	5,274.1	4,556.7	39.4	47.5	-69.46	2,002.0	-1,566.2	4,322.5	4,259.1	66.993		
7,200.0	6,810.7	5,356.9	4,625.3	39.4	48.4	-69.05	2,038.2	-1,594.5	4,371.9	4,308.5	67.153		
7,300.0	6,910.7	5,439.7	4,693.9	39.4	49.3	-68.64	2,074.4	-1,622.8	4,421.3	4,357.9	67.313		
7,400.0	7,010.7	5,522.5	4,762.5	39.5	50.2	-68.23	2,110.6	-1,651.1	4,470.7	4,407.3	67.473		
7,500.0	7,110.7	5,605.3	4,831.1	39.5	51.1	-67.82	2,146.8	-1,679.4	4,520.1	4,456.7	67.633		
7,600.0	7,210.7	5,688.1	4,900.0	39.5	52.0	-67.41	2,183.0	-1,707.7	4,569.5	4,506.1	67.793		
7,700.0	7,310.7	5,770.9	4,968.6	39.5	52.9	-67.00	2,219.2	-1,736.0	4,618.9	4,555.5	67.953		
7,800.0	7,410.7	5,853.7	5,037.2	39.6	53.8	-66.59	2,255.4	-1,764.3	4,668.3	4,604.9	68.113		
7,900.0	7,510.7	5,936.5	5,105.8	39.6	54.7	-66.18	2,291.6	-1,792.6	4,717.7	4,654.3	68.273		
8,000.0	7,610.7	6,019.3	5,174.4	39.6	55.6	-65.77	2,327.8	-1,820.9	4,767.1	4,703.7	68.433		
8,100.0	7,710.7	6,102.1	5,243.0	39.7	56.5	-65.36	2,364.0	-1,849.2	4,816.5	4,753.1	68.593		
8,200.0	7,810.7	6,184.9	5,311.6	39.7	57.4	-64.95	2,400.2	-1,877.5	4,865.9	4,802.5	68.753		
8,300.0	7,910.7	6,267.7	5,380.2	39.7	58.3	-64.54	2,436.4	-1,905.8	4,915.3	4,851.9	68.913		
8,400.0	8,010.7	6,350.5	5,448.8	39.8	59.2	-64.13	2,472.6	-1,934.1	4,964.7	4,901.3	69.073		
8,500.0	8,110.7	6,433.3	5,517.4	39.8	60.1	-63.72	2,508.8	-1,962.4	5,014.1	4,950.7	69.233		
8,600.0	8,210.7	6,516.1	5,586.0	39.8	61.0	-63.31	2,545.0	-1,990.7	5,063.5	5,000.1	69.393		
8,700.0	8,310.7	6,598.9	5,654.6	39.8	61.9	-62.90	2,581.2	-2,019.0	5,112.9	5,049.5	69.553		
8,800.0	8,410.7	6,681.7	5,723.2	39.9	62.8	-62.49	2,617.4	-2,047.3	5,162.3	5,098.9	69.713		
8,900.0	8,510.7	6,764.5	5,791.8	39.9	63.7	-62.08	2,653.6	-2,075.6	5,211.7	5,148.3	69.873		
9,000.0	8,610.7	6,847.3	5,860.4	39.9	64.6	-61.67	2,689.8	-2,103.9	5,261.1	5,197.7	69.933		
9,009.7	8,620.4	9,466.4	8,620.4	39.9	58.1	-65.53	2,442.6	-1,904.6	4,229.2	4,148.8	52.643		
9,097.1	8,707.8	9,517.0	8,671.0	40.0	58.1	-65.53	2,442.6	-1,904.6	4,229.3	4,148.9	52.591		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-13E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-56.20	33.8	-50.5	60.8				
100.0	100.0	100.0	100.0	0.8	0.8	-56.20	33.8	-50.5	60.8	59.2	38.398		
200.0	200.0	200.0	200.0	1.4	1.4	-56.20	33.8	-50.5	60.8	58.0	21.500	CC	
204.4	204.4	204.4	204.4	1.4	1.4	-126.64	33.8	-50.5	60.8	58.0	21.374	ES	
300.0	300.0	298.2	298.2	1.7	1.8	-127.26	34.2	-51.5	62.2	58.7	18.188		
400.0	399.9	395.1	395.0	3.0	3.2	-130.95	35.7	-56.2	69.9	64.3	12.451		
500.0	499.5	490.8	490.2	4.3	3.6	-135.85	38.8	-64.3	85.0	77.9	12.040	SF	
600.0	598.6	584.7	583.4	5.4	4.3	-139.45	44.9	-74.7	107.2	98.5	12.304		
700.0	697.1	676.3	673.7	6.3	5.2	-141.71	53.9	-86.8	136.2	125.9	13.190		
800.0	794.7	765.0	760.6	7.1	5.9	-143.00	65.4	-100.6	171.6	159.9	14.619		
900.0	891.3	850.4	843.5	7.9	6.7	-143.62	79.1	-115.7	213.1	200.1	16.421		
1,000.0	986.7	932.2	922.2	8.6	7.3	-143.80	94.6	-131.7	260.3	246.2	18.481		
1,100.0	1,080.6	1,009.9	996.2	9.3	7.9	-143.66	111.4	-148.5	312.8	297.7	20.733		
1,200.0	1,173.2	1,083.7	1,065.7	9.6	8.4	-143.72	129.3	-165.7	370.1	354.3	23.417		
1,300.0	1,265.5	1,154.9	1,131.9	9.9	8.9	-143.98	148.3	-183.5	429.7	413.2	26.103		
1,400.0	1,357.8	1,223.7	1,195.2	10.2	9.4	-143.96	168.2	-201.8	491.1	474.0	28.700		
1,500.0	1,450.1	1,290.2	1,255.5	10.5	9.8	-143.77	189.0	-220.5	554.2	536.5	31.224		
1,600.0	1,542.4	1,354.3	1,312.9	10.9	10.2	-143.46	210.4	-239.4	618.9	600.6	33.677		
1,700.0	1,634.6	1,416.1	1,367.4	11.3	10.6	-143.09	232.3	-258.6	685.2	666.2	36.069		
1,800.0	1,726.9	1,475.6	1,419.2	11.6	10.9	-142.67	254.5	-277.7	752.9	733.3	38.404		
1,900.0	1,819.2	1,532.9	1,468.3	12.0	11.2	-142.22	277.0	-296.9	822.1	802.0	40.840		
2,000.0	1,911.5	1,600.7	1,525.8	12.4	11.4	-141.70	304.4	-320.1	892.2	871.5	42.973		
2,100.0	2,003.8	1,671.7	1,586.1	12.8	11.7	-141.23	333.1	-344.5	962.4	940.9	44.817		
2,200.0	2,096.1	1,742.8	1,646.3	13.3	11.9	-140.82	361.8	-368.8	1,032.6	1,010.4	46.497		
2,300.0	2,188.4	1,813.8	1,706.5	13.7	12.2	-140.47	390.5	-393.2	1,102.9	1,079.9	48.026		
2,400.0	2,280.7	1,884.8	1,766.7	14.1	12.5	-140.15	419.2	-417.5	1,173.1	1,149.4	49.420		
2,500.0	2,373.0	1,955.8	1,826.9	14.6	12.8	-139.88	447.9	-441.9	1,243.4	1,218.9	50.695		
2,600.0	2,465.3	2,026.9	1,887.2	15.0	13.1	-139.63	476.7	-466.3	1,313.7	1,288.3	51.866		
2,700.0	2,557.5	2,097.9	1,947.4	15.5	13.5	-139.40	505.4	-490.6	1,384.0	1,357.8	52.923		
2,800.0	2,649.8	2,168.9	2,007.6	16.1	14.0	-139.20	534.1	-515.0	1,454.3	1,427.3	53.857		
2,900.0	2,742.1	2,239.9	2,067.8	16.8	14.6	-139.02	562.8	-539.3	1,524.6	1,496.7	54.785		
3,000.0	2,834.4	2,311.0	2,128.1	17.5	15.2	-138.85	591.5	-563.7	1,594.9	1,566.2	55.619		
3,100.0	2,926.7	2,382.0	2,188.3	18.2	15.9	-138.70	620.2	-588.0	1,665.2	1,635.7	56.378		
3,200.0	3,019.0	2,453.0	2,248.5	18.9	16.6	-138.56	649.0	-612.4	1,735.6	1,705.2	57.079		
3,300.0	3,111.3	2,524.0	2,308.7	19.6	17.3	-138.43	677.7	-636.7	1,805.9	1,774.6	57.730		
3,400.0	3,203.6	2,595.1	2,368.9	20.3	18.0	-138.31	706.4	-661.1	1,876.2	1,844.1	58.332		
3,500.0	3,295.9	2,666.1	2,429.2	21.0	18.7	-138.20	735.1	-685.4	1,946.6	1,913.5	58.887		
3,600.0	3,388.1	2,737.1	2,489.4	21.7	19.4	-138.09	763.8	-709.8	2,016.9	1,983.0	59.404		
3,700.0	3,480.4	2,808.1	2,549.6	22.4	20.1	-138.00	792.5	-734.2	2,087.3	2,052.4	59.887		
3,800.0	3,572.7	2,879.2	2,609.8	23.1	20.8	-137.91	821.3	-758.5	2,157.6	2,121.9	60.334		
3,900.0	3,665.0	2,950.2	2,670.1	23.8	21.5	-137.82	850.0	-782.9	2,228.0	2,191.3	60.751		
4,000.0	3,757.3	3,021.2	2,730.3	24.5	22.2	-137.74	878.7	-807.2	2,298.4	2,260.8	61.141		
4,100.0	3,849.6	3,092.2	2,790.5	25.2	22.9	-137.67	907.4	-831.6	2,368.7	2,330.2	61.507		
4,200.0	3,941.9	3,163.3	2,850.7	25.9	23.6	-137.60	936.1	-855.9	2,439.1	2,399.6	61.847		
4,300.0	4,034.2	3,234.3	2,910.9	26.6	24.3	-137.53	964.8	-880.3	2,509.4	2,469.1	62.168		
4,400.0	4,126.5	3,305.3	2,971.2	27.3	25.0	-137.47	993.6	-904.6	2,579.8	2,538.5	62.469		
4,500.0	4,218.8	3,376.3	3,031.4	28.1	25.7	-137.41	1,022.3	-929.0	2,650.2	2,607.9	62.751		
4,600.0	4,311.0	3,447.4	3,091.6	28.8	26.4	-137.35	1,051.0	-953.3	2,720.6	2,677.4	63.016		
4,700.0	4,403.3	3,518.4	3,151.8	29.5	27.1	-137.30	1,079.7	-977.7	2,790.9	2,746.8	63.267		
4,800.0	4,495.6	3,589.4	3,212.1	30.2	27.8	-137.25	1,108.4	-1,002.0	2,861.3	2,816.2	63.503		
4,900.0	4,587.9	3,660.4	3,272.3	30.9	28.5	-137.20	1,137.1	-1,026.4	2,931.7	2,885.7	63.725		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-13E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	3,731.5	3,332.5	31.6	29.2	-137.15	1,165.9	-1,050.8	3,002.0	2,955.1	63.936		
5,100.0	4,772.5	3,802.5	3,392.7	32.3	30.0	-137.11	1,194.6	-1,075.1	3,072.4	3,024.5	64.135		
5,200.0	4,864.8	3,873.5	3,453.0	33.0	30.7	-137.07	1,223.3	-1,099.5	3,142.8	3,093.9	64.322		
5,300.0	4,957.1	3,944.5	3,513.2	33.7	31.4	-137.03	1,252.0	-1,123.8	3,213.2	3,163.4	64.501		
5,400.0	5,049.4	4,015.6	3,573.4	34.5	32.1	-136.99	1,280.7	-1,148.2	3,283.6	3,232.8	64.670		
5,500.0	5,141.7	4,086.6	3,633.6	35.2	32.8	-136.95	1,309.4	-1,172.5	3,353.9	3,302.2	64.830		
5,600.0	5,233.9	4,157.6	3,693.8	35.9	33.5	-136.94	1,338.2	-1,196.9	3,424.3	3,371.6	64.982		
5,700.0	5,327.1	4,229.7	3,755.0	36.6	34.2	-138.49	1,367.3	-1,221.6	3,493.5	3,439.8	65.029		
5,800.0	5,421.7	4,303.9	3,817.9	37.2	35.0	-139.82	1,397.3	-1,247.0	3,560.3	3,505.6	65.072		
5,900.0	5,517.6	4,380.0	3,882.4	37.7	35.7	-140.98	1,428.1	-1,273.1	3,624.6	3,568.9	65.083		
6,000.0	5,614.7	4,457.8	3,948.4	38.1	36.5	-141.97	1,459.5	-1,299.8	3,686.3	3,629.7	65.066		
6,100.0	5,712.8	4,537.2	4,015.7	38.5	37.3	-142.82	1,491.6	-1,327.0	3,745.3	3,687.7	65.025		
6,200.0	5,811.6	4,618.1	4,084.3	38.8	38.1	-143.53	1,524.3	-1,354.8	3,801.5	3,743.0	64.966		
6,300.0	5,910.9	4,700.3	4,154.0	39.0	39.0	-144.12	1,557.6	-1,383.0	3,854.9	3,795.5	64.894		
6,400.0	6,010.7	4,783.6	4,224.6	39.1	39.8	-144.60	1,591.3	-1,411.5	3,905.4	3,845.2	64.818		
6,500.0	6,110.7	4,867.9	4,296.1	39.2	40.6	-144.98	1,625.3	-1,440.4	3,953.0	3,892.0	64.878		
6,600.0	6,210.7	4,952.7	4,368.0	39.2	41.5	-74.16	1,659.6	-1,469.5	3,999.0	3,937.4	64.998		
6,700.0	6,310.7	5,037.5	4,439.9	39.3	42.4	-73.76	1,693.9	-1,498.6	4,045.1	3,983.0	65.123		
6,800.0	6,410.7	5,122.3	4,511.8	39.3	43.2	-73.37	1,728.2	-1,527.7	4,091.4	4,028.7	65.248		
6,900.0	6,510.7	5,209.0	4,584.0	39.3	44.0	-69.06	1,762.5	-1,556.8	4,137.7	4,074.0	65.373		
7,000.0	6,610.7	5,294.0	4,656.1	39.3	44.8	-69.06	1,796.8	-1,585.9	4,183.0	4,119.3	65.498		
7,100.0	6,710.7	5,379.0	4,728.2	39.4	45.6	-69.06	1,831.1	-1,615.0	4,232.3	4,164.6	65.623		
7,200.0	6,810.7	5,464.0	4,802.3	39.4	46.4	-69.06	1,865.4	-1,644.1	4,281.6	4,210.0	65.748		
7,300.0	6,910.7	5,549.0	4,876.4	39.4	47.2	-69.06	1,899.7	-1,673.2	4,330.9	4,255.4	65.873		
7,400.0	7,010.7	5,634.0	4,950.5	39.5	48.0	-69.06	1,934.0	-1,702.3	4,380.2	4,300.8	65.998		
7,500.0	7,110.7	5,719.0	5,024.6	39.5	48.8	-69.06	1,968.3	-1,731.4	4,429.5	4,346.2	66.123		
7,600.0	7,210.7	5,804.0	5,098.7	39.5	49.6	-69.06	2,002.6	-1,760.5	4,478.8	4,391.6	66.248		
7,700.0	7,310.7	5,889.0	5,172.8	39.5	50.4	-69.06	2,036.9	-1,789.6	4,528.1	4,437.0	66.373		
7,800.0	7,410.7	5,974.0	5,246.9	39.6	51.2	-69.06	2,071.2	-1,818.7	4,577.4	4,482.4	66.498		
7,900.0	7,510.7	6,059.0	5,321.0	39.6	52.0	-69.06	2,105.5	-1,847.8	4,626.7	4,527.8	66.623		
8,000.0	7,610.7	6,144.0	5,395.1	39.6	52.8	-69.06	2,139.8	-1,876.9	4,676.0	4,573.2	66.748		
8,100.0	7,710.7	6,229.0	5,469.2	39.7	53.6	-69.06	2,174.1	-1,906.0	4,725.3	4,618.6	66.873		
8,200.0	7,810.7	6,314.0	5,543.3	39.7	54.4	-69.06	2,208.4	-1,935.1	4,774.6	4,664.0	66.998		
8,300.0	7,910.7	6,399.0	5,617.4	39.7	55.2	-69.06	2,242.7	-1,964.2	4,823.9	4,709.4	67.123		
8,400.0	8,010.7	6,484.0	5,691.5	39.8	56.0	-69.06	2,277.0	-1,993.3	4,873.2	4,754.8	67.248		
8,500.0	8,110.7	6,569.0	5,765.6	39.8	56.8	-69.06	2,311.3	-2,022.4	4,922.5	4,800.2	67.373		
8,600.0	8,210.7	6,654.0	5,839.7	39.8	57.6	-69.06	2,345.6	-2,051.5	4,971.8	4,845.6	67.498		
8,700.0	8,310.7	6,739.0	5,913.8	39.8	58.4	-69.06	2,379.9	-2,080.6	5,021.1	4,891.0	67.623		
8,800.0	8,410.7	6,824.0	5,987.9	39.9	59.2	-69.06	2,414.2	-2,109.7	5,070.4	4,936.4	67.748		
8,900.0	8,510.7	6,909.0	6,062.0	39.9	60.0	-69.06	2,448.5	-2,138.8	5,119.7	4,981.8	67.873		
9,000.0	8,610.7	6,994.0	6,136.1	39.9	60.8	-69.06	2,482.8	-2,167.9	5,169.0	5,027.2	67.998		
9,097.1	8,707.8	7,079.0	6,210.2	40.0	61.6	-69.06	2,517.1	-2,197.0	5,218.3	5,072.6	68.123		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-14E - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-58.05	27.0	-43.3	51.0			
100.0	100.0	100.0	100.0	0.8	0.8	-58.05	27.0	-43.3	51.0	49.4	32.194	
200.0	200.0	200.0	200.0	1.4	1.4	-58.05	27.0	-43.3	51.0	48.2	18.026	CC
204.4	204.4	204.4	204.4	1.4	1.4	-128.49	27.0	-43.3	51.0	48.1	17.876	ES
300.0	300.0	299.2	299.2	1.7	1.7	-129.00	27.1	-43.5	51.6	48.3	15.627	
400.0	399.9	396.7	396.6	3.0	2.8	-132.84	28.3	-46.8	58.0	52.8	11.067	
500.0	499.5	492.7	492.4	4.3	4.1	-138.35	30.9	-53.9	72.1	64.4	9.354	SF
600.0	598.6	586.9	585.8	5.4	4.5	-143.23	34.9	-64.4	94.1	85.0	10.375	
700.0	697.1	678.8	676.7	6.3	5.1	-146.18	41.5	-77.1	123.2	112.8	11.823	
800.0	794.7	767.9	764.0	7.1	5.8	-147.70	50.6	-91.5	159.0	147.2	13.465	
900.0	891.3	853.5	847.4	7.9	6.5	-148.36	61.8	-107.3	201.0	187.9	15.375	
1,000.0	986.7	935.4	926.4	8.6	7.1	-148.49	74.9	-124.3	248.7	234.5	17.526	
1,100.0	1,080.6	1,013.1	1,000.8	9.3	7.7	-148.27	89.4	-142.0	302.0	286.8	19.860	
1,200.0	1,173.2	1,086.8	1,070.4	9.6	8.2	-148.21	104.9	-160.2	360.0	344.1	22.624	
1,300.0	1,265.5	1,157.8	1,136.8	9.9	8.7	-148.33	121.6	-179.0	420.3	403.8	25.390	
1,400.0	1,357.8	1,226.4	1,200.3	10.2	9.2	-148.20	139.2	-198.3	482.4	465.2	28.065	
1,500.0	1,450.1	1,300.0	1,267.4	10.5	9.7	-147.87	159.8	-220.3	546.2	528.3	30.450	
1,600.0	1,542.4	1,356.5	1,318.2	10.9	10.0	-147.53	176.8	-238.1	611.5	593.1	33.195	
1,700.0	1,634.6	1,418.0	1,372.9	11.3	10.4	-147.09	196.4	-258.3	678.4	659.4	35.697	
1,800.0	1,726.9	1,480.8	1,427.9	11.6	10.7	-146.59	217.7	-279.9	746.7	727.1	38.121	
1,900.0	1,819.2	1,548.4	1,486.7	12.0	10.9	-146.07	241.2	-303.6	815.9	795.7	40.444	
2,000.0	1,911.5	1,620.4	1,549.4	12.4	11.2	-145.60	266.2	-328.8	885.0	864.2	42.448	
2,100.0	2,003.8	1,692.5	1,612.0	12.8	11.4	-145.20	291.3	-354.0	954.2	932.7	44.279	
2,200.0	2,096.1	1,764.5	1,674.7	13.3	11.7	-144.86	316.4	-379.2	1,023.5	1,001.2	45.949	
2,300.0	2,188.4	1,836.6	1,737.3	13.7	12.0	-144.56	341.4	-404.5	1,092.7	1,069.7	47.478	
2,400.0	2,280.7	1,908.6	1,800.0	14.1	12.3	-144.29	366.5	-429.7	1,162.0	1,138.2	48.879	
2,500.0	2,373.0	1,980.6	1,862.6	14.6	12.6	-144.05	391.5	-454.9	1,231.2	1,206.7	50.160	
2,600.0	2,465.3	2,052.7	1,925.3	15.0	12.9	-143.84	416.6	-480.2	1,300.5	1,275.2	51.338	
2,700.0	2,557.5	2,124.7	1,987.9	15.5	13.3	-143.65	441.7	-505.4	1,369.8	1,343.7	52.434	
2,800.0	2,649.8	2,196.7	2,050.6	16.1	13.7	-143.48	466.7	-530.6	1,439.1	1,412.1	53.404	
2,900.0	2,742.1	2,268.8	2,113.2	16.8	14.2	-143.33	491.8	-555.9	1,508.4	1,480.6	54.310	
3,000.0	2,834.4	2,340.8	2,175.9	17.5	14.8	-143.18	516.8	-581.1	1,577.7	1,549.1	55.156	
3,100.0	2,926.7	2,412.9	2,238.5	18.2	15.4	-143.05	541.9	-606.3	1,647.0	1,617.5	55.938	
3,200.0	3,019.0	2,484.9	2,301.2	18.9	16.1	-142.93	566.9	-631.6	1,716.3	1,686.0	56.657	
3,300.0	3,111.3	2,556.9	2,363.8	19.6	16.7	-142.82	592.0	-656.8	1,785.6	1,754.5	57.323	
3,400.0	3,203.6	2,629.0	2,426.5	20.3	17.4	-142.72	617.1	-682.0	1,854.9	1,822.9	57.942	
3,500.0	3,295.9	2,701.0	2,489.1	21.0	18.0	-142.63	642.1	-707.3	1,924.3	1,891.4	58.519	
3,600.0	3,388.1	2,773.0	2,551.8	21.7	18.7	-142.54	667.2	-732.5	1,993.6	1,959.8	59.052	
3,700.0	3,480.4	2,845.1	2,614.4	22.4	19.3	-142.45	692.2	-757.7	2,062.9	2,028.3	59.550	
3,800.0	3,572.7	2,917.1	2,677.1	23.1	20.0	-142.38	717.3	-783.0	2,132.2	2,096.7	60.016	
3,900.0	3,665.0	2,989.2	2,739.7	23.8	20.7	-142.31	742.3	-808.2	2,201.6	2,165.1	60.451	
4,000.0	3,757.3	3,061.2	2,802.4	24.5	21.3	-142.24	767.4	-833.4	2,270.9	2,233.6	60.857	
4,100.0	3,849.6	3,133.2	2,865.0	25.2	22.0	-142.17	792.5	-858.7	2,340.2	2,302.0	61.238	
4,200.0	3,941.9	3,205.3	2,927.7	25.9	22.7	-142.11	817.5	-883.9	2,409.6	2,370.4	61.596	
4,300.0	4,034.2	3,277.3	2,990.3	26.6	23.3	-142.06	842.6	-909.1	2,478.9	2,438.9	61.931	
4,400.0	4,126.5	3,349.3	3,053.0	27.3	24.0	-142.00	867.6	-934.4	2,548.2	2,507.3	62.247	
4,500.0	4,218.8	3,421.4	3,115.6	28.1	24.7	-141.95	892.7	-959.6	2,617.6	2,575.7	62.544	
4,600.0	4,311.0	3,493.4	3,178.3	28.8	25.3	-141.90	917.7	-984.8	2,686.9	2,644.1	62.824	
4,700.0	4,403.3	3,565.5	3,240.9	29.5	26.0	-141.86	942.8	-1,010.0	2,756.3	2,712.6	63.087	
4,800.0	4,495.6	3,637.5	3,303.6	30.2	26.7	-141.81	967.9	-1,035.3	2,825.6	2,781.0	63.337	
4,900.0	4,587.9	3,709.5	3,366.2	30.9	27.3	-141.77	992.9	-1,060.5	2,894.9	2,849.4	63.573	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-14E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	3,781.6	3,428.9	31.6	28.0	-141.73	1,018.0	-1,085.7	2,964.3	2,917.8	63.795		
5,100.0	4,772.5	3,853.6	3,491.5	32.3	28.7	-141.70	1,043.0	-1,111.0	3,033.6	2,986.2	64.006		
5,200.0	4,864.8	3,925.7	3,554.2	33.0	29.3	-141.66	1,068.1	-1,136.2	3,103.0	3,054.6	64.206		
5,300.0	4,957.1	3,997.7	3,616.8	33.7	30.0	-141.63	1,093.2	-1,161.4	3,172.3	3,123.1	64.396		
5,400.0	5,049.4	4,069.7	3,679.5	34.5	30.7	-141.59	1,118.2	-1,186.7	3,241.7	3,191.5	64.575		
5,500.0	5,141.7	4,141.8	3,742.1	35.2	31.4	-141.56	1,143.3	-1,211.9	3,311.0	3,259.9	64.746		
5,600.0	5,233.9	4,213.8	3,804.7	35.9	32.0	-141.55	1,168.3	-1,237.1	3,380.4	3,328.3	64.909		
5,700.0	5,327.1	4,287.0	3,868.4	36.6	32.7	-142.92	1,193.8	-1,262.8	3,448.4	3,395.3	64.956		
5,800.0	5,421.7	4,362.4	3,934.0	37.2	33.4	-144.09	1,220.0	-1,289.2	3,513.9	3,459.8	64.983		
5,900.0	5,517.6	4,439.8	4,001.3	37.7	34.1	-145.09	1,246.9	-1,316.3	3,576.7	3,521.6	64.968		
6,000.0	5,614.7	4,519.1	4,070.3	38.1	34.9	-145.95	1,274.5	-1,344.1	3,636.6	3,580.6	64.916		
6,100.0	5,712.8	4,600.2	4,140.8	38.5	35.6	-146.66	1,302.7	-1,372.5	3,693.7	3,636.7	64.833		
6,200.0	5,811.6	4,682.8	4,212.6	38.8	36.4	-147.26	1,331.5	-1,401.4	3,747.8	3,689.9	64.723		
6,300.0	5,910.9	4,766.9	4,285.7	39.0	37.2	-147.75	1,360.7	-1,430.9	3,798.9	3,740.1	64.595		
6,400.0	6,010.7	4,852.2	4,360.0	39.1	38.0	-148.13	1,390.4	-1,460.7	3,846.8	3,787.2	64.458		
6,500.0	6,110.7	4,938.6	4,435.1	39.2	38.8	-148.43	1,420.5	-1,491.0	3,891.6	3,831.3	64.465		
6,600.0	6,210.7	5,025.6	4,510.7	39.2	39.6	-77.64	1,450.7	-1,521.5	3,934.8	3,873.8	64.545		
6,700.0	6,310.7	5,112.6	4,586.4	39.3	40.4	-77.27	1,481.0	-1,551.9	3,978.0	3,916.5	64.630		
6,800.0	6,410.7	7,040.8	6,410.7	39.3	49.7	-73.51	1,830.3	-1,903.7	4,013.7	3,938.5	53.344		
6,900.0	6,510.7	7,140.8	6,510.7	39.3	49.7	-73.51	1,830.3	-1,903.7	4,013.7	3,938.4	53.311		
7,000.0	6,610.7	7,240.8	6,610.7	39.3	49.7	-73.51	1,830.3	-1,903.7	4,013.7	3,938.4	53.278		
7,100.0	6,710.7	7,340.8	6,710.7	39.4	49.7	-73.51	1,830.3	-1,903.7	4,013.7	3,938.3	53.244		
7,200.0	6,810.7	7,440.8	6,810.7	39.4	49.8	-73.51	1,830.3	-1,903.7	4,013.7	3,938.3	53.210		
7,300.0	6,910.7	7,540.8	6,910.7	39.4	49.8	-73.51	1,830.3	-1,903.7	4,013.7	3,938.2	53.176		
7,400.0	7,010.7	7,640.8	7,010.7	39.5	49.8	-73.51	1,830.3	-1,903.7	4,013.7	3,938.2	53.142		
7,500.0	7,110.7	7,740.8	7,110.7	39.5	49.8	-73.51	1,830.3	-1,903.7	4,013.7	3,938.1	53.108		
7,600.0	7,210.7	7,840.8	7,210.7	39.5	49.8	-73.51	1,830.3	-1,903.7	4,013.7	3,938.1	53.074		
7,700.0	7,310.7	7,940.8	7,310.7	39.5	49.9	-73.51	1,830.3	-1,903.7	4,013.7	3,938.0	53.039		
7,800.0	7,410.7	8,040.8	7,410.7	39.6	49.9	-73.51	1,830.3	-1,903.7	4,013.7	3,938.0	53.004		
7,900.0	7,510.7	8,140.8	7,510.7	39.6	49.9	-73.51	1,830.3	-1,903.7	4,013.7	3,937.9	52.969		
8,000.0	7,610.7	8,240.8	7,610.7	39.6	49.9	-73.51	1,830.3	-1,903.7	4,013.7	3,937.9	52.934		
8,100.0	7,710.7	8,340.8	7,710.7	39.7	50.0	-73.51	1,830.3	-1,903.7	4,013.7	3,937.8	52.899		
8,200.0	7,810.7	8,440.8	7,810.7	39.7	50.0	-73.51	1,830.3	-1,903.7	4,013.7	3,937.8	52.863		
8,300.0	7,910.7	8,540.8	7,910.7	39.7	50.0	-73.51	1,830.3	-1,903.7	4,013.7	3,937.7	52.827		
8,400.0	8,010.7	8,640.8	8,010.7	39.8	50.0	-73.51	1,830.3	-1,903.7	4,013.7	3,937.7	52.792		
8,500.0	8,110.7	8,740.8	8,110.7	39.8	50.0	-73.51	1,830.3	-1,903.7	4,013.7	3,937.6	52.756		
8,600.0	8,210.7	8,840.8	8,210.7	39.8	50.1	-73.51	1,830.3	-1,903.7	4,013.7	3,937.6	52.719		
8,700.0	8,310.7	8,940.8	8,310.7	39.8	50.1	-73.51	1,830.3	-1,903.7	4,013.7	3,937.5	52.683		
8,800.0	8,410.7	9,040.8	8,410.7	39.9	50.1	-73.51	1,830.3	-1,903.7	4,013.7	3,937.5	52.646		
8,900.0	8,510.7	9,140.8	8,510.7	39.9	50.1	-73.51	1,830.3	-1,903.7	4,013.7	3,937.4	52.610		
9,000.0	8,610.7	9,240.8	8,610.7	39.9	50.2	-73.51	1,830.3	-1,903.7	4,013.7	3,937.4	52.574		
9,009.7	8,620.4	9,250.5	8,620.4	39.9	50.2	-73.51	1,830.3	-1,903.7	4,013.7	3,937.4	52.570		
9,097.1	8,707.8	9,287.1	8,657.0	40.0	50.2	-73.51	1,830.3	-1,903.7	4,014.0	3,937.6	52.530		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-15E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-60.76	20.1	-36.0	41.2				
100.0	100.0	100.0	100.0	0.8	0.8	-60.76	20.1	-36.0	41.2	39.6	26.019		
200.0	200.0	200.0	200.0	1.4	1.4	-60.76	20.1	-36.0	41.2	38.4	14.569 CC		
204.4	204.4	204.4	204.4	1.4	1.4	-131.20	20.1	-36.0	41.2	38.4	14.413		
300.0	300.0	300.0	300.0	1.7	1.9	-131.76	20.1	-36.0	41.6	38.1	11.859 ES		
400.0	399.9	398.2	398.2	3.0	2.3	-136.23	20.4	-37.3	46.0	41.2	9.531		
500.0	499.5	494.5	494.3	4.3	3.9	-143.23	21.4	-43.4	58.9	51.3	7.732 SF		
600.0	598.6	588.3	587.5	5.4	5.1	-149.22	23.3	-53.8	81.0	71.1	8.176		
700.0	697.1	680.5	678.6	6.3	5.5	-152.80	26.8	-67.5	111.3	100.1	9.943		
800.0	794.7	769.8	766.2	7.1	6.1	-154.31	32.9	-83.1	148.1	135.7	11.869		
900.0	891.3	855.6	849.9	7.9	6.7	-154.75	41.3	-100.0	191.2	177.5	13.972		
1,000.0	986.7	937.5	929.2	8.6	7.3	-154.62	51.5	-118.1	240.0	225.2	16.256		
1,100.0	1,080.6	1,015.3	1,003.8	9.3	7.8	-154.16	63.3	-136.9	294.2	278.5	18.695		
1,200.0	1,173.2	1,088.9	1,073.6	9.6	8.3	-153.83	76.3	-156.2	353.2	336.8	21.538		
1,300.0	1,265.5	1,159.9	1,140.2	9.9	8.7	-153.67	90.4	-176.1	414.4	397.4	24.381		
1,400.0	1,357.8	1,228.4	1,203.9	10.2	9.2	-153.32	105.6	-196.5	477.3	459.7	27.132		
1,500.0	1,450.1	1,300.0	1,269.5	10.5	9.6	-152.81	123.0	-219.1	541.8	523.5	29.657		
1,600.0	1,542.4	1,358.5	1,322.5	10.9	10.0	-152.31	138.5	-238.5	607.8	589.0	32.409		
1,700.0	1,634.6	1,421.1	1,378.5	11.3	10.3	-151.74	156.2	-260.2	675.2	655.9	35.028		
1,800.0	1,726.9	1,494.2	1,443.5	11.6	10.5	-151.12	177.4	-286.0	743.2	723.4	37.394		
1,900.0	1,819.2	1,567.2	1,508.5	12.0	10.8	-150.61	198.6	-311.7	811.3	790.8	39.569		
2,000.0	1,911.5	1,640.3	1,573.4	12.4	11.0	-150.17	219.9	-337.5	879.5	858.3	41.570		
2,100.0	2,003.8	1,713.3	1,638.4	12.8	11.3	-149.80	241.1	-363.2	947.6	925.8	43.409		
2,200.0	2,096.1	1,786.4	1,703.4	13.3	11.6	-149.48	262.3	-389.0	1,015.8	993.3	45.095		
2,300.0	2,188.4	1,859.4	1,768.4	13.7	11.8	-149.19	283.6	-414.7	1,084.0	1,060.7	46.642		
2,400.0	2,280.7	1,932.5	1,833.4	14.1	12.1	-148.94	304.8	-440.5	1,152.2	1,128.2	48.066		
2,500.0	2,373.0	2,005.5	1,898.3	14.6	12.5	-148.72	326.0	-466.2	1,220.4	1,195.7	49.377		
2,600.0	2,465.3	2,078.6	1,963.3	15.0	12.8	-148.52	347.3	-492.0	1,288.6	1,263.1	50.582		
2,700.0	2,557.5	2,151.6	2,028.3	15.5	13.2	-148.35	368.5	-517.7	1,356.8	1,330.6	51.674		
2,800.0	2,649.8	2,224.7	2,093.3	16.1	13.6	-148.19	389.7	-543.5	1,425.1	1,398.0	52.711		
2,900.0	2,742.1	2,297.7	2,158.3	16.8	14.1	-148.04	410.9	-569.2	1,493.3	1,465.5	53.661		
3,000.0	2,834.4	2,370.8	2,223.2	17.5	14.7	-147.91	432.2	-595.0	1,561.5	1,532.9	54.533		
3,100.0	2,926.7	2,443.8	2,288.2	18.2	15.2	-147.78	453.4	-620.7	1,629.8	1,600.3	55.344		
3,200.0	3,019.0	2,516.9	2,353.2	18.9	15.8	-147.67	474.6	-646.5	1,698.0	1,667.8	56.097		
3,300.0	3,111.3	2,589.9	2,418.2	19.6	16.4	-147.57	495.9	-672.3	1,766.3	1,735.2	56.796		
3,400.0	3,203.6	2,663.0	2,483.2	20.3	16.9	-147.47	517.1	-698.0	1,834.5	1,802.6	57.445		
3,500.0	3,295.9	2,736.0	2,548.1	21.0	17.5	-147.38	538.3	-723.8	1,902.8	1,870.0	58.050		
3,600.0	3,388.1	2,809.1	2,613.1	21.7	18.1	-147.30	559.6	-749.5	1,971.1	1,937.4	58.615		
3,700.0	3,480.4	2,882.1	2,678.1	22.4	18.8	-147.22	580.8	-775.3	2,039.3	2,004.8	59.141		
3,800.0	3,572.7	2,955.2	2,743.1	23.1	19.4	-147.15	602.0	-801.0	2,107.6	2,072.3	59.634		
3,900.0	3,665.0	3,028.2	2,808.1	23.8	20.0	-147.08	623.3	-826.8	2,175.9	2,139.7	60.095		
4,000.0	3,757.3	3,101.3	2,873.0	24.5	20.6	-147.02	644.5	-852.5	2,244.1	2,207.1	60.528		
4,100.0	3,849.6	3,174.3	2,938.0	25.2	21.2	-146.96	665.7	-878.3	2,312.4	2,274.4	60.933		
4,200.0	3,941.9	3,247.4	3,003.0	25.9	21.8	-146.90	686.9	-904.0	2,380.7	2,341.8	61.314		
4,300.0	4,034.2	3,320.4	3,068.0	26.6	22.4	-146.85	708.2	-929.8	2,448.9	2,409.2	61.673		
4,400.0	4,126.5	3,393.5	3,133.0	27.3	23.0	-146.80	729.4	-955.5	2,517.2	2,476.6	62.011		
4,500.0	4,218.8	3,466.5	3,197.9	28.1	23.7	-146.75	750.6	-981.3	2,585.5	2,544.0	62.328		
4,600.0	4,311.0	3,539.6	3,262.9	28.8	24.3	-146.70	771.9	-1,007.0	2,653.8	2,611.4	62.629		
4,700.0	4,403.3	3,612.6	3,327.9	29.5	24.9	-146.66	793.1	-1,032.8	2,722.0	2,678.8	62.912		
4,800.0	4,495.6	3,685.7	3,392.9	30.2	25.5	-146.62	814.3	-1,058.5	2,790.3	2,746.1	63.180		
4,900.0	4,587.9	3,758.7	3,457.9	30.9	26.2	-146.58	835.6	-1,084.3	2,858.6	2,813.5	63.434		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-15E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	3,831.8	3,522.8	31.6	26.8	-146.54	856.8	-1,110.1	2,926.9	2,880.9	63.674		
5,100.0	4,772.5	3,904.8	3,587.8	32.3	27.4	-146.51	878.0	-1,135.8	2,995.1	2,948.3	63.902		
5,200.0	4,864.8	3,977.9	3,652.8	33.0	28.0	-146.47	899.3	-1,161.6	3,063.4	3,015.6	64.118		
5,300.0	4,957.1	4,050.9	3,717.8	33.7	28.6	-146.44	920.5	-1,187.3	3,131.7	3,083.0	64.323		
5,400.0	5,049.4	4,124.0	3,782.7	34.5	29.3	-146.41	941.7	-1,213.1	3,200.0	3,150.4	64.518		
5,500.0	5,141.7	4,197.0	3,847.7	35.2	29.9	-146.38	962.9	-1,238.8	3,268.3	3,217.8	64.704		
5,600.0	5,233.9	4,270.1	3,912.7	35.9	30.5	-146.37	984.2	-1,264.6	3,336.5	3,285.1	64.880		
5,700.0	5,327.1	4,344.4	3,978.8	36.6	31.2	-147.54	1,005.8	-1,290.8	3,403.4	3,351.0	64.929		
5,800.0	5,421.7	4,420.9	4,046.9	37.2	31.8	-148.54	1,028.0	-1,317.8	3,467.6	3,414.2	64.944		
5,900.0	5,517.6	4,499.7	4,116.9	37.7	32.5	-149.39	1,050.9	-1,345.5	3,528.8	3,474.4	64.907		
6,000.0	5,614.7	4,580.4	4,188.7	38.1	33.2	-150.11	1,074.4	-1,374.0	3,587.0	3,531.7	64.824		
6,100.0	5,712.8	4,663.0	4,262.2	38.5	33.9	-150.70	1,098.4	-1,403.1	3,642.2	3,585.9	64.702		
6,200.0	5,811.6	4,747.2	4,337.2	38.8	34.6	-151.19	1,122.9	-1,432.8	3,694.2	3,636.9	64.547		
6,300.0	5,910.9	4,833.0	4,413.5	39.0	35.4	-151.58	1,147.8	-1,463.0	3,742.9	3,684.7	64.367		
6,400.0	6,010.7	4,920.2	4,491.0	39.1	36.1	-151.88	1,173.1	-1,493.8	3,788.3	3,729.3	64.173		
6,500.0	6,110.7	5,008.6	4,569.6	39.2	36.9	-152.09	1,198.8	-1,524.9	3,830.4	3,770.7	64.135		
6,600.0	6,210.7	5,097.5	4,648.7	39.2	37.6	-81.33	1,224.7	-1,556.3	3,870.7	3,810.4	64.181		
6,700.0	6,310.7	5,186.5	4,727.9	39.3	38.4	-81.00	1,250.5	-1,587.6	3,911.1	3,850.2	64.232		
6,800.0	6,410.7	5,275.9	4,807.9	39.3	39.1	-78.04	1,276.9	-1,618.9	3,952.6	3,891.7	64.283		
6,900.0	6,510.7	5,365.9	4,889.9	39.3	39.8	-78.04	1,303.3	-1,650.2	3,994.1	3,933.2	64.334		
7,000.0	6,610.7	5,456.9	4,972.9	39.3	40.5	-78.04	1,329.7	-1,681.5	4,035.6	3,974.7	64.385		
7,100.0	6,710.7	5,547.9	5,055.9	39.4	41.2	-78.04	1,356.1	-1,712.8	4,077.1	4,016.2	64.436		
7,200.0	6,810.7	5,638.9	5,138.9	39.4	41.9	-78.04	1,382.5	-1,744.1	4,118.6	4,057.7	64.487		
7,300.0	6,910.7	5,729.9	5,221.9	39.4	42.6	-78.04	1,408.9	-1,775.4	4,160.1	4,099.2	64.538		
7,400.0	7,010.7	5,820.9	5,304.9	39.5	43.3	-78.04	1,435.3	-1,806.7	4,201.6	4,140.7	64.589		
7,500.0	7,110.7	5,911.9	5,387.9	39.5	44.0	-78.04	1,461.7	-1,838.0	4,243.1	4,182.2	64.640		
7,600.0	7,210.7	6,002.9	5,470.9	39.5	44.7	-78.04	1,488.1	-1,869.3	4,284.6	4,223.7	64.691		
7,700.0	7,310.7	6,093.9	5,553.9	39.5	45.4	-78.04	1,514.5	-1,900.6	4,326.1	4,265.2	64.742		
7,800.0	7,410.7	6,184.9	5,636.9	39.6	46.1	-78.04	1,540.9	-1,931.9	4,367.6	4,306.7	64.793		
7,900.0	7,510.7	6,275.9	5,719.9	39.6	46.8	-78.04	1,567.3	-1,963.2	4,409.1	4,348.2	64.844		
8,000.0	7,610.7	6,366.9	5,802.9	39.6	47.5	-78.04	1,593.7	-1,994.5	4,450.6	4,389.7	64.895		
8,100.0	7,710.7	6,457.9	5,885.9	39.7	48.2	-78.04	1,620.1	-2,025.8	4,492.1	4,431.2	64.946		
8,200.0	7,810.7	6,548.9	5,968.9	39.7	48.9	-78.04	1,646.5	-2,057.1	4,533.6	4,472.7	64.997		
8,300.0	7,910.7	6,639.9	6,051.9	39.7	49.6	-78.04	1,672.9	-2,088.4	4,575.1	4,514.2	65.048		
8,400.0	8,010.7	6,730.9	6,134.9	39.8	50.3	-78.04	1,699.3	-2,119.7	4,616.6	4,555.7	65.099		
8,500.0	8,110.7	6,821.9	6,217.9	39.8	51.0	-78.04	1,725.7	-2,151.0	4,658.1	4,597.2	65.150		
8,600.0	8,210.7	6,912.9	6,300.9	39.8	51.7	-78.04	1,752.1	-2,182.3	4,700.0	4,638.7	65.201		
8,700.0	8,310.7	7,003.9	6,383.9	39.8	52.4	-78.04	1,778.5	-2,213.6	4,741.5	4,680.2	65.252		
8,800.0	8,410.7	7,094.9	6,466.9	39.9	53.1	-78.04	1,804.9	-2,244.9	4,783.0	4,721.7	65.303		
8,900.0	8,510.7	7,185.9	6,549.9	39.9	53.8	-78.04	1,831.3	-2,276.2	4,824.5	4,763.2	65.354		
9,000.0	8,610.7	7,276.9	6,632.9	39.9	54.5	-78.04	1,857.7	-2,307.5	4,866.0	4,804.7	65.405		
9,097.1	8,707.8	7,368.2	6,715.0	40.0	55.2	-78.04	1,884.1	-2,338.8	4,907.5	4,846.2	65.456		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-16E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-73.30	6.4	-21.4	22.4				
100.0	100.0	100.0	100.0	0.8	0.8	-73.30	6.4	-21.4	22.4	20.8	14.109		
200.0	200.0	200.0	200.0	1.4	1.4	-73.30	6.4	-21.4	22.4	19.5	7.900 CC		
204.4	204.4	204.4	204.4	1.4	1.4	-143.74	6.4	-21.4	22.4	19.5	7.837 ES		
300.0	300.0	299.6	299.6	1.7	1.7	-144.69	6.5	-21.7	23.1	19.8	6.998		
400.0	399.9	398.1	398.1	3.0	2.8	-150.60	6.8	-25.6	30.7	25.1	5.491 SF		
500.0	499.5	495.1	494.7	4.3	4.2	-156.45	7.5	-33.4	46.6	38.3	5.649		
600.0	598.6	589.7	588.6	5.4	4.9	-160.15	8.5	-45.0	70.8	60.9	7.116		
700.0	697.1	682.1	679.8	6.3	5.3	-161.52	11.2	-59.4	102.4	91.3	9.181		
800.0	794.7	771.3	767.4	7.1	5.9	-161.47	16.2	-75.8	140.5	128.0	11.274		
900.0	891.3	856.8	850.6	7.9	6.5	-160.87	23.3	-93.8	184.7	171.1	13.505		
1,000.0	986.7	938.2	929.2	8.6	7.1	-160.02	32.1	-112.9	234.8	220.1	15.901		
1,100.0	1,080.6	1,015.1	1,002.8	9.3	7.7	-159.08	42.2	-132.8	290.5	274.7	18.441		
1,200.0	1,173.2	1,087.5	1,071.4	9.6	8.2	-158.38	53.4	-153.2	351.0	334.6	21.380		
1,300.0	1,265.5	1,157.1	1,136.7	9.9	8.7	-157.91	65.6	-174.2	413.7	396.7	24.319		
1,400.0	1,357.8	1,224.2	1,198.8	10.2	9.1	-157.35	78.6	-195.7	478.1	460.5	27.144		
1,500.0	1,450.1	1,288.8	1,258.0	10.5	9.6	-156.74	92.4	-217.6	544.1	525.9	29.859		
1,600.0	1,542.4	1,359.6	1,322.2	10.9	9.9	-156.07	108.6	-242.6	611.3	592.4	32.434		
1,700.0	1,634.6	1,433.4	1,389.2	11.3	10.2	-155.51	125.4	-268.7	678.5	659.1	34.855		
1,800.0	1,726.9	1,507.3	1,456.2	11.6	10.4	-155.04	142.3	-294.8	745.8	725.8	37.157		
1,900.0	1,819.2	1,581.1	1,523.2	12.0	10.7	-154.65	159.1	-320.9	813.1	792.4	39.273		
2,000.0	1,911.5	1,655.0	1,590.2	12.4	11.0	-154.33	176.0	-346.9	880.5	859.1	41.223		
2,100.0	2,003.8	1,728.8	1,657.2	12.8	11.2	-154.04	192.9	-373.0	947.8	925.8	43.022		
2,200.0	2,096.1	1,802.7	1,724.2	13.3	11.5	-153.80	209.7	-399.1	1,015.2	992.5	44.681		
2,300.0	2,188.4	1,876.5	1,791.2	13.7	11.8	-153.58	226.6	-425.2	1,082.5	1,059.1	46.205		
2,400.0	2,280.7	1,950.4	1,858.2	14.1	12.1	-153.40	243.5	-451.3	1,149.9	1,125.8	47.612		
2,500.0	2,373.0	2,024.2	1,925.2	14.6	12.4	-153.23	260.3	-477.4	1,217.3	1,192.4	48.913		
2,600.0	2,465.3	2,098.1	1,992.2	15.0	12.8	-153.08	277.2	-503.5	1,284.7	1,259.0	50.116		
2,700.0	2,557.5	2,171.9	2,059.2	15.5	13.1	-152.94	294.1	-529.6	1,352.1	1,325.7	51.226		
2,800.0	2,649.8	2,245.8	2,126.2	16.1	13.5	-152.82	310.9	-555.7	1,419.5	1,392.3	52.252		
2,900.0	2,742.1	2,319.6	2,193.2	16.8	13.9	-152.71	327.8	-581.8	1,486.9	1,458.9	53.209		
3,000.0	2,834.4	2,393.5	2,260.2	17.5	14.4	-152.61	344.7	-607.9	1,554.3	1,525.5	54.096		
3,100.0	2,926.7	2,467.3	2,327.2	18.2	14.8	-152.51	361.5	-634.0	1,621.7	1,592.1	54.918		
3,200.0	3,019.0	2,541.2	2,394.1	18.9	15.3	-152.43	378.4	-660.1	1,689.1	1,658.7	55.685		
3,300.0	3,111.3	2,615.0	2,461.1	19.6	15.9	-152.35	395.3	-686.2	1,756.5	1,725.3	56.401		
3,400.0	3,203.6	2,688.9	2,528.1	20.3	16.4	-152.27	412.1	-712.3	1,823.9	1,791.9	57.068		
3,500.0	3,295.9	2,762.7	2,595.1	21.0	17.0	-152.20	429.0	-738.4	1,891.3	1,858.5	57.691		
3,600.0	3,388.1	2,836.6	2,662.1	21.7	17.5	-152.14	445.9	-764.5	1,958.7	1,925.1	58.274		
3,700.0	3,480.4	2,910.4	2,729.1	22.4	18.1	-152.08	462.7	-790.5	2,026.1	1,991.6	58.822		
3,800.0	3,572.7	2,984.3	2,796.1	23.1	18.7	-152.03	479.6	-816.6	2,093.5	2,058.2	59.334		
3,900.0	3,665.0	3,058.1	2,863.1	23.8	19.2	-151.97	496.5	-842.7	2,160.9	2,124.8	59.815		
4,000.0	3,757.3	3,132.0	2,930.1	24.5	19.8	-151.92	513.3	-868.8	2,228.3	2,191.4	60.268		
4,100.0	3,849.6	3,205.8	2,997.1	25.2	20.4	-151.88	530.2	-894.9	2,295.7	2,257.9	60.695		
4,200.0	3,941.9	3,279.7	3,064.1	25.9	20.9	-151.84	547.1	-921.0	2,363.2	2,324.5	61.096		
4,300.0	4,034.2	3,353.5	3,131.1	26.6	21.5	-151.79	563.9	-947.1	2,430.6	2,391.0	61.475		
4,400.0	4,126.5	3,427.3	3,198.1	27.3	22.1	-151.76	580.8	-973.2	2,498.0	2,457.6	61.833		
4,500.0	4,218.8	3,501.2	3,265.1	28.1	22.7	-151.72	597.7	-999.3	2,565.4	2,524.1	62.171		
4,600.0	4,311.0	3,575.0	3,332.1	28.8	23.2	-151.68	614.5	-1,025.4	2,632.8	2,590.7	62.491		
4,700.0	4,403.3	3,648.9	3,399.1	29.5	23.8	-151.65	631.4	-1,051.5	2,700.2	2,657.2	62.794		
4,800.0	4,495.6	3,722.7	3,466.1	30.2	24.4	-151.62	648.2	-1,077.6	2,767.7	2,723.8	63.081		
4,900.0	4,587.9	3,796.6	3,533.0	30.9	25.0	-151.59	665.1	-1,103.7	2,835.1	2,790.3	63.354		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-16E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	3,870.4	3,600.0	31.6	25.5	-151.56	682.0	-1,129.8	2,902.5	2,856.9	63.612		
5,100.0	4,772.5	3,944.3	3,667.0	32.3	26.1	-151.53	698.8	-1,155.9	2,969.9	2,923.4	63.858		
5,200.0	4,864.8	4,018.1	3,734.0	33.0	26.7	-151.51	715.7	-1,182.0	3,037.3	2,989.9	64.092		
5,300.0	4,957.1	4,092.0	3,801.0	33.7	27.3	-151.48	732.6	-1,208.0	3,104.7	3,056.5	64.314		
5,400.0	5,049.4	4,165.8	3,868.0	34.5	27.9	-151.46	749.4	-1,234.1	3,172.2	3,123.0	64.526		
5,500.0	5,141.7	4,239.7	3,935.0	35.2	28.4	-151.43	766.3	-1,260.2	3,239.6	3,189.5	64.728		
5,600.0	5,233.9	4,313.5	4,002.0	35.9	29.0	-151.43	783.2	-1,286.3	3,307.0	3,256.1	64.921		
5,700.0	5,327.1	4,388.7	4,070.2	36.6	29.6	-152.42	800.3	-1,312.9	3,373.0	3,321.0	64.975		
5,800.0	5,421.7	4,466.2	4,140.5	37.2	30.2	-153.25	818.0	-1,340.3	3,435.9	3,383.1	64.979		
5,900.0	5,517.6	4,546.0	4,212.9	37.7	30.9	-153.96	836.3	-1,368.5	3,495.9	3,442.0	64.923		
6,000.0	5,614.7	4,628.0	4,287.3	38.1	31.5	-154.55	855.0	-1,397.4	3,552.6	3,497.8	64.812		
6,100.0	5,712.8	4,711.8	4,363.4	38.5	32.2	-155.04	874.1	-1,427.1	3,606.1	3,550.3	64.654		
6,200.0	5,811.6	4,797.5	4,441.1	38.8	32.8	-155.43	893.7	-1,457.3	3,656.3	3,599.5	64.456		
6,300.0	5,910.9	4,884.8	4,520.3	39.0	33.5	-155.73	913.6	-1,488.2	3,703.0	3,645.3	64.227		
6,400.0	6,010.7	4,973.6	4,600.8	39.1	34.2	-155.96	933.9	-1,519.6	3,746.2	3,687.6	63.979		
6,500.0	6,110.7	5,063.7	4,682.6	39.2	35.0	-156.11	954.5	-1,551.4	3,785.9	3,726.6	63.896		
6,600.0	6,210.7	5,154.4	4,764.9	39.2	35.7	-85.40	975.2	-1,583.5	3,823.6	3,763.8	63.911		
6,700.0	6,310.7	5,245.1	4,847.2	39.3	36.4	-85.11	995.9	-1,615.5	3,861.5	3,801.1	63.930		
6,800.0	6,410.7	5,336.0	4,929.5	39.3	37.1	-82.85	1,016.6	-1,647.6	3,899.4	3,838.2	63.949		
6,900.0	6,510.7	5,426.9	5,011.8	39.3	37.8	-82.85	1,037.3	-1,679.7	3,937.3	3,875.1	63.968		
7,000.0	6,610.7	5,517.8	5,094.1	39.3	38.5	-82.85	1,058.0	-1,711.8	3,975.2	3,912.0	63.987		
7,100.0	6,710.7	5,608.7	5,176.4	39.4	39.2	-82.85	1,078.7	-1,743.9	4,013.1	3,948.9	63.999		
7,200.0	6,810.7	5,699.6	5,258.7	39.4	39.9	-82.85	1,099.4	-1,776.0	4,051.0	3,985.8	63.999		
7,300.0	6,910.7	5,790.5	5,340.8	39.4	40.6	-82.85	1,120.1	-1,808.1	4,088.9	4,022.7	63.999		
7,400.0	7,010.7	5,881.4	5,422.9	39.5	41.3	-82.85	1,140.8	-1,840.2	4,126.8	4,059.6	63.999		
7,500.0	7,110.7	5,972.3	5,505.0	39.5	42.0	-82.85	1,161.5	-1,872.3	4,164.7	4,096.5	63.999		
7,600.0	7,210.7	6,063.2	5,587.1	39.5	42.7	-82.85	1,182.2	-1,904.4	4,202.6	4,133.4	63.999		
7,700.0	7,310.7	6,154.1	5,669.2	39.5	43.4	-82.85	1,202.9	-1,936.5	4,239.5	4,170.3	63.999		
7,800.0	7,410.7	6,245.0	5,751.3	39.6	44.1	-82.85	1,223.6	-1,968.6	4,276.4	4,207.2	63.999		
7,900.0	7,510.7	6,336.0	5,833.4	39.6	44.8	-82.85	1,244.3	-1,999.7	4,313.3	4,244.1	63.999		
8,000.0	7,610.7	6,426.9	5,915.5	39.6	45.5	-82.85	1,265.0	-2,031.8	4,350.2	4,281.0	63.999		
8,100.0	7,710.7	6,517.8	6,000.0	39.7	46.2	-82.85	1,285.7	-2,063.9	4,387.1	4,317.9	63.999		
8,200.0	7,810.7	6,608.7	6,082.1	39.7	46.9	-82.85	1,306.4	-2,096.0	4,424.0	4,354.8	63.999		
8,300.0	7,910.7	6,699.6	6,164.2	39.7	47.6	-82.85	1,327.1	-2,128.1	4,460.9	4,391.7	63.999		
8,400.0	8,010.7	6,790.5	6,246.3	39.8	48.3	-82.85	1,347.8	-2,160.2	4,497.8	4,428.6	63.999		
8,500.0	8,110.7	6,881.4	6,330.4	39.8	49.0	-82.85	1,368.5	-2,192.3	4,534.7	4,465.5	63.999		
8,600.0	8,210.7	6,972.3	6,412.5	39.8	49.7	-82.85	1,389.2	-2,224.4	4,571.6	4,502.4	63.999		
8,700.0	8,310.7	7,063.2	6,494.6	39.8	50.4	-82.85	1,409.9	-2,256.5	4,608.5	4,539.3	63.999		
8,800.0	8,410.7	7,154.1	6,576.7	39.9	51.1	-82.85	1,430.6	-2,288.6	4,645.4	4,576.2	63.999		
8,900.0	8,510.7	7,245.0	6,658.8	39.9	51.8	-82.85	1,451.3	-2,320.7	4,682.3	4,613.1	63.999		
9,000.0	8,610.7	7,336.0	6,740.9	39.9	52.5	-82.85	1,472.0	-2,352.8	4,719.2	4,650.0	63.999		
9,097.1	8,707.8	7,426.9	6,823.0	40.0	53.2	-82.85	1,492.7	-2,384.9	4,756.1	4,686.9	63.999		



Anticollision Report



Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-17E - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-91.72	-0.4	-14.1	14.1			
100.0	100.0	100.0	100.0	0.8	0.8	-91.72	-0.4	-14.1	14.1	12.6	8.926	
200.0	200.0	200.0	200.0	1.4	1.4	-91.72	-0.4	-14.1	14.1	11.3	4.998	CC
204.4	204.4	204.4	204.4	1.4	1.4	-162.17	-0.4	-14.1	14.1	11.3	4.944	
300.0	300.0	300.0	300.0	1.7	1.9	-162.81	-0.4	-14.1	14.7	11.1	4.153	ES
400.0	399.9	399.3	399.2	3.0	2.2	-166.30	-0.4	-15.3	20.1	14.9	3.905	SF
500.0	499.5	497.2	497.0	4.3	3.5	-168.77	-0.4	-20.6	33.9	26.1	4.363	
600.0	598.6	592.8	592.2	5.4	4.7	-169.82	-0.4	-29.8	56.1	46.1	5.657	
700.0	697.1	685.3	683.8	6.3	5.6	-170.21	-0.4	-42.4	86.3	74.6	7.410	
800.0	794.7	774.7	771.9	7.1	6.0	-170.15	-0.1	-58.0	124.0	111.3	9.780	
900.0	891.3	861.0	856.3	7.9	6.4	-169.36	2.2	-75.6	168.0	154.3	12.248	
1,000.0	986.7	943.2	936.2	8.6	6.9	-168.27	6.4	-94.5	217.9	203.1	14.752	
1,100.0	1,080.6	1,021.0	1,011.1	9.3	7.4	-167.10	12.0	-114.4	273.3	257.6	17.338	
1,200.0	1,173.2	1,094.2	1,081.1	9.6	7.9	-166.10	19.0	-134.9	333.7	317.3	20.310	
1,300.0	1,265.5	1,164.6	1,147.7	9.9	8.3	-165.30	27.0	-156.2	396.3	379.3	23.286	
1,400.0	1,357.8	1,232.5	1,211.3	10.2	8.8	-164.47	36.1	-178.1	460.5	442.9	26.168	
1,500.0	1,450.1	1,300.0	1,273.9	10.5	9.2	-163.62	46.4	-201.3	526.3	508.1	28.913	
1,600.0	1,542.4	1,366.7	1,335.1	10.9	9.4	-162.80	57.7	-225.3	593.4	574.8	31.885	
1,700.0	1,634.6	1,440.4	1,402.7	11.3	9.6	-162.05	70.2	-251.9	660.7	641.6	34.486	
1,800.0	1,726.9	1,514.1	1,470.2	11.6	9.9	-161.44	82.7	-278.6	728.1	708.4	36.891	
1,900.0	1,819.2	1,587.7	1,537.7	12.0	10.1	-160.93	95.2	-305.2	795.6	775.2	39.107	
2,000.0	1,911.5	1,661.4	1,605.3	12.4	10.4	-160.50	107.7	-331.8	863.0	842.1	41.150	
2,100.0	2,003.8	1,735.1	1,672.8	12.8	10.7	-160.13	120.3	-358.5	930.5	908.9	43.040	
2,200.0	2,096.1	1,808.8	1,740.3	13.3	11.0	-159.81	132.8	-385.1	998.0	975.7	44.787	
2,300.0	2,188.4	1,882.4	1,807.9	13.7	11.3	-159.54	145.3	-411.8	1,065.5	1,042.6	46.398	
2,400.0	2,280.7	1,956.1	1,875.4	14.1	11.6	-159.29	157.8	-438.4	1,133.1	1,109.4	47.881	
2,500.0	2,373.0	2,029.8	1,942.9	14.6	11.9	-159.07	170.3	-465.1	1,200.6	1,176.2	49.266	
2,600.0	2,465.3	2,103.5	2,010.5	15.0	12.2	-158.88	182.8	-491.7	1,268.2	1,243.1	50.541	
2,700.0	2,557.5	2,177.1	2,078.0	15.5	12.6	-158.71	195.4	-518.3	1,335.7	1,309.9	51.721	
2,800.0	2,649.8	2,250.8	2,145.6	16.1	13.0	-158.55	207.9	-545.0	1,403.3	1,376.7	52.817	
2,900.0	2,742.1	2,324.5	2,213.1	16.8	13.3	-158.41	220.4	-571.6	1,470.9	1,443.5	53.835	
3,000.0	2,834.4	2,398.1	2,280.6	17.5	13.8	-158.27	232.9	-598.3	1,538.4	1,510.3	54.783	
3,100.0	2,926.7	2,471.8	2,348.2	18.2	14.2	-158.15	245.4	-624.9	1,606.0	1,577.1	55.662	
3,200.0	3,019.0	2,545.5	2,415.7	18.9	14.7	-158.04	257.9	-651.6	1,673.6	1,644.0	56.483	
3,300.0	3,111.3	2,619.2	2,483.2	19.6	15.1	-157.94	270.5	-678.2	1,741.2	1,710.8	57.250	
3,400.0	3,203.6	2,692.8	2,550.8	20.3	15.6	-157.85	283.0	-704.8	1,808.7	1,777.5	57.967	
3,500.0	3,295.9	2,766.5	2,618.3	21.0	16.1	-157.76	295.5	-731.5	1,876.3	1,844.3	58.637	
3,600.0	3,388.1	2,840.2	2,685.8	21.7	16.7	-157.68	308.0	-758.1	1,943.9	1,911.1	59.264	
3,700.0	3,480.4	2,913.9	2,753.4	22.4	17.2	-157.61	320.5	-784.8	2,011.5	1,977.9	59.854	
3,800.0	3,572.7	2,987.5	2,820.9	23.1	17.7	-157.53	333.0	-811.4	2,079.1	2,044.7	60.406	
3,900.0	3,665.0	3,061.2	2,888.5	23.8	18.2	-157.47	345.6	-838.1	2,146.7	2,111.5	60.926	
4,000.0	3,757.3	3,134.9	2,956.0	24.5	18.8	-157.41	358.1	-864.7	2,214.3	2,178.2	61.415	
4,100.0	3,849.6	3,208.5	3,023.5	25.2	19.3	-157.35	370.6	-891.3	2,281.9	2,245.0	61.876	
4,200.0	3,941.9	3,282.2	3,091.1	25.9	19.9	-157.29	383.1	-918.0	2,349.5	2,311.8	62.311	
4,300.0	4,034.2	3,355.9	3,158.6	26.6	20.4	-157.24	395.6	-944.6	2,417.1	2,378.6	62.721	
4,400.0	4,126.5	3,429.6	3,226.1	27.3	20.9	-157.19	408.1	-971.3	2,484.7	2,445.3	63.109	
4,500.0	4,218.8	3,503.2	3,293.7	28.1	21.5	-157.14	420.7	-997.9	2,552.3	2,512.1	63.476	
4,600.0	4,311.0	3,576.9	3,361.2	28.8	22.0	-157.10	433.2	-1,024.5	2,619.9	2,578.9	63.823	
4,700.0	4,403.3	3,650.6	3,428.7	29.5	22.6	-157.06	445.7	-1,051.2	2,687.5	2,645.6	64.152	
4,800.0	4,495.6	3,724.2	3,496.3	30.2	23.1	-157.02	458.2	-1,077.8	2,755.1	2,712.4	64.464	
4,900.0	4,587.9	3,797.9	3,563.8	30.9	23.7	-156.98	470.7	-1,104.5	2,822.7	2,779.1	64.761	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-17E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	3,871.6	3,631.3	31.6	24.2	-156.94	483.2	-1,131.1	2,890.3	2,845.9	65.042		
5,100.0	4,772.5	3,945.3	3,698.9	32.3	24.7	-156.91	495.8	-1,157.8	2,957.9	2,912.6	65.310		
5,200.0	4,864.8	4,018.9	3,766.4	33.0	25.3	-156.88	508.3	-1,184.4	3,025.5	2,979.4	65.565		
5,300.0	4,957.1	4,092.6	3,834.0	33.7	25.8	-156.84	520.8	-1,211.0	3,093.2	3,046.1	65.808		
5,400.0	5,049.4	4,166.3	3,901.5	34.5	26.4	-156.81	533.3	-1,237.7	3,160.8	3,112.9	66.039		
5,500.0	5,141.7	4,240.0	3,969.0	35.2	26.9	-156.79	545.8	-1,264.3	3,228.4	3,179.6	66.260		
5,600.0	5,233.9	4,313.6	4,036.6	35.9	27.5	-156.77	558.3	-1,291.0	3,296.0	3,246.4	66.471		
5,700.0	5,327.1	4,388.7	4,105.3	36.6	28.1	-157.58	571.1	-1,318.1	3,362.0	3,311.5	66.530		
5,800.0	5,421.7	4,466.2	4,176.5	37.2	28.6	-158.26	584.3	-1,346.2	3,425.0	3,373.5	66.521		
5,900.0	5,517.6	4,546.2	4,249.8	37.7	29.2	-158.83	597.9	-1,375.1	3,484.8	3,432.4	66.443		
6,000.0	5,614.7	4,628.4	4,325.1	38.1	29.8	-159.30	611.8	-1,404.8	3,541.3	3,487.9	66.302		
6,100.0	5,712.8	4,712.7	4,402.4	38.5	30.5	-159.69	626.1	-1,435.3	3,594.4	3,540.1	66.105		
6,200.0	5,811.6	4,798.9	4,481.4	38.8	31.1	-159.99	640.8	-1,466.4	3,644.0	3,588.7	65.862		
6,300.0	5,910.9	4,886.8	4,562.0	39.0	31.8	-160.23	655.7	-1,498.3	3,690.1	3,633.8	65.582		
6,400.0	6,010.7	4,976.4	4,644.1	39.1	32.5	-160.39	670.9	-1,530.6	3,732.5	3,675.3	65.280		
6,500.0	6,110.7	5,067.3	4,727.5	39.2	33.1	-160.50	686.4	-1,563.5	3,771.2	3,713.4	65.158		
6,600.0	6,210.7	5,159.0	4,811.5	39.2	33.8	-89.82	702.0	-1,596.7	3,807.9	3,749.5	65.151		
6,700.0	6,310.7	5,251.0	4,901.5	39.3	34.0	-87.76	718.1	-1,630.6	3,841.5	3,771.8	55.144		
6,800.0	6,410.7	5,343.0	4,991.5	39.3	34.0	-87.76	734.1	-1,664.5	3,875.1	3,793.7	55.105		
6,900.0	6,510.7	5,435.0	5,081.5	39.3	34.0	-87.76	750.1	-1,698.4	3,908.6	3,815.6	55.066		
7,000.0	6,610.7	5,527.0	5,171.5	39.3	34.0	-87.76	766.1	-1,732.3	3,942.1	3,847.6	55.026		
7,100.0	6,710.7	5,619.0	5,261.5	39.4	34.1	-87.76	782.1	-1,766.2	3,975.6	3,879.1	54.986		
7,200.0	6,810.7	5,711.0	5,351.5	39.4	34.1	-87.76	798.1	-1,800.1	4,009.1	3,910.6	54.946		
7,300.0	6,910.7	5,803.0	5,441.5	39.4	34.1	-87.76	814.1	-1,834.0	4,042.6	3,942.1	54.905		
7,400.0	7,010.7	5,895.0	5,531.5	39.5	34.2	-87.76	830.1	-1,867.9	4,076.1	3,973.6	54.865		
7,500.0	7,110.7	5,987.0	5,621.5	39.5	34.2	-87.76	846.1	-1,901.8	4,109.6	3,999.1	54.824		
7,600.0	7,210.7	6,079.0	5,711.5	39.5	34.2	-87.76	862.1	-1,935.7	4,143.1	4,029.6	54.783		
7,700.0	7,310.7	6,171.0	5,801.5	39.5	34.2	-87.76	878.1	-1,969.6	4,176.6	4,055.1	54.742		
7,800.0	7,410.7	6,263.0	5,891.5	39.6	34.3	-87.76	894.1	-1,999.5	4,209.1	4,080.6	54.701		
7,900.0	7,510.7	6,355.0	5,981.5	39.6	34.3	-87.76	910.1	-2,029.4	4,241.6	4,106.1	54.659		
8,000.0	7,610.7	6,447.0	6,071.5	39.6	34.3	-87.76	926.1	-2,059.3	4,274.1	4,131.6	54.617		
8,100.0	7,710.7	6,539.0	6,161.5	39.7	34.4	-87.76	942.1	-2,089.2	4,307.6	4,157.1	54.576		
8,200.0	7,810.7	6,631.0	6,251.5	39.7	34.4	-87.76	958.1	-2,119.1	4,340.1	4,182.6	54.535		
8,300.0	7,910.7	6,723.0	6,341.5	39.7	34.4	-87.76	974.1	-2,149.0	4,372.6	4,208.1	54.544		
8,400.0	8,010.7	6,815.0	6,431.5	39.8	34.4	-87.76	990.1	-2,178.9	4,405.1	4,233.6	54.619		
8,500.0	8,110.7	6,907.0	6,521.5	39.8	34.4	-87.76	1,006.1	-2,208.8	4,437.6	4,259.1	54.758		
8,600.0	8,210.7	7,000.0	6,611.5	39.8	34.4	-87.76	1,022.1	-2,238.7	4,470.1	4,284.6	54.963		
8,700.0	8,310.7	7,092.0	6,701.5	39.8	34.4	-87.76	1,038.1	-2,268.6	4,502.6	4,310.1	55.231		
8,800.0	8,410.7	7,184.0	6,791.5	39.9	34.4	-87.76	1,054.1	-2,298.5	4,535.1	4,335.6	55.562		
8,900.0	8,510.7	7,276.0	6,881.5	39.9	34.4	-87.76	1,070.1	-2,328.4	4,567.6	4,361.1	55.955		
9,000.0	8,610.7	7,368.0	6,971.5	39.9	34.4	-87.76	1,086.1	-2,358.3	4,599.1	4,386.6	56.409		
9,097.1	8,707.8	7,460.1	7,061.5	40.0	34.4	-87.76	1,102.1	-2,388.2	4,631.6	4,412.1	57.023		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-18E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	178.28	-14.1	0.4	14.1				
100.0	100.0	100.0	100.0	0.8	0.8	178.28	-14.1	0.4	14.1	12.6	8.926		
200.0	200.0	200.0	200.0	1.4	1.4	178.28	-14.1	0.4	14.1	11.3	4.998 CC		
204.4	204.4	204.4	204.4	1.4	1.4	107.85	-14.1	0.4	14.1	11.3	4.946		
300.0	300.0	300.0	300.0	1.7	1.9	109.91	-14.1	0.4	14.3	10.8	4.089 ES		
400.0	399.9	399.8	399.8	3.0	2.1	126.20	-14.1	-0.1	16.5	12.1	3.730 SF		
500.0	499.5	498.5	498.4	4.3	3.2	151.94	-14.1	-4.4	25.4	18.7	3.776		
600.0	598.6	595.1	594.6	5.4	4.4	167.86	-14.1	-12.7	44.5	35.2	4.785		
700.0	697.1	688.5	687.3	6.3	5.4	175.74	-14.1	-24.5	72.7	61.5	6.453		
800.0	794.7	778.4	775.9	7.1	5.8	179.99	-14.0	-39.5	109.2	96.8	8.780		
900.0	891.3	864.9	860.6	7.9	6.2	-177.02	-12.7	-56.8	152.6	139.1	11.302		
1,000.0	986.7	946.8	940.3	8.6	6.7	-174.69	-10.1	-75.8	202.5	187.9	13.870		
1,100.0	1,080.6	1,023.8	1,014.5	9.3	7.3	-172.80	-6.3	-95.9	258.3	242.7	16.521		
1,200.0	1,173.2	1,100.0	1,087.3	9.6	7.8	-171.25	-1.3	-118.0	319.4	303.0	19.466		
1,300.0	1,265.5	1,164.8	1,148.5	9.9	8.3	-170.17	3.9	-138.3	383.0	366.1	22.642		
1,400.0	1,357.8	1,230.9	1,210.4	10.2	8.7	-169.13	10.1	-160.7	448.4	430.9	25.692		
1,500.0	1,450.1	1,296.9	1,271.6	10.5	9.0	-168.17	17.1	-184.5	515.5	497.6	28.758		
1,600.0	1,542.4	1,370.3	1,339.4	10.9	9.2	-167.28	25.2	-211.3	583.1	564.7	31.594		
1,700.0	1,634.6	1,443.6	1,407.2	11.3	9.5	-166.58	33.3	-238.2	650.8	631.8	34.230		
1,800.0	1,726.9	1,517.0	1,475.0	11.6	9.7	-166.01	41.4	-265.1	718.6	699.0	36.677		
1,900.0	1,819.2	1,590.4	1,542.8	12.0	10.0	-165.54	49.5	-292.0	786.4	766.2	38.943		
2,000.0	1,911.5	1,663.8	1,610.6	12.4	10.2	-165.14	57.5	-318.9	854.2	833.3	41.037		
2,100.0	2,003.8	1,737.2	1,678.4	12.8	10.5	-164.80	65.6	-345.8	922.0	900.5	42.979		
2,200.0	2,096.1	1,810.6	1,746.2	13.3	10.8	-164.51	73.7	-372.7	989.8	967.7	44.778		
2,300.0	2,188.4	1,883.9	1,813.9	13.7	11.1	-164.25	81.8	-399.6	1,057.7	1,034.9	46.441		
2,400.0	2,280.7	1,957.3	1,881.7	14.1	11.4	-164.03	89.9	-426.5	1,125.5	1,102.1	47.981		
2,500.0	2,373.0	2,030.7	1,949.5	14.6	11.7	-163.83	98.0	-453.4	1,193.4	1,169.2	49.409		
2,600.0	2,465.3	2,104.1	2,017.3	15.0	12.0	-163.65	106.1	-480.3	1,261.3	1,236.4	50.740		
2,700.0	2,557.5	2,177.5	2,085.1	15.5	12.3	-163.49	114.2	-507.2	1,329.2	1,303.6	51.975		
2,800.0	2,649.8	2,250.9	2,152.9	16.1	12.6	-163.34	122.2	-534.1	1,397.0	1,370.7	53.117		
2,900.0	2,742.1	2,324.2	2,220.7	16.8	13.0	-163.21	130.3	-561.0	1,464.9	1,437.9	54.183		
3,000.0	2,834.4	2,397.6	2,288.5	17.5	13.3	-163.09	138.4	-587.9	1,532.8	1,505.0	55.178		
3,100.0	2,926.7	2,471.0	2,356.3	18.2	13.7	-162.98	146.5	-614.8	1,600.7	1,572.2	56.105		
3,200.0	3,019.0	2,544.4	2,424.1	18.9	14.1	-162.88	154.6	-641.7	1,668.6	1,639.3	56.971		
3,300.0	3,111.3	2,617.8	2,491.9	19.6	14.5	-162.79	162.7	-668.6	1,736.5	1,706.5	57.782		
3,400.0	3,203.6	2,691.2	2,559.7	20.3	15.0	-162.71	170.8	-695.5	1,804.4	1,773.6	58.542		
3,500.0	3,295.9	2,764.5	2,627.5	21.0	15.4	-162.63	178.8	-722.4	1,872.3	1,840.7	59.252		
3,600.0	3,388.1	2,837.9	2,695.3	21.7	15.9	-162.55	186.9	-749.3	1,940.2	1,907.9	59.920		
3,700.0	3,480.4	2,911.3	2,763.1	22.4	16.4	-162.48	195.0	-776.2	2,008.2	1,975.0	60.548		
3,800.0	3,572.7	2,984.7	2,830.9	23.1	16.9	-162.42	203.1	-803.1	2,076.1	2,042.1	61.139		
3,900.0	3,665.0	3,058.1	2,898.7	23.8	17.5	-162.36	211.2	-830.0	2,144.0	2,109.2	61.694		
4,000.0	3,757.3	3,131.5	2,966.5	24.5	18.0	-162.30	219.3	-856.9	2,211.9	2,176.3	62.219		
4,100.0	3,849.6	3,204.8	3,034.3	25.2	18.5	-162.25	227.4	-883.8	2,279.8	2,243.5	62.714		
4,200.0	3,941.9	3,278.2	3,102.1	25.9	19.0	-162.20	235.5	-910.7	2,347.7	2,310.6	63.181		
4,300.0	4,034.2	3,351.6	3,169.9	26.6	19.5	-162.15	243.5	-937.6	2,415.6	2,377.7	63.623		
4,400.0	4,126.5	3,425.0	3,237.6	27.3	20.1	-162.11	251.6	-964.5	2,483.6	2,444.8	64.041		
4,500.0	4,218.8	3,498.4	3,305.4	28.1	20.6	-162.07	259.7	-991.4	2,551.5	2,511.9	64.438		
4,600.0	4,311.0	3,571.8	3,373.2	28.8	21.1	-162.02	267.8	-1,018.3	2,619.4	2,579.0	64.814		
4,700.0	4,403.3	3,645.1	3,441.0	29.5	21.6	-161.99	275.9	-1,045.2	2,687.3	2,646.1	65.170		
4,800.0	4,495.6	3,718.5	3,508.8	30.2	22.2	-161.95	284.0	-1,072.1	2,755.2	2,713.2	65.509		
4,900.0	4,587.9	3,791.9	3,576.6	30.9	22.7	-161.92	292.1	-1,099.0	2,823.2	2,780.3	65.832		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 0993-20-18E - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	3,865.3	3,644.4	31.6	23.2	-161.88	300.2	-1,125.9	2,891.1	2,847.4	66.138		
5,100.0	4,772.5	3,938.7	3,712.2	32.3	23.7	-161.85	308.2	-1,152.8	2,959.0	2,914.5	66.430		
5,200.0	4,864.8	4,012.1	3,780.0	33.0	24.3	-161.82	316.3	-1,179.7	3,026.9	2,981.6	66.708		
5,300.0	4,957.1	4,085.4	3,847.8	33.7	24.8	-161.79	324.4	-1,206.6	3,094.9	3,048.6	66.974		
5,400.0	5,049.4	4,158.8	3,915.6	34.5	25.3	-161.77	332.5	-1,233.5	3,162.8	3,115.7	67.227		
5,500.0	5,141.7	4,232.2	3,983.4	35.2	25.8	-161.74	340.6	-1,260.4	3,230.7	3,182.8	67.468		
5,600.0	5,233.9	4,305.6	4,051.2	35.9	26.4	-161.73	348.7	-1,287.3	3,298.6	3,249.9	67.700		
5,700.0	5,327.1	4,380.4	4,120.3	36.6	26.9	-162.37	356.9	-1,314.7	3,365.0	3,315.3	67.768		
5,800.0	5,421.7	4,457.8	4,191.8	37.2	27.5	-162.91	365.5	-1,343.1	3,428.1	3,377.5	67.755		
5,900.0	5,517.6	4,537.8	4,265.7	37.7	28.0	-163.36	374.3	-1,372.4	3,488.0	3,436.5	67.664		
6,000.0	5,614.7	4,620.1	4,341.7	38.1	28.6	-163.73	383.3	-1,402.6	3,544.5	3,492.0	67.503		
6,100.0	5,712.8	4,704.6	4,419.8	38.5	29.2	-164.03	392.6	-1,433.5	3,597.5	3,544.1	67.280		
6,200.0	5,811.6	4,791.1	4,499.7	38.8	29.9	-164.27	402.2	-1,465.3	3,646.9	3,592.5	67.004		
6,300.0	5,910.9	4,879.5	4,581.4	39.0	30.5	-164.45	411.9	-1,497.7	3,692.7	3,637.3	66.687		
6,400.0	6,010.7	4,969.6	4,664.6	39.1	31.1	-164.57	421.8	-1,530.7	3,734.7	3,678.4	66.344		
6,500.0	6,110.7	5,061.2	4,749.3	39.2	31.8	-164.65	431.9	-1,564.3	3,772.9	3,715.9	66.192		
6,600.0	6,210.7	5,153.6	4,834.6	39.2	32.5	-94.02	442.1	-1,598.1	3,809.0	3,751.4	66.170		
6,700.0	6,310.7	5,247.2	4,919.7	39.3	33.3	-92.39	452.8	-1,631.9	3,841.3	3,772.8	56.052		
6,800.0	6,410.7	5,341.2	5,004.7	39.3	34.0	-92.39	463.5	-1,665.7	3,873.6	3,772.7	56.011		
6,900.0	6,510.7	5,435.2	5,090.7	39.3	34.8	-92.39	474.2	-1,699.5	3,905.9	3,772.7	55.970		
7,000.0	6,610.7	5,529.2	5,176.7	39.3	35.6	-92.39	484.9	-1,733.3	3,938.2	3,772.6	55.929		
7,100.0	6,710.7	5,623.2	5,262.7	39.4	36.4	-92.39	495.6	-1,767.1	3,970.5	3,772.6	55.887		
7,200.0	6,810.7	5,717.2	5,348.7	39.4	37.2	-92.39	506.3	-1,800.9	4,002.8	3,772.5	55.845		
7,300.0	6,910.7	5,811.2	5,434.7	39.4	38.0	-92.39	517.0	-1,834.7	4,035.1	3,772.5	55.803		
7,400.0	7,010.7	5,905.2	5,520.7	39.5	38.8	-92.39	527.7	-1,868.5	4,067.4	3,772.4	55.761		
7,500.0	7,110.7	6,000.2	5,606.7	39.5	39.6	-92.39	538.4	-1,902.3	4,099.7	3,772.4	55.719		
7,600.0	7,210.7	6,094.2	5,692.7	39.5	40.4	-92.39	549.1	-1,936.1	4,132.0	3,772.3	55.676		
7,700.0	7,310.7	6,188.2	5,778.7	39.5	41.2	-92.39	559.8	-1,969.9	4,164.3	3,772.3	55.633		
7,800.0	7,410.7	6,282.2	5,864.7	39.6	42.0	-92.39	570.5	-1,999.7	4,196.6	3,772.2	55.590		
7,900.0	7,510.7	6,376.2	5,950.7	39.6	42.8	-92.39	581.2	-2,029.5	4,228.9	3,772.2	55.547		
8,000.0	7,610.7	6,470.2	6,036.7	39.6	43.6	-92.39	591.9	-2,059.3	4,261.2	3,772.1	55.503		
8,100.0	7,710.7	6,564.2	6,122.7	39.7	44.4	-92.39	602.6	-2,089.1	4,293.5	3,772.1	55.459		
8,200.0	7,810.7	6,658.2	6,208.7	39.7	45.2	-92.39	613.3	-2,118.9	4,325.8	3,772.0	55.415		
8,300.0	7,910.7	6,752.2	6,294.7	39.7	46.0	-92.39	624.0	-2,148.7	4,358.1	3,771.9	55.371		
8,400.0	8,010.7	6,846.2	6,380.7	39.8	46.8	-92.39	634.7	-2,178.5	4,390.4	3,771.9	55.327		
8,500.0	8,110.7	6,940.2	6,466.7	39.8	47.6	-92.39	645.4	-2,208.3	4,422.7	3,771.8	55.282		
8,600.0	8,210.7	7,034.2	6,552.7	39.8	48.4	-92.39	656.1	-2,238.1	4,455.0	3,771.8	55.238		
8,700.0	8,310.7	7,128.2	6,638.7	39.8	49.2	-92.39	666.8	-2,267.9	4,487.3	3,771.7	55.193		
8,800.0	8,410.7	7,222.2	6,724.7	39.9	50.0	-92.39	677.5	-2,297.7	4,519.6	3,771.7	55.148		
8,900.0	8,510.7	7,316.2	6,810.7	39.9	50.8	-92.39	688.2	-2,327.5	4,551.9	3,771.6	55.102		
9,000.0	8,610.7	7,410.2	6,896.7	39.9	51.6	-92.39	698.9	-2,357.3	4,584.2	3,771.5	55.058		
9,097.1	8,707.8	7,504.2	6,982.7	40.0	52.4	-92.39	709.6	-2,387.1	4,616.5	3,772.4	55.077		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-11W - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-46.74	41.1	-43.7	60.0			
100.0	100.0	100.0	100.0	0.8	0.8	-46.74	41.1	-43.7	60.0	58.4	37.879	
200.0	200.0	200.0	200.0	1.4	1.4	-46.74	41.1	-43.7	60.0	57.2	21.209	CC
204.4	204.4	204.4	204.4	1.4	1.4	-117.18	41.1	-43.7	60.0	57.2	21.100	ES
300.0	300.0	299.4	299.4	1.7	2.1	-116.19	42.5	-42.9	60.6	57.2	17.518	
400.0	399.9	398.6	398.4	3.0	3.6	-114.57	47.5	-40.1	64.1	59.6	14.208	
500.0	499.5	497.5	496.8	4.3	4.8	-112.97	56.3	-35.2	70.6	65.1	12.733	
600.0	598.6	596.0	594.3	5.4	5.8	-111.53	68.7	-28.2	80.2	73.8	12.434	SF
700.0	697.1	694.0	690.5	6.3	6.6	-110.34	84.6	-19.3	92.9	85.6	12.717	
800.0	794.7	791.3	785.2	7.1	7.4	-109.37	104.0	-8.4	108.4	100.3	13.325	
900.0	891.3	887.8	878.1	7.9	8.1	-108.59	126.6	4.3	126.9	117.9	14.113	
1,000.0	986.7	983.4	969.1	8.6	8.8	-107.94	152.4	18.7	148.3	138.4	14.984	
1,100.0	1,080.6	1,078.1	1,057.8	9.3	9.4	-107.38	181.2	34.9	172.4	161.5	15.870	
1,200.0	1,173.2	1,171.7	1,144.2	9.6	10.0	-107.06	212.8	52.6	199.0	187.2	16.867	
1,300.0	1,265.5	1,264.4	1,228.1	9.9	10.6	-106.33	247.1	71.8	227.3	214.5	17.680	
1,400.0	1,357.8	1,356.0	1,309.5	10.2	11.1	-104.96	283.8	92.4	257.1	243.1	18.359	
1,500.0	1,450.1	1,446.2	1,387.8	10.5	11.6	-103.21	322.7	114.2	288.6	273.4	18.963	
1,600.0	1,542.4	1,534.7	1,463.0	10.9	12.0	-101.22	363.5	137.1	322.0	305.5	19.578	
1,700.0	1,634.6	1,626.6	1,539.7	11.3	12.3	-99.17	407.6	161.8	356.8	339.1	20.131	
1,800.0	1,726.9	1,719.6	1,617.3	11.6	12.6	-97.44	452.3	186.9	392.0	373.0	20.578	
1,900.0	1,819.2	1,812.5	1,694.9	12.0	13.0	-96.00	497.0	211.9	427.5	407.1	20.963	
2,000.0	1,911.5	1,905.5	1,772.5	12.4	13.3	-94.78	541.6	237.0	463.2	441.4	21.304	
2,100.0	2,003.8	1,998.5	1,850.1	12.8	13.6	-93.73	586.3	262.1	499.0	475.9	21.607	
2,200.0	2,096.1	2,091.5	1,927.7	13.3	14.0	-92.83	631.0	287.1	535.0	510.6	21.875	
2,300.0	2,188.4	2,184.5	2,005.3	13.7	14.3	-92.03	675.7	312.2	571.1	545.3	22.115	
2,400.0	2,280.7	2,277.5	2,082.9	14.1	14.7	-91.33	720.4	337.2	607.2	580.1	22.327	
2,500.0	2,373.0	2,370.5	2,160.5	14.6	15.2	-90.71	765.1	362.3	643.5	615.0	22.565	
2,600.0	2,465.3	2,463.5	2,238.1	15.0	16.1	-90.15	809.8	387.4	679.8	649.8	22.719	
2,700.0	2,557.5	2,556.5	2,315.7	15.5	17.0	-89.65	854.5	412.4	716.1	684.8	22.880	
2,800.0	2,649.8	2,649.5	2,393.3	16.1	17.8	-89.20	899.2	437.5	752.5	719.8	23.029	
2,900.0	2,742.1	2,742.4	2,470.9	16.8	18.7	-88.79	943.9	462.6	788.9	754.9	23.166	
3,000.0	2,834.4	2,835.4	2,548.5	17.5	19.6	-88.42	988.6	487.6	825.4	789.9	23.292	
3,100.0	2,926.7	2,928.4	2,626.1	18.2	20.5	-88.08	1,033.2	512.7	861.8	825.0	23.408	
3,200.0	3,019.0	3,021.4	2,703.7	18.9	21.3	-87.76	1,077.9	537.7	898.3	860.1	23.516	
3,300.0	3,111.3	3,114.4	2,781.3	19.6	22.2	-87.47	1,122.6	562.8	934.9	895.3	23.615	
3,400.0	3,203.6	3,207.4	2,858.9	20.3	23.1	-87.20	1,167.3	587.9	971.4	930.4	23.708	
3,500.0	3,295.9	3,300.4	2,936.5	21.0	24.0	-86.96	1,212.0	612.9	1,008.0	965.6	23.794	
3,600.0	3,388.1	3,393.4	3,014.1	21.7	24.9	-86.72	1,256.7	638.0	1,044.6	1,000.8	23.875	
3,700.0	3,480.4	3,486.4	3,091.7	22.4	25.7	-86.51	1,301.4	663.1	1,081.2	1,036.0	23.950	
3,800.0	3,572.7	3,579.4	3,169.3	23.1	26.6	-86.31	1,346.1	688.1	1,117.8	1,071.2	24.020	
3,900.0	3,665.0	3,672.3	3,246.9	23.8	27.5	-86.12	1,390.8	713.2	1,154.4	1,106.4	24.086	
4,000.0	3,757.3	3,765.3	3,324.5	24.5	28.4	-85.94	1,435.5	738.2	1,191.0	1,141.7	24.148	
4,100.0	3,849.6	3,858.3	3,402.1	25.2	29.3	-85.77	1,480.2	763.3	1,227.6	1,176.9	24.206	
4,200.0	3,941.9	3,951.3	3,479.7	25.9	30.1	-85.62	1,524.8	788.4	1,264.3	1,212.2	24.261	
4,300.0	4,034.2	4,044.3	3,557.3	26.6	31.0	-85.47	1,569.5	813.4	1,300.9	1,247.4	24.313	
4,400.0	4,126.5	4,137.3	3,634.9	27.3	31.9	-85.33	1,614.2	838.5	1,337.6	1,282.7	24.362	
4,500.0	4,218.8	4,230.3	3,712.5	28.1	32.8	-85.20	1,658.9	863.6	1,374.2	1,317.9	24.408	
4,600.0	4,311.0	4,323.3	3,790.1	28.8	33.7	-85.07	1,703.6	888.6	1,410.9	1,353.2	24.452	
4,700.0	4,403.3	4,416.3	3,867.7	29.5	34.6	-84.95	1,748.3	913.7	1,447.6	1,388.5	24.493	
4,800.0	4,495.6	4,509.3	3,945.3	30.2	35.4	-84.84	1,793.0	938.7	1,484.3	1,423.8	24.533	
4,900.0	4,587.9	4,602.3	4,022.9	30.9	36.3	-84.73	1,837.7	963.8	1,521.0	1,459.1	24.570	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-11W - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	4,695.2	4,100.5	31.6	37.2	-84.63	1,882.4	988.9	1,557.7	1,494.4	24.606		
5,100.0	4,772.5	4,788.2	4,178.1	32.3	38.1	-84.53	1,927.1	1,013.9	1,594.4	1,529.6	24.640		
5,200.0	4,864.8	4,881.2	4,255.7	33.0	39.0	-84.43	1,971.8	1,039.0	1,631.0	1,564.9	24.673		
5,300.0	4,957.1	4,974.2	4,333.3	33.7	39.9	-84.34	2,016.4	1,064.0	1,667.8	1,600.2	24.704		
5,400.0	5,049.4	5,067.2	4,410.9	34.5	40.7	-84.26	2,061.1	1,089.1	1,704.5	1,635.5	24.733		
5,500.0	5,141.7	5,160.2	4,488.5	35.2	41.6	-84.18	2,105.8	1,114.2	1,741.2	1,670.8	24.761		
5,600.0	5,233.9	5,253.2	4,566.1	35.9	42.5	-84.11	2,150.5	1,139.2	1,777.9	1,706.2	24.789		
5,700.0	5,327.1	5,346.0	4,643.5	36.6	43.4	-84.95	2,195.1	1,164.3	1,814.8	1,741.7	24.811		
5,800.0	5,421.7	5,438.4	4,720.6	37.2	44.3	-85.66	2,239.5	1,189.1	1,852.1	1,777.7	24.898		
5,900.0	5,517.6	5,530.1	4,797.2	37.7	45.1	-86.26	2,283.6	1,213.9	1,889.8	1,814.3	25.023		
6,000.0	5,614.7	5,665.2	4,910.6	38.1	46.4	-86.50	2,347.6	1,249.8	1,927.5	1,850.3	24.961		
6,100.0	5,712.8	5,895.0	5,112.0	38.5	48.3	-86.22	2,443.8	1,303.7	1,960.6	1,880.6	24.507		
6,200.0	5,811.6	6,138.9	5,336.9	38.8	49.9	-85.96	2,526.1	1,349.8	1,987.3	1,905.0	24.152		
6,300.0	5,910.9	6,394.9	5,582.2	39.0	51.1	-85.76	2,589.5	1,385.4	2,006.8	1,922.9	23.914		
6,400.0	6,010.7	6,659.8	5,842.9	39.1	51.9	-85.64	2,629.6	1,407.9	2,018.7	1,934.0	23.819		
6,500.0	6,110.7	6,929.3	6,111.8	39.2	52.2	-85.61	2,643.2	1,415.6	2,022.7	1,938.0	23.881		
6,580.5	6,191.2	7,008.6	6,191.2	39.2	52.2	-85.61	2,643.2	1,415.6	2,022.7	1,937.9	23.860		
6,600.0	6,210.7	7,028.1	6,210.7	39.2	52.2	-15.17	2,643.2	1,415.6	2,022.7	1,937.9	23.856		
6,700.0	6,310.7	7,128.1	6,310.7	39.3	52.2	-15.17	2,643.2	1,415.6	2,022.7	1,937.8	23.842		
6,800.0	6,410.7	7,228.1	6,410.7	39.3	52.3	-15.17	2,643.2	1,415.6	2,022.7	1,937.8	23.827		
6,900.0	6,510.7	7,328.1	6,510.7	39.3	52.3	-15.17	2,643.2	1,415.6	2,022.7	1,937.7	23.813		
7,000.0	6,610.7	7,428.1	6,610.7	39.3	52.3	-15.17	2,643.2	1,415.6	2,022.7	1,937.7	23.798		
7,100.0	6,710.7	7,528.1	6,710.7	39.4	52.3	-15.17	2,643.2	1,415.6	2,022.7	1,937.6	23.784		
7,200.0	6,810.7	7,628.1	6,810.7	39.4	52.3	-15.17	2,643.2	1,415.6	2,022.7	1,937.6	23.769		
7,300.0	6,910.7	7,728.1	6,910.7	39.4	52.3	-15.17	2,643.2	1,415.6	2,022.7	1,937.5	23.754		
7,400.0	7,010.7	7,828.1	7,010.7	39.5	52.4	-15.17	2,643.2	1,415.6	2,022.7	1,937.5	23.739		
7,500.0	7,110.7	7,928.1	7,110.7	39.5	52.4	-15.17	2,643.2	1,415.6	2,022.7	1,937.4	23.725		
7,600.0	7,210.7	8,028.1	7,210.7	39.5	52.4	-15.17	2,643.2	1,415.6	2,022.7	1,937.4	23.710		
7,700.0	7,310.7	8,128.1	7,310.7	39.5	52.4	-15.17	2,643.2	1,415.6	2,022.7	1,937.3	23.695		
7,800.0	7,410.7	8,228.1	7,410.7	39.6	52.4	-15.17	2,643.2	1,415.6	2,022.7	1,937.2	23.680		
7,900.0	7,510.7	8,328.1	7,510.7	39.6	52.4	-15.17	2,643.2	1,415.6	2,022.7	1,937.2	23.664		
8,000.0	7,610.7	8,428.1	7,610.7	39.6	52.5	-15.17	2,643.2	1,415.6	2,022.7	1,937.1	23.649		
8,100.0	7,710.7	8,528.1	7,710.7	39.7	52.5	-15.17	2,643.2	1,415.6	2,022.7	1,937.1	23.634		
8,200.0	7,810.7	8,628.1	7,810.7	39.7	52.5	-15.17	2,643.2	1,415.6	2,022.7	1,937.0	23.619		
8,300.0	7,910.7	8,728.1	7,910.7	39.7	52.5	-15.17	2,643.2	1,415.6	2,022.7	1,937.0	23.603		
8,400.0	8,010.7	8,828.1	8,010.7	39.8	52.5	-15.17	2,643.2	1,415.6	2,022.7	1,936.9	23.588		
8,500.0	8,110.7	8,928.1	8,110.7	39.8	52.5	-15.17	2,643.2	1,415.6	2,022.7	1,936.9	23.573		
8,600.0	8,210.7	9,028.1	8,210.7	39.8	52.6	-15.17	2,643.2	1,415.6	2,022.7	1,936.8	23.557		
8,700.0	8,310.7	9,128.1	8,310.7	39.8	52.6	-15.17	2,643.2	1,415.6	2,022.7	1,936.7	23.542		
8,800.0	8,410.7	9,228.1	8,410.7	39.9	52.6	-15.17	2,643.2	1,415.6	2,022.7	1,936.7	23.526		
8,900.0	8,510.7	9,328.1	8,510.7	39.9	52.6	-15.17	2,643.2	1,415.6	2,022.7	1,936.6	23.510		
9,000.0	8,610.7	9,428.1	8,610.7	39.9	52.6	-15.17	2,643.2	1,415.6	2,022.7	1,936.6	23.494		
9,063.0	8,673.7	9,491.2	8,673.7	40.0	52.6	-15.17	2,643.2	1,415.6	2,022.7	1,936.5	23.485		
9,097.1	8,707.8	9,520.3	8,702.8	40.0	52.7	-15.17	2,643.2	1,415.6	2,022.7	1,936.5	23.473		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-12W - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-46.73	34.3	-36.4	50.0			
100.0	100.0	100.0	100.0	0.8	0.8	-46.73	34.3	-36.4	50.0	48.4	31.567	
200.0	200.0	200.0	200.0	1.4	1.4	-46.73	34.3	-36.4	50.0	47.2	17.675 CC	
300.0	300.0	299.6	299.6	1.7	2.5	-115.29	36.1	-35.2	50.6	47.1	14.340 ES	
400.0	399.9	399.0	398.8	3.0	4.0	-112.62	41.4	-31.6	53.8	49.3	11.855	
500.0	499.5	498.2	497.4	4.3	5.1	-110.11	50.3	-25.5	59.8	54.2	10.854	
600.0	598.6	597.0	595.0	5.4	6.0	-108.01	62.7	-17.2	68.5	62.1	10.767 SF	
700.0	697.1	695.3	691.5	6.3	6.8	-106.37	78.4	-6.5	79.9	72.7	11.140	
800.0	794.7	793.0	786.4	7.1	7.6	-105.15	97.4	6.4	94.0	86.0	11.769	
900.0	891.3	890.1	879.7	7.9	8.3	-104.25	119.6	21.5	110.7	101.9	12.534	
1,000.0	986.7	986.5	971.1	8.6	9.0	-103.56	144.9	38.6	129.9	120.2	13.351	
1,100.0	1,080.6	1,082.0	1,060.4	9.3	9.6	-103.03	173.0	57.7	151.6	140.9	14.160	
1,200.0	1,173.2	1,176.7	1,147.4	9.6	10.2	-102.72	203.9	78.6	175.5	163.8	15.032	
1,300.0	1,265.5	1,270.5	1,232.0	9.9	10.7	-101.87	237.5	101.4	201.1	188.3	15.717	
1,400.0	1,357.8	1,363.3	1,314.0	10.2	11.3	-100.29	273.4	125.7	228.2	214.2	16.268	
1,500.0	1,450.1	1,457.0	1,395.2	10.5	11.8	-98.34	312.1	152.0	256.8	241.5	16.756	
1,600.0	1,542.4	1,552.4	1,477.6	10.9	12.1	-96.67	351.8	178.9	285.9	269.2	17.173	
1,700.0	1,634.6	1,647.7	1,560.1	11.3	12.4	-95.30	391.5	205.8	315.1	297.2	17.535	
1,800.0	1,726.9	1,743.1	1,642.6	11.6	12.7	-94.17	431.2	232.7	344.5	325.2	17.843	
1,900.0	1,819.2	1,838.5	1,725.0	12.0	13.1	-93.21	470.8	259.6	374.0	353.3	18.108	
2,000.0	1,911.5	1,933.9	1,807.5	12.4	13.4	-92.40	510.5	286.5	403.6	381.6	18.338	
2,100.0	2,003.8	2,029.3	1,889.9	12.8	13.8	-91.69	550.2	313.4	433.2	409.8	18.539	
2,200.0	2,096.1	2,124.6	1,972.4	13.3	14.1	-91.08	589.9	340.3	462.9	438.1	18.716	
2,300.0	2,188.4	2,220.0	2,054.8	13.7	14.5	-90.54	629.6	367.2	492.6	466.5	18.872	
2,400.0	2,280.7	2,315.4	2,137.3	14.1	14.9	-90.06	669.2	394.1	522.4	494.9	19.009	
2,500.0	2,373.0	2,410.8	2,219.8	14.6	15.3	-89.63	708.9	421.0	552.2	523.3	19.137	
2,600.0	2,465.3	2,506.2	2,302.2	15.0	16.0	-89.25	748.6	447.9	582.0	551.7	19.252	
2,700.0	2,557.5	2,601.6	2,384.7	15.5	16.8	-88.90	788.3	474.8	611.8	580.2	19.352	
2,800.0	2,649.8	2,696.9	2,467.1	16.1	17.6	-88.59	828.0	501.7	641.7	608.7	19.444	
2,900.0	2,742.1	2,792.3	2,549.6	16.8	18.5	-88.30	867.6	528.6	671.5	637.2	19.527	
3,000.0	2,834.4	2,887.7	2,632.1	17.5	19.3	-88.04	907.3	555.5	701.4	665.7	19.603	
3,100.0	2,926.7	2,983.1	2,714.5	18.2	20.1	-87.80	947.0	582.4	731.3	694.2	19.672	
3,200.0	3,019.0	3,078.5	2,797.0	18.9	20.9	-87.57	986.7	609.3	761.2	722.7	19.736	
3,300.0	3,111.3	3,173.9	2,879.4	19.6	21.8	-87.37	1,026.4	636.2	791.2	751.2	19.795	
3,400.0	3,203.6	3,269.2	2,961.9	20.3	22.6	-87.18	1,066.0	663.1	821.1	779.7	19.849	
3,500.0	3,295.9	3,364.6	3,044.4	21.0	23.4	-87.00	1,105.7	690.0	851.0	808.3	19.899	
3,600.0	3,388.1	3,460.0	3,126.8	21.7	24.2	-86.84	1,145.4	716.9	881.0	836.8	19.945	
3,700.0	3,480.4	3,555.4	3,209.3	22.4	25.1	-86.68	1,185.1	743.8	910.9	865.3	19.988	
3,800.0	3,572.7	3,650.8	3,291.7	23.1	25.9	-86.54	1,224.8	770.7	940.9	893.9	20.028	
3,900.0	3,665.0	3,746.1	3,374.2	23.8	26.7	-86.41	1,264.4	797.6	970.8	922.5	20.066	
4,000.0	3,757.3	3,841.5	3,456.7	24.5	27.6	-86.28	1,304.1	824.5	1,000.8	951.0	20.101	
4,100.0	3,849.6	3,936.9	3,539.1	25.2	28.4	-86.16	1,343.8	851.4	1,030.8	979.6	20.134	
4,200.0	3,941.9	4,032.3	3,621.6	25.9	29.2	-86.05	1,383.5	878.3	1,060.7	1,008.1	20.164	
4,300.0	4,034.2	4,127.7	3,704.0	26.6	30.1	-85.94	1,423.2	905.2	1,090.7	1,036.7	20.193	
4,400.0	4,126.5	4,223.1	3,786.5	27.3	30.9	-85.84	1,462.8	932.1	1,120.7	1,065.3	20.220	
4,500.0	4,218.8	4,318.4	3,869.0	28.1	31.7	-85.74	1,502.5	959.0	1,150.7	1,093.8	20.246	
4,600.0	4,311.0	4,413.8	3,951.4	28.8	32.5	-85.65	1,542.2	985.9	1,180.7	1,122.4	20.270	
4,700.0	4,403.3	4,509.2	4,033.9	29.5	33.4	-85.56	1,581.9	1,012.8	1,210.7	1,151.0	20.293	
4,800.0	4,495.6	4,604.6	4,116.3	30.2	34.2	-85.48	1,621.6	1,039.7	1,240.6	1,179.6	20.315	
4,900.0	4,587.9	4,700.0	4,198.8	30.9	35.0	-85.40	1,661.2	1,066.6	1,270.6	1,208.2	20.335	
5,000.0	4,680.2	4,795.3	4,281.2	31.6	35.9	-85.33	1,700.9	1,093.5	1,300.6	1,236.7	20.355	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-12W - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,772.5	4,890.7	4,363.7	32.3	36.7	-85.26	1,740.6	1,120.4	1,330.6	1,265.3	20.373		
5,200.0	4,864.8	4,986.1	4,446.2	33.0	37.5	-85.19	1,780.3	1,147.3	1,360.6	1,293.9	20.391		
5,300.0	4,957.1	5,081.5	4,528.6	33.7	38.4	-85.12	1,820.0	1,174.2	1,390.6	1,322.5	20.407		
5,400.0	5,049.4	5,176.9	4,611.1	34.5	39.2	-85.06	1,859.6	1,201.1	1,420.6	1,351.1	20.423		
5,500.0	5,141.7	5,272.3	4,693.5	35.2	40.0	-85.00	1,899.3	1,228.0	1,450.6	1,379.7	20.438		
5,600.0	5,233.9	5,367.6	4,776.0	35.9	40.9	-84.96	1,939.0	1,254.9	1,480.6	1,408.2	20.453		
5,700.0	5,327.1	5,462.9	4,858.4	36.6	41.7	-85.60	1,978.6	1,281.8	1,510.8	1,437.0	20.463		
5,800.0	5,421.7	5,557.8	4,940.4	37.2	42.5	-86.09	2,018.1	1,308.6	1,541.4	1,466.3	20.528		
5,900.0	5,517.6	5,706.9	5,071.1	37.7	43.8	-86.24	2,077.6	1,348.9	1,571.0	1,494.0	20.399		
6,000.0	5,614.7	5,877.1	5,225.4	38.1	45.0	-86.30	2,136.8	1,389.0	1,596.7	1,517.7	20.220		
6,100.0	5,712.8	6,052.2	5,389.4	38.5	46.1	-86.34	2,187.6	1,423.5	1,618.1	1,537.5	20.077		
6,200.0	5,811.6	6,231.6	5,561.7	38.8	46.9	-86.37	2,228.8	1,451.4	1,635.0	1,553.1	19.971		
6,300.0	5,910.9	6,414.4	5,740.6	39.0	47.5	-86.38	2,259.2	1,472.0	1,647.2	1,564.4	19.906		
6,400.0	6,010.7	6,599.4	5,924.3	39.1	47.9	-86.40	2,277.8	1,484.6	1,654.6	1,571.3	19.885		
6,500.0	6,110.7	6,785.7	6,110.4	39.2	48.1	-86.41	2,284.1	1,488.9	1,657.0	1,573.8	19.911		
6,600.0	6,210.7	6,886.0	6,210.7	39.2	48.1	-15.97	2,284.1	1,488.9	1,657.0	1,573.7	19.891		
6,700.0	6,310.7	6,986.0	6,310.7	39.3	48.1	-15.97	2,284.1	1,488.9	1,657.0	1,573.7	19.878		
6,800.0	6,410.7	7,086.0	6,410.7	39.3	48.1	-15.97	2,284.1	1,488.9	1,657.0	1,573.6	19.866		
6,900.0	6,510.7	7,186.0	6,510.7	39.3	48.2	-15.97	2,284.1	1,488.9	1,657.0	1,573.6	19.853		
7,000.0	6,610.7	7,286.0	6,610.7	39.3	48.2	-15.97	2,284.1	1,488.9	1,657.0	1,573.5	19.841		
7,100.0	6,710.7	7,386.0	6,710.7	39.4	48.2	-15.97	2,284.1	1,488.9	1,657.0	1,573.5	19.828		
7,200.0	6,810.7	7,486.0	6,810.7	39.4	48.2	-15.97	2,284.1	1,488.9	1,657.0	1,573.4	19.815		
7,300.0	6,910.7	7,586.0	6,910.7	39.4	48.2	-15.97	2,284.1	1,488.9	1,657.0	1,573.4	19.802		
7,400.0	7,010.7	7,686.0	7,010.7	39.5	48.3	-15.97	2,284.1	1,488.9	1,657.0	1,573.3	19.790		
7,500.0	7,110.7	7,786.0	7,110.7	39.5	48.3	-15.97	2,284.1	1,488.9	1,657.0	1,573.2	19.777		
7,600.0	7,210.7	7,886.0	7,210.7	39.5	48.3	-15.97	2,284.1	1,488.9	1,657.0	1,573.2	19.764		
7,700.0	7,310.7	7,986.0	7,310.7	39.5	48.3	-15.97	2,284.1	1,488.9	1,657.0	1,573.1	19.751		
7,800.0	7,410.7	8,086.0	7,410.7	39.6	48.3	-15.97	2,284.1	1,488.9	1,657.0	1,573.1	19.738		
7,900.0	7,510.7	8,186.0	7,510.7	39.6	48.4	-15.97	2,284.1	1,488.9	1,657.0	1,573.0	19.725		
8,000.0	7,610.7	8,286.0	7,610.7	39.6	48.4	-15.97	2,284.1	1,488.9	1,657.0	1,573.0	19.712		
8,100.0	7,710.7	8,386.0	7,710.7	39.7	48.4	-15.97	2,284.1	1,488.9	1,657.0	1,572.9	19.699		
8,200.0	7,810.7	8,486.0	7,810.7	39.7	48.4	-15.97	2,284.1	1,488.9	1,657.0	1,572.9	19.685		
8,205.8	7,816.4	8,491.8	7,816.4	39.7	48.4	-15.97	2,284.1	1,488.9	1,657.0	1,572.9	19.685		
8,300.0	7,910.7	8,561.3	7,886.0	39.7	48.4	-15.97	2,284.1	1,488.9	1,657.2	1,572.9	19.647		
8,400.0	8,010.7	8,561.3	7,886.0	39.8	48.4	-15.97	2,284.1	1,488.9	1,661.7	1,577.0	19.606		
8,500.0	8,110.7	8,561.3	7,886.0	39.8	48.4	-15.97	2,284.1	1,488.9	1,672.2	1,587.3	19.692		
8,600.0	8,210.7	8,561.3	7,886.0	39.8	48.4	-15.97	2,284.1	1,488.9	1,688.5	1,603.7	19.901		
8,700.0	8,310.7	8,561.3	7,886.0	39.8	48.4	-15.97	2,284.1	1,488.9	1,710.6	1,626.0	20.230		
8,800.0	8,410.7	8,561.3	7,886.0	39.9	48.4	-15.97	2,284.1	1,488.9	1,738.1	1,654.0	20.675		
8,900.0	8,510.7	8,561.3	7,886.0	39.9	48.4	-15.97	2,284.1	1,488.9	1,770.9	1,687.4	21.230		
9,000.0	8,610.7	8,561.3	7,886.0	39.9	48.4	-15.97	2,284.1	1,488.9	1,808.6	1,725.9	21.891		
9,097.1	8,707.8	8,561.3	7,886.0	40.0	48.4	-15.97	2,284.1	1,488.9	1,849.6	1,767.8	22.619		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-13W - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-46.71	27.4	-29.1	40.0			
100.0	100.0	100.0	100.0	0.8	0.8	-46.71	27.4	-29.1	40.0	38.4	25.242	
200.0	200.0	200.0	200.0	1.4	1.4	-46.71	27.4	-29.1	40.0	37.2	14.134	CC
204.4	204.4	204.4	204.4	1.4	1.4	-117.16	27.4	-29.1	40.0	37.1	14.055	
300.0	300.0	300.0	300.0	1.7	1.9	-116.09	28.3	-28.2	40.2	36.9	12.137	ES
400.0	399.9	400.0	399.8	3.0	3.4	-113.96	32.1	-24.3	42.0	37.8	9.907	
500.0	499.5	499.9	499.2	4.3	4.6	-111.57	38.9	-17.3	45.7	40.6	8.934	
600.0	598.6	599.5	597.9	5.4	5.6	-109.24	48.8	-7.3	51.4	45.5	8.760	SF
700.0	697.1	699.0	695.6	6.3	6.5	-107.17	61.6	5.8	58.9	52.3	8.960	
800.0	794.7	798.1	792.2	7.1	7.3	-105.42	77.3	21.8	68.3	61.0	9.350	
900.0	891.3	896.9	887.4	7.9	8.0	-103.99	95.9	40.8	79.6	71.5	9.825	
1,000.0	986.7	995.4	981.0	8.6	8.7	-102.84	117.2	62.5	92.7	83.7	10.317	
1,100.0	1,080.6	1,093.5	1,072.8	9.3	9.4	-101.90	141.2	87.1	107.5	97.5	10.784	
1,200.0	1,173.2	1,191.1	1,162.8	9.6	10.0	-101.12	167.8	114.2	124.0	113.0	11.284	
1,300.0	1,265.5	1,288.2	1,250.5	9.9	10.6	-99.30	196.9	144.0	141.5	129.4	11.625	
1,400.0	1,357.8	1,384.5	1,335.7	10.2	11.2	-96.47	228.3	176.0	160.3	146.8	11.867	
1,500.0	1,450.1	1,479.9	1,418.2	10.5	11.6	-93.03	261.9	210.3	180.7	165.8	12.116	
1,600.0	1,542.4	1,577.0	1,501.3	10.9	11.9	-89.81	297.0	246.1	202.3	185.9	12.328	
1,700.0	1,634.6	1,674.1	1,584.4	11.3	12.2	-87.21	332.0	281.9	224.4	206.5	12.524	
1,800.0	1,726.9	1,771.2	1,667.6	11.6	12.5	-85.08	367.1	317.7	246.8	227.4	12.714	
1,900.0	1,819.2	1,868.2	1,750.7	12.0	12.9	-83.30	402.2	353.5	269.5	248.6	12.898	
2,000.0	1,911.5	1,965.3	1,833.8	12.4	13.2	-81.80	437.3	389.3	292.4	270.1	13.075	
2,100.0	2,003.8	2,062.4	1,916.9	12.8	13.6	-80.52	472.4	425.2	315.5	291.7	13.242	
2,200.0	2,096.1	2,159.5	2,000.1	13.3	14.0	-79.41	507.4	461.0	338.7	313.4	13.398	
2,300.0	2,188.4	2,256.5	2,083.2	13.7	14.4	-78.44	542.5	496.8	362.0	335.3	13.538	
2,400.0	2,280.7	2,353.6	2,166.3	14.1	15.0	-77.59	577.6	532.6	385.4	357.3	13.701	
2,500.0	2,373.0	2,450.7	2,249.4	14.6	15.9	-76.84	612.7	568.4	408.9	379.3	13.818	
2,600.0	2,465.3	2,547.8	2,332.6	15.0	16.8	-76.17	647.8	604.2	432.4	401.4	13.937	
2,700.0	2,557.5	2,644.8	2,415.7	15.5	17.7	-75.57	682.8	640.1	456.0	423.5	14.049	
2,800.0	2,649.8	2,741.9	2,498.8	16.1	18.6	-75.03	717.9	675.9	479.6	445.7	14.153	
2,900.0	2,742.1	2,839.0	2,582.0	16.8	19.5	-74.53	753.0	711.7	503.3	468.0	14.251	
3,000.0	2,834.4	2,936.1	2,665.1	17.5	20.4	-74.09	788.1	747.5	527.0	490.2	14.342	
3,100.0	2,926.7	3,033.1	2,748.2	18.2	21.3	-73.68	823.2	783.3	550.7	512.5	14.428	
3,200.0	3,019.0	3,130.2	2,831.3	18.9	22.2	-73.30	858.3	819.1	574.4	534.8	14.508	
3,300.0	3,111.3	3,227.3	2,914.5	19.6	23.1	-72.96	893.3	855.0	598.2	557.2	14.583	
3,400.0	3,203.6	3,324.4	2,997.6	20.3	24.0	-72.64	928.4	890.8	622.0	579.5	14.653	
3,500.0	3,295.9	3,421.4	3,080.7	21.0	24.9	-72.34	963.5	926.6	645.8	601.9	14.720	
3,600.0	3,388.1	3,518.5	3,163.8	21.7	25.8	-72.07	998.6	962.4	669.6	624.3	14.782	
3,700.0	3,480.4	3,615.6	3,247.0	22.4	26.7	-71.81	1,033.7	998.2	693.4	646.7	14.841	
3,800.0	3,572.7	3,712.7	3,330.1	23.1	27.6	-71.57	1,068.7	1,034.0	717.3	669.1	14.897	
3,900.0	3,665.0	3,809.7	3,413.2	23.8	28.5	-71.35	1,103.8	1,069.9	741.1	691.5	14.949	
4,000.0	3,757.3	3,906.8	3,496.3	24.5	29.4	-71.14	1,138.9	1,105.7	765.0	714.0	14.999	
4,100.0	3,849.6	4,003.9	3,579.5	25.2	30.4	-70.94	1,174.0	1,141.5	788.8	736.4	15.046	
4,200.0	3,941.9	4,101.0	3,662.6	25.9	31.3	-70.76	1,209.1	1,177.3	812.7	758.9	15.091	
4,300.0	4,034.2	4,198.0	3,745.7	26.6	32.2	-70.58	1,244.1	1,213.1	836.6	781.3	15.133	
4,400.0	4,126.5	4,295.1	3,828.8	27.3	33.1	-70.42	1,279.2	1,248.9	860.5	803.8	15.174	
4,500.0	4,218.8	4,392.2	3,912.0	28.1	34.0	-70.26	1,314.3	1,284.8	884.4	826.3	15.212	
4,600.0	4,311.0	4,489.3	3,995.1	28.8	34.9	-70.11	1,349.4	1,320.6	908.3	848.7	15.248	
4,700.0	4,403.3	4,586.3	4,078.2	29.5	35.8	-69.97	1,384.5	1,356.4	932.2	871.2	15.283	
4,800.0	4,495.6	4,683.4	4,161.4	30.2	36.7	-69.84	1,419.5	1,392.2	956.1	893.7	15.317	
4,900.0	4,587.9	4,780.5	4,244.5	30.9	37.6	-69.71	1,454.6	1,428.0	980.1	916.2	15.348	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-13W - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,000.0	4,680.2	4,877.6	4,327.6	31.6	38.5	-69.59	1,489.7	1,463.8	1,004.0	938.7	15.379		
5,100.0	4,772.5	4,974.6	4,410.7	32.3	39.4	-69.47	1,524.8	1,499.6	1,027.9	961.2	15.408		
5,200.0	4,864.8	5,071.7	4,493.9	33.0	40.3	-69.36	1,559.9	1,535.5	1,051.8	983.7	15.436		
5,300.0	4,957.1	5,168.8	4,577.0	33.7	41.2	-69.26	1,594.9	1,571.3	1,075.8	1,006.2	15.462		
5,400.0	5,049.4	5,265.9	4,660.1	34.5	42.2	-69.16	1,630.0	1,607.1	1,099.7	1,028.7	15.488		
5,500.0	5,141.7	5,362.9	4,743.2	35.2	43.1	-69.06	1,665.1	1,642.9	1,123.7	1,051.2	15.512		
5,600.0	5,233.9	5,460.0	4,826.4	35.9	44.0	-68.98	1,700.2	1,678.7	1,147.6	1,073.7	15.536		
5,700.0	5,327.1	5,556.8	4,909.3	36.6	44.9	-69.38	1,735.2	1,714.4	1,172.3	1,097.0	15.566		
5,800.0	5,421.7	5,693.1	5,027.3	37.2	46.1	-69.53	1,782.8	1,763.1	1,197.4	1,120.2	15.516		
5,900.0	5,517.6	5,846.8	5,164.9	37.7	47.3	-69.60	1,830.6	1,811.9	1,219.7	1,140.6	15.427		
6,000.0	5,614.7	6,003.6	5,309.7	38.1	48.4	-69.67	1,872.7	1,854.8	1,238.8	1,158.2	15.357		
6,100.0	5,712.8	6,163.2	5,461.0	38.5	49.3	-69.72	1,908.2	1,891.1	1,254.8	1,172.8	15.311		
6,200.0	5,811.6	6,325.1	5,617.6	38.8	50.0	-69.75	1,936.7	1,920.2	1,267.3	1,184.4	15.287		
6,300.0	5,910.9	6,488.7	5,778.5	39.0	50.5	-69.78	1,957.6	1,941.5	1,276.4	1,192.9	15.286		
6,400.0	6,010.7	6,653.7	5,942.4	39.1	50.8	-69.79	1,970.4	1,954.6	1,282.0	1,198.3	15.310		
6,500.0	6,110.7	6,819.2	6,107.8	39.2	50.9	-69.80	1,974.9	1,959.2	1,283.9	1,200.4	15.360		
6,600.0	6,210.7	6,922.1	6,210.7	39.2	50.9	0.64	1,974.9	1,959.2	1,283.9	1,200.3	15.348		
6,700.0	6,310.7	7,022.1	6,310.7	39.3	50.9	0.64	1,974.9	1,959.2	1,283.9	1,200.2	15.338		
6,800.0	6,410.7	7,122.1	6,410.7	39.3	51.0	0.64	1,974.9	1,959.2	1,283.9	1,200.2	15.329		
6,900.0	6,510.7	7,222.1	6,510.7	39.3	51.0	0.64	1,974.9	1,959.2	1,283.9	1,200.1	15.319		
7,000.0	6,610.7	7,322.1	6,610.7	39.3	51.0	0.64	1,974.9	1,959.2	1,283.9	1,200.1	15.308		
7,100.0	6,710.7	7,422.1	6,710.7	39.4	51.0	0.64	1,974.9	1,959.2	1,283.9	1,200.0	15.298		
7,200.0	6,810.7	7,522.1	6,810.7	39.4	51.0	0.64	1,974.9	1,959.2	1,283.9	1,200.0	15.288		
7,300.0	6,910.7	7,622.1	6,910.7	39.4	51.1	0.64	1,974.9	1,959.2	1,283.9	1,199.9	15.278		
7,400.0	7,010.7	7,722.1	7,010.7	39.5	51.1	0.64	1,974.9	1,959.2	1,283.9	1,199.9	15.268		
7,500.0	7,110.7	7,822.1	7,110.7	39.5	51.1	0.64	1,974.9	1,959.2	1,283.9	1,199.8	15.258		
7,600.0	7,210.7	7,922.1	7,210.7	39.5	51.1	0.64	1,974.9	1,959.2	1,283.9	1,199.7	15.247		
7,700.0	7,310.7	8,022.1	7,310.7	39.5	51.1	0.64	1,974.9	1,959.2	1,283.9	1,199.7	15.237		
7,800.0	7,410.7	8,122.1	7,410.7	39.6	51.2	0.64	1,974.9	1,959.2	1,283.9	1,199.6	15.227		
7,900.0	7,510.7	8,222.1	7,510.7	39.6	51.2	0.64	1,974.9	1,959.2	1,283.9	1,199.6	15.216		
8,000.0	7,610.7	8,322.1	7,610.7	39.6	51.2	0.64	1,974.9	1,959.2	1,283.9	1,199.5	15.206		
8,100.0	7,710.7	8,422.1	7,710.7	39.7	51.2	0.64	1,974.9	1,959.2	1,283.9	1,199.5	15.196		
8,200.0	7,810.7	8,522.1	7,810.7	39.7	51.2	0.64	1,974.9	1,959.2	1,283.9	1,199.4	15.185		
8,300.0	7,910.7	8,622.1	7,910.7	39.7	51.3	0.64	1,974.9	1,959.2	1,283.9	1,199.3	15.175		
8,400.0	8,010.7	8,722.1	8,010.7	39.8	51.3	0.64	1,974.9	1,959.2	1,283.9	1,199.3	15.164		
8,500.0	8,110.7	8,822.1	8,110.7	39.8	51.3	0.64	1,974.9	1,959.2	1,283.9	1,199.2	15.153		
8,600.0	8,210.7	8,922.1	8,210.7	39.8	51.3	0.64	1,974.9	1,959.2	1,283.9	1,199.2	15.143		
8,700.0	8,310.7	9,022.1	8,310.7	39.8	51.3	0.64	1,974.9	1,959.2	1,283.9	1,199.1	15.132		
8,800.0	8,410.7	9,122.1	8,410.7	39.9	51.4	0.64	1,974.9	1,959.2	1,283.9	1,199.0	15.121		
8,900.0	8,510.7	9,222.1	8,510.7	39.9	51.4	0.64	1,974.9	1,959.2	1,283.9	1,199.0	15.111		
9,000.0	8,610.7	9,322.1	8,610.7	39.9	51.4	0.64	1,974.9	1,959.2	1,283.9	1,198.9	15.100		
9,064.5	8,675.1	9,386.6	8,675.1	40.0	51.4	0.64	1,974.9	1,959.2	1,283.9	1,198.9	15.093		
9,097.1	8,707.8	9,418.4	8,707.0	40.0	51.4	0.64	1,974.9	1,959.2	1,283.9	1,198.9	15.089		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-14W - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major 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	20.6	-21.8	30.0			
100.0	100.0	100.0	100.0	0.8	0.8	-46.72	20.6	-21.8	30.0	28.4	18.930	
200.0	200.0	200.0	200.0	1.4	1.4	-46.72	20.6	-21.8	30.0	27.2	10.600	CC
201.0	201.0	201.0	201.0	1.4	1.4	-117.16	20.6	-21.8	30.0	27.2	10.587	
300.0	300.0	300.1	300.1	1.7	2.1	-115.10	21.6	-20.6	30.1	26.6	8.737	ES
400.0	399.9	400.2	400.0	3.0	3.6	-111.56	25.3	-16.1	31.4	27.1	7.272	
500.0	499.5	500.1	499.4	4.3	4.8	-107.93	31.8	-8.2	34.4	29.3	6.729	SF
600.0	598.6	599.9	598.1	5.4	5.8	-104.65	41.0	3.1	39.0	33.2	6.733	
700.0	697.1	699.5	695.9	6.3	6.6	-101.96	53.0	17.6	45.1	38.7	6.982	
800.0	794.7	798.8	792.5	7.1	7.4	-99.86	67.6	35.3	52.8	45.6	7.350	
900.0	891.3	898.0	887.9	7.9	8.2	-98.29	84.7	56.2	62.0	54.0	7.766	
1,000.0	986.7	996.8	981.8	8.6	8.8	-97.13	104.5	80.1	72.6	63.8	8.182	
1,100.0	1,080.6	1,095.4	1,073.9	9.3	9.5	-96.26	126.7	107.1	84.7	74.8	8.567	
1,200.0	1,173.2	1,193.6	1,164.2	9.6	10.1	-95.51	151.3	137.1	98.1	87.1	8.961	
1,300.0	1,265.5	1,291.4	1,252.3	9.9	10.7	-93.34	178.2	169.8	112.6	100.4	9.210	
1,400.0	1,357.8	1,389.0	1,338.4	10.2	11.1	-89.96	207.3	205.2	128.4	114.8	9.435	
1,500.0	1,450.1	1,487.4	1,424.9	10.5	11.4	-86.98	237.2	241.4	144.9	129.8	9.605	
1,600.0	1,542.4	1,585.8	1,511.4	10.9	11.7	-84.60	267.0	277.7	161.7	145.1	9.757	
1,700.0	1,634.6	1,684.1	1,597.8	11.3	12.0	-82.68	296.8	313.9	178.7	160.6	9.902	
1,800.0	1,726.9	1,782.5	1,684.3	11.6	12.4	-81.09	326.6	350.2	195.8	176.3	10.040	
1,900.0	1,819.2	1,880.9	1,770.7	12.0	12.7	-79.75	356.5	386.4	213.1	192.1	10.169	
2,000.0	1,911.5	1,979.3	1,857.2	12.4	13.1	-78.62	386.3	422.7	230.5	208.1	10.290	
2,100.0	2,003.8	2,077.7	1,943.7	12.8	13.5	-77.65	416.1	458.9	247.9	224.1	10.402	
2,200.0	2,096.1	2,176.1	2,030.1	13.3	13.9	-76.80	446.0	495.2	265.5	240.2	10.506	
2,300.0	2,188.4	2,274.4	2,116.6	13.7	14.3	-76.06	475.8	531.4	283.0	256.3	10.602	
2,400.0	2,280.7	2,372.8	2,203.0	14.1	14.8	-75.40	505.6	567.7	300.6	272.5	10.693	
2,500.0	2,373.0	2,471.2	2,289.5	14.6	15.6	-74.82	535.4	603.9	318.3	288.7	10.775	
2,600.0	2,465.3	2,569.6	2,376.0	15.0	16.5	-74.30	565.3	640.2	335.9	305.0	10.850	
2,700.0	2,557.5	2,668.0	2,462.4	15.5	17.3	-73.83	595.1	676.4	353.6	321.3	10.920	
2,800.0	2,649.8	2,766.4	2,548.9	16.1	18.1	-73.40	624.9	712.7	371.4	337.6	10.985	
2,900.0	2,742.1	2,864.7	2,635.3	16.8	19.0	-73.02	654.8	748.9	389.1	353.9	11.046	
3,000.0	2,834.4	2,963.1	2,721.8	17.5	19.8	-72.67	684.6	785.2	406.8	370.2	11.102	
3,100.0	2,926.7	3,061.5	2,808.3	18.2	20.7	-72.34	714.4	821.4	424.6	386.5	11.154	
3,200.0	3,019.0	3,159.9	2,894.7	18.9	21.5	-72.05	744.2	857.7	442.4	402.9	11.203	
3,300.0	3,111.3	3,258.3	2,981.2	19.6	22.4	-71.77	774.1	893.9	460.2	419.3	11.249	
3,400.0	3,203.6	3,356.7	3,067.6	20.3	23.2	-71.52	803.9	930.2	478.0	435.6	11.291	
3,500.0	3,295.9	3,455.0	3,154.1	21.0	24.1	-71.28	833.7	966.4	495.8	452.0	11.331	
3,600.0	3,388.1	3,553.4	3,240.6	21.7	24.9	-71.06	863.6	1,002.7	513.6	468.4	11.369	
3,700.0	3,480.4	3,651.8	3,327.0	22.4	25.8	-70.86	893.4	1,038.9	531.4	484.8	11.404	
3,800.0	3,572.7	3,750.2	3,413.5	23.1	26.6	-70.67	923.2	1,075.2	549.2	501.2	11.438	
3,900.0	3,665.0	3,848.6	3,499.9	23.8	27.5	-70.49	953.0	1,111.4	567.0	517.6	11.469	
4,000.0	3,757.3	3,947.0	3,586.4	24.5	28.3	-70.32	982.9	1,147.7	584.9	534.0	11.499	
4,100.0	3,849.6	4,045.3	3,672.9	25.2	29.2	-70.16	1,012.7	1,183.9	602.7	550.4	11.527	
4,200.0	3,941.9	4,143.7	3,759.3	25.9	30.0	-70.01	1,042.5	1,220.2	620.6	566.8	11.553	
4,300.0	4,034.2	4,242.1	3,845.8	26.6	30.9	-69.87	1,072.4	1,256.4	638.4	583.3	11.578	
4,400.0	4,126.5	4,340.5	3,932.3	27.3	31.7	-69.74	1,102.2	1,292.7	656.3	599.7	11.602	
4,500.0	4,218.8	4,438.9	4,018.7	28.1	32.6	-69.61	1,132.0	1,328.9	674.1	616.1	11.625	
4,600.0	4,311.0	4,537.2	4,105.2	28.8	33.5	-69.49	1,161.8	1,365.2	692.0	632.6	11.646	
4,700.0	4,403.3	4,635.6	4,191.6	29.5	34.3	-69.38	1,191.7	1,401.4	709.8	649.0	11.667	
4,800.0	4,495.6	4,734.0	4,278.1	30.2	35.2	-69.27	1,221.5	1,437.7	727.7	665.4	11.686	
4,900.0	4,587.9	4,832.4	4,364.6	30.9	36.0	-69.17	1,251.3	1,473.9	745.6	681.9	11.705	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-14W - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major 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	
5,000.0	4,680.2	4,930.8	4,451.0	31.6	36.9	-69.07	1,281.2	1,510.2	763.4	698.3	11.723		
5,100.0	4,772.5	5,029.2	4,537.5	32.3	37.7	-68.98	1,311.0	1,546.4	781.3	714.7	11.740		
5,200.0	4,864.8	5,127.5	4,623.9	33.0	38.6	-68.89	1,340.8	1,582.7	799.2	731.2	11.756		
5,300.0	4,957.1	5,225.9	4,710.4	33.7	39.4	-68.80	1,370.6	1,618.9	817.0	747.6	11.772		
5,400.0	5,049.4	5,324.3	4,796.9	34.5	40.3	-68.72	1,400.5	1,655.2	834.9	764.1	11.787		
5,500.0	5,141.7	5,422.7	4,883.3	35.2	41.1	-68.64	1,430.3	1,691.4	852.8	780.5	11.801		
5,600.0	5,233.9	5,521.1	4,969.8	35.9	42.0	-68.58	1,460.1	1,727.7	870.7	797.0	11.815		
5,700.0	5,327.1	5,632.2	5,067.7	36.6	42.9	-68.79	1,493.5	1,768.2	889.1	813.7	11.803		
5,800.0	5,421.7	5,763.7	5,186.3	37.2	44.0	-68.92	1,529.5	1,812.0	906.1	829.0	11.762		
5,900.0	5,517.6	5,896.5	5,309.3	37.7	44.9	-69.02	1,561.5	1,850.8	921.0	842.5	11.727		
6,000.0	5,614.7	6,030.7	5,436.1	38.1	45.6	-69.11	1,589.1	1,884.4	933.8	854.0	11.704		
6,100.0	5,712.8	6,165.9	5,566.4	38.5	46.2	-69.18	1,612.1	1,912.3	944.3	863.6	11.690		
6,200.0	5,811.6	6,302.1	5,699.5	38.8	46.7	-69.24	1,630.3	1,934.5	952.6	871.1	11.684		
6,300.0	5,910.9	6,438.9	5,834.8	39.0	47.1	-69.28	1,643.5	1,950.5	958.6	876.6	11.690		
6,400.0	6,010.7	6,576.3	5,971.5	39.1	47.3	-69.31	1,651.6	1,960.3	962.3	880.0	11.703		
6,500.0	6,110.7	6,713.9	6,109.0	39.2	47.4	-69.31	1,654.4	1,963.8	963.5	881.4	11.726		
6,600.0	6,210.7	6,851.5	6,210.7	39.2	47.4	1.12	1,654.4	1,963.8	963.5	881.3	11.715		
6,700.0	6,310.7	6,915.5	6,310.7	39.3	47.5	1.12	1,654.4	1,963.8	963.5	881.2	11.708		
6,800.0	6,410.7	7,015.5	6,410.7	39.3	47.5	1.12	1,654.4	1,963.8	963.5	881.2	11.700		
6,900.0	6,510.7	7,115.5	6,510.7	39.3	47.5	1.12	1,654.4	1,963.8	963.5	881.1	11.692		
7,000.0	6,610.7	7,215.5	6,610.7	39.3	47.5	1.12	1,654.4	1,963.8	963.5	881.1	11.684		
7,100.0	6,710.7	7,315.5	6,710.7	39.4	47.5	1.12	1,654.4	1,963.8	963.5	881.0	11.676		
7,200.0	6,810.7	7,415.5	6,810.7	39.4	47.6	1.12	1,654.4	1,963.8	963.5	881.0	11.668		
7,300.0	6,910.7	7,515.5	6,910.7	39.4	47.6	1.12	1,654.4	1,963.8	963.5	880.9	11.660		
7,400.0	7,010.7	7,615.5	7,010.7	39.5	47.6	1.12	1,654.4	1,963.8	963.5	880.8	11.652		
7,500.0	7,110.7	7,715.5	7,110.7	39.5	47.6	1.12	1,654.4	1,963.8	963.5	880.8	11.644		
7,600.0	7,210.7	7,815.5	7,210.7	39.5	47.7	1.12	1,654.4	1,963.8	963.5	880.7	11.636		
7,700.0	7,310.7	7,915.5	7,310.7	39.5	47.7	1.12	1,654.4	1,963.8	963.5	880.7	11.628		
7,800.0	7,410.7	8,015.5	7,410.7	39.6	47.7	1.12	1,654.4	1,963.8	963.5	880.6	11.620		
7,900.0	7,510.7	8,115.5	7,510.7	39.6	47.7	1.12	1,654.4	1,963.8	963.5	880.6	11.611		
8,000.0	7,610.7	8,215.5	7,610.7	39.6	47.7	1.12	1,654.4	1,963.8	963.5	880.5	11.603		
8,100.0	7,710.7	8,315.5	7,710.7	39.7	47.8	1.12	1,654.4	1,963.8	963.5	880.4	11.595		
8,200.0	7,810.7	8,415.5	7,810.7	39.7	47.8	1.12	1,654.4	1,963.8	963.5	880.4	11.587		
8,208.0	7,818.6	8,423.5	7,818.6	39.7	47.8	1.12	1,654.4	1,963.8	963.5	880.4	11.586		
8,300.0	7,910.7	8,494.9	7,890.0	39.7	47.8	1.12	1,654.4	1,963.8	963.8	880.3	11.550		
8,400.0	8,010.7	8,494.9	7,890.0	39.8	47.8	1.12	1,654.4	1,963.8	971.1	886.9	11.538		
8,500.0	8,110.7	8,494.9	7,890.0	39.8	47.8	1.12	1,654.4	1,963.8	988.5	904.3	11.744		
8,600.0	8,210.7	8,494.9	7,890.0	39.8	47.8	1.12	1,654.4	1,963.8	1,015.5	932.0	12.155		
8,700.0	8,310.7	8,494.9	7,890.0	39.8	47.8	1.12	1,654.4	1,963.8	1,051.4	969.0	12.758		
8,800.0	8,410.7	8,494.9	7,890.0	39.9	47.8	1.12	1,654.4	1,963.8	1,095.2	1,014.3	13.539		
8,900.0	8,510.7	8,494.9	7,890.0	39.9	47.8	1.12	1,654.4	1,963.8	1,146.1	1,067.0	14.483		
9,000.0	8,610.7	8,494.9	7,890.0	39.9	47.8	1.12	1,654.4	1,963.8	1,203.2	1,126.0	15.574		
9,097.1	8,707.8	8,494.9	7,890.0	40.0	47.8	1.12	1,654.4	1,963.8	1,263.8	1,188.2	16.722		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-15W - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	13.7	-14.6	20.0			
100.0	100.0	100.0	100.0	0.8	0.8	-46.72	13.7	-14.6	20.0	18.4	12.623	
200.0	200.0	200.0	200.0	1.4	1.4	-46.72	13.7	-14.6	20.0	17.2	7.068 CC	
204.4	204.4	204.4	204.4	1.4	1.4	-117.17	13.7	-14.6	20.0	17.1	7.017	
300.0	300.0	300.1	300.1	1.7	1.7	-117.02	14.0	-14.1	20.1	16.9	6.182 ES	
400.0	399.9	400.3	400.2	3.0	3.0	-115.98	16.5	-10.5	21.1	16.9	4.973	
500.0	499.5	500.4	499.9	4.3	4.3	-114.16	21.3	-3.2	23.2	18.0	4.455	
600.0	598.6	600.6	599.2	5.4	5.4	-111.97	28.6	7.7	26.3	20.4	4.425 SF	
700.0	697.1	700.6	697.7	6.3	6.3	-109.74	38.3	22.1	30.5	23.9	4.629	
800.0	794.7	800.6	795.3	7.1	7.1	-107.67	50.4	40.1	35.8	28.6	4.948	
900.0	891.3	900.5	891.8	7.9	7.9	-105.86	64.8	61.6	42.1	34.2	5.311	
1,000.0	986.7	1,000.2	986.9	8.6	8.6	-104.32	81.5	86.5	49.5	40.8	5.670	
1,100.0	1,080.6	1,099.9	1,080.5	9.3	9.3	-103.02	100.5	114.8	58.0	48.3	5.994	
1,200.0	1,173.2	1,199.4	1,172.5	9.6	9.9	-101.66	121.7	146.4	67.4	56.7	6.323	
1,300.0	1,265.5	1,298.6	1,262.4	9.9	10.5	-98.03	145.1	181.2	77.2	65.4	6.548	
1,400.0	1,357.8	1,397.9	1,351.4	10.2	10.9	-93.75	169.5	217.7	87.5	74.4	6.673	
1,500.0	1,450.1	1,497.1	1,440.4	10.5	11.2	-90.40	194.0	254.2	98.3	83.8	6.756	
1,600.0	1,542.4	1,596.4	1,529.4	10.9	11.6	-87.71	218.5	290.7	109.3	93.3	6.826	
1,700.0	1,634.6	1,695.7	1,618.5	11.3	11.9	-85.52	243.0	327.1	120.6	103.1	6.893	
1,800.0	1,726.9	1,795.0	1,707.5	11.6	12.3	-83.70	267.5	363.6	131.9	113.0	6.959	
1,900.0	1,819.2	1,894.2	1,796.5	12.0	12.6	-82.17	292.0	400.1	143.4	123.0	7.023	
2,000.0	1,911.5	1,993.5	1,885.5	12.4	13.0	-80.87	316.4	436.6	155.0	133.1	7.085	
2,100.0	2,003.8	2,092.8	1,974.5	12.8	13.4	-79.75	340.9	473.1	166.6	143.3	7.144	
2,200.0	2,096.1	2,192.0	2,063.5	13.3	13.8	-78.77	365.4	509.6	178.3	153.5	7.201	
2,300.0	2,188.4	2,291.3	2,152.6	13.7	14.2	-77.92	389.9	546.1	190.0	163.8	7.254	
2,400.0	2,280.7	2,390.6	2,241.6	14.1	14.6	-77.16	414.4	582.6	201.8	174.2	7.304	
2,500.0	2,373.0	2,489.9	2,330.6	14.6	15.1	-76.49	438.9	619.1	213.6	184.6	7.350	
2,600.0	2,465.3	2,589.1	2,419.6	15.0	15.7	-75.89	463.3	655.5	225.4	195.0	7.396	
2,700.0	2,557.5	2,688.4	2,508.6	15.5	16.5	-75.35	487.8	692.0	237.3	205.4	7.436	
2,800.0	2,649.8	2,787.7	2,597.6	16.1	17.3	-74.86	512.3	728.5	249.2	215.8	7.474	
2,900.0	2,742.1	2,886.9	2,686.7	16.8	18.1	-74.42	536.8	765.0	261.1	226.3	7.510	
3,000.0	2,834.4	2,986.2	2,775.7	17.5	18.9	-74.01	561.3	801.5	272.9	236.8	7.544	
3,100.0	2,926.7	3,085.5	2,864.7	18.2	19.7	-73.64	585.8	838.0	284.9	247.3	7.576	
3,200.0	3,019.0	3,184.8	2,953.7	18.9	20.5	-73.29	610.2	874.5	296.8	257.8	7.606	
3,300.0	3,111.3	3,284.0	3,042.7	19.6	21.3	-72.98	634.7	911.0	308.7	268.3	7.634	
3,400.0	3,203.6	3,383.3	3,131.7	20.3	22.1	-72.69	659.2	947.5	320.7	278.8	7.660	
3,500.0	3,295.9	3,482.6	3,220.8	21.0	22.9	-72.41	683.7	984.0	332.6	289.3	7.685	
3,600.0	3,388.1	3,581.8	3,309.8	21.7	23.7	-72.16	708.2	1,020.4	344.6	299.9	7.709	
3,700.0	3,480.4	3,681.1	3,398.8	22.4	24.5	-71.93	732.7	1,056.9	356.5	310.4	7.731	
3,800.0	3,572.7	3,780.4	3,487.8	23.1	25.3	-71.71	757.1	1,093.4	368.5	321.0	7.752	
3,900.0	3,665.0	3,879.7	3,576.8	23.8	26.1	-71.50	781.6	1,129.9	380.5	331.5	7.772	
4,000.0	3,757.3	3,978.9	3,665.8	24.5	26.9	-71.31	806.1	1,166.4	392.4	342.1	7.790	
4,100.0	3,849.6	4,078.2	3,754.9	25.2	27.7	-71.12	830.6	1,202.9	404.4	352.6	7.808	
4,200.0	3,941.9	4,177.5	3,843.9	25.9	28.5	-70.95	855.1	1,239.4	416.4	363.2	7.825	
4,300.0	4,034.2	4,276.7	3,932.9	26.6	29.3	-70.79	879.6	1,275.9	428.4	373.8	7.841	
4,400.0	4,126.5	4,376.0	4,021.9	27.3	30.1	-70.64	904.0	1,312.4	440.4	384.3	7.857	
4,500.0	4,218.8	4,475.3	4,110.9	28.1	30.9	-70.49	928.5	1,348.8	452.4	394.9	7.871	
4,600.0	4,311.0	4,574.6	4,199.9	28.8	31.7	-70.35	953.0	1,385.3	464.4	405.5	7.885	
4,700.0	4,403.3	4,673.8	4,289.0	29.5	32.5	-70.22	977.5	1,421.8	476.4	416.1	7.899	
4,800.0	4,495.6	4,773.1	4,378.0	30.2	33.3	-70.10	1,002.0	1,458.3	488.4	426.6	7.911	
4,900.0	4,587.9	4,872.4	4,467.0	30.9	34.1	-69.98	1,026.5	1,494.8	500.4	437.2	7.923	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-15W - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	4,680.2	4,971.6	4,556.0	31.6	34.9	-69.86	1,050.9	1,531.3	512.4	447.8	7.935		
5,100.0	4,772.5	5,070.9	4,645.0	32.3	35.7	-69.76	1,075.4	1,567.8	524.4	458.4	7.946		
5,200.0	4,864.8	5,170.2	4,734.0	33.0	36.5	-69.65	1,099.9	1,604.3	536.4	469.0	7.957		
5,300.0	4,957.1	5,269.5	4,823.1	33.7	37.3	-69.56	1,124.4	1,640.8	548.4	479.6	7.967		
5,400.0	5,049.4	5,368.7	4,912.1	34.5	38.1	-69.46	1,148.9	1,677.2	560.4	490.2	7.977		
5,500.0	5,141.7	5,468.0	5,001.1	35.2	38.9	-69.37	1,173.4	1,713.7	572.4	500.8	7.986		
5,600.0	5,233.9	5,567.3	5,090.1	35.9	39.7	-69.29	1,197.8	1,750.2	584.5	511.4	7.996		
5,700.0	5,327.1	5,680.9	5,192.9	36.6	40.6	-69.41	1,224.8	1,790.4	596.2	521.5	7.978		
5,800.0	5,421.7	5,797.4	5,300.7	37.2	41.4	-69.51	1,249.4	1,827.1	606.7	530.6	7.964		
5,900.0	5,517.6	5,914.5	5,411.1	37.7	42.1	-69.59	1,271.1	1,859.4	615.9	538.5	7.955		
6,000.0	5,614.7	6,032.1	5,523.9	38.1	42.7	-69.67	1,289.7	1,887.1	623.8	545.3	7.949		
6,100.0	5,712.8	6,150.1	5,638.6	38.5	43.1	-69.72	1,305.0	1,910.0	630.3	551.0	7.947		
6,200.0	5,811.6	6,268.4	5,754.8	38.8	43.5	-69.77	1,317.1	1,928.0	635.4	555.4	7.947		
6,300.0	5,910.9	6,386.9	5,872.4	39.0	43.8	-69.80	1,325.9	1,941.0	639.1	558.7	7.950		
6,400.0	6,010.7	6,505.7	5,990.7	39.1	44.0	-69.81	1,331.2	1,949.0	641.3	560.7	7.956		
6,500.0	6,110.7	6,624.5	6,109.5	39.2	44.0	-69.81	1,333.2	1,951.9	642.1	561.5	7.965		
6,600.0	6,210.7	6,725.7	6,210.7	39.2	44.1	0.63	1,333.2	1,951.9	642.2	561.5	7.958		
6,700.0	6,310.7	6,825.7	6,310.7	39.3	44.1	0.63	1,333.2	1,951.9	642.2	561.4	7.952		
6,800.0	6,410.7	6,925.7	6,410.7	39.3	44.1	0.63	1,333.2	1,951.9	642.2	561.3	7.947		
6,900.0	6,510.7	7,025.7	6,510.7	39.3	44.1	0.63	1,333.2	1,951.9	642.2	561.3	7.941		
7,000.0	6,610.7	7,125.7	6,610.7	39.3	44.2	0.63	1,333.2	1,951.9	642.2	561.2	7.936		
7,100.0	6,710.7	7,225.7	6,710.7	39.4	44.2	0.63	1,333.2	1,951.9	642.2	561.2	7.930		
7,200.0	6,810.7	7,325.7	6,810.7	39.4	44.2	0.63	1,333.2	1,951.9	642.2	561.1	7.924		
7,300.0	6,910.7	7,425.7	6,910.7	39.4	44.2	0.63	1,333.2	1,951.9	642.2	561.1	7.919		
7,400.0	7,010.7	7,525.7	7,010.7	39.5	44.3	0.63	1,333.2	1,951.9	642.2	561.0	7.913		
7,500.0	7,110.7	7,625.7	7,110.7	39.5	44.3	0.63	1,333.2	1,951.9	642.2	560.9	7.907		
7,600.0	7,210.7	7,725.7	7,210.7	39.5	44.3	0.63	1,333.2	1,951.9	642.2	560.9	7.902		
7,700.0	7,310.7	7,825.7	7,310.7	39.5	44.3	0.63	1,333.2	1,951.9	642.2	560.8	7.896		
7,800.0	7,410.7	7,925.7	7,410.7	39.6	44.4	0.63	1,333.2	1,951.9	642.2	560.8	7.890		
7,900.0	7,510.7	8,025.7	7,510.7	39.6	44.4	0.63	1,333.2	1,951.9	642.2	560.7	7.885		
8,000.0	7,610.7	8,125.7	7,610.7	39.6	44.4	0.63	1,333.2	1,951.9	642.2	560.7	7.879		
8,100.0	7,710.7	8,225.7	7,710.7	39.7	44.4	0.63	1,333.2	1,951.9	642.2	560.6	7.873		
8,200.0	7,810.7	8,325.7	7,810.7	39.7	44.5	0.63	1,333.2	1,951.9	642.2	560.5	7.867		
8,300.0	7,910.7	8,425.7	7,910.7	39.7	44.5	0.63	1,333.2	1,951.9	642.2	560.5	7.861		
8,400.0	8,010.7	8,525.7	8,010.7	39.8	44.5	0.63	1,333.2	1,951.9	642.2	560.4	7.856		
8,500.0	8,110.7	8,625.7	8,110.7	39.8	44.5	0.63	1,333.2	1,951.9	642.2	560.3	7.850		
8,600.0	8,210.7	8,725.7	8,210.7	39.8	44.6	0.63	1,333.2	1,951.9	642.2	560.3	7.844		
8,700.0	8,310.7	8,825.7	8,310.7	39.8	44.6	0.63	1,333.2	1,951.9	642.2	560.2	7.838		
8,800.0	8,410.7	8,925.7	8,410.7	39.9	44.6	0.63	1,333.2	1,951.9	642.2	560.2	7.832		
8,900.0	8,510.7	9,025.7	8,510.7	39.9	44.6	0.63	1,333.2	1,951.9	642.2	560.1	7.826		
9,000.0	8,610.7	9,125.7	8,610.7	39.9	44.7	0.63	1,333.2	1,951.9	642.2	560.0	7.820		
9,097.1	8,707.8	9,222.8	8,707.8	40.0	44.7	0.63	1,333.2	1,951.9	642.2	560.0	7.815		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-16W - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	-46.68	6.9	-7.3	10.0			
100.0	100.0	100.0	100.0	0.8	0.8	-46.68	6.9	-7.3	10.0	8.4	6.312	
200.0	200.0	200.0	200.0	1.4	1.4	-46.68	6.9	-7.3	10.0	7.2	3.534 CC	
204.4	204.4	204.4	204.4	1.4	1.4	-117.13	6.9	-7.3	10.0	7.1	3.497	
300.0	300.0	300.0	300.0	1.7	1.9	-119.83	6.9	-7.3	10.3	6.8	2.933 ES	
400.0	399.9	400.2	400.2	3.0	2.7	-128.45	7.9	-5.3	11.7	7.0	2.496 Level 1	
500.0	499.5	500.5	500.2	4.3	4.1	-133.41	10.9	0.5	13.9	7.3	2.112 Level 1	
600.0	598.6	600.8	600.0	5.4	5.2	-135.60	15.9	10.3	16.5	8.3	2.017 Level 1, SF	
700.0	697.1	701.3	699.2	6.3	6.1	-135.97	22.9	23.9	19.5	10.0	2.052 Level 1	
800.0	794.7	801.8	797.8	7.1	7.0	-135.22	31.8	41.4	22.9	12.3	2.161 Level 1	
900.0	891.3	902.4	895.5	7.9	7.7	-133.80	42.8	62.7	26.8	15.2	2.315 Level 1	
1,000.0	986.7	1,003.0	992.0	8.6	8.5	-132.03	55.7	87.9	31.1	18.7	2.501	
1,100.0	1,080.6	1,103.7	1,087.3	9.3	9.1	-130.09	70.6	116.8	35.8	22.6	2.704	
1,200.0	1,173.2	1,204.5	1,181.2	9.6	9.8	-127.67	87.3	149.4	40.8	27.0	2.956	
1,300.0	1,265.5	1,305.0	1,273.1	9.9	10.2	-121.65	105.9	185.5	44.2	30.4	3.198	
1,400.0	1,357.8	1,404.8	1,363.9	10.2	10.5	-115.11	124.8	222.4	47.7	33.6	3.383	
1,500.0	1,450.1	1,504.6	1,454.7	10.5	10.8	-109.51	143.7	259.3	51.6	36.9	3.499	
1,600.0	1,542.4	1,604.4	1,545.5	10.9	11.2	-104.75	162.7	296.2	56.0	40.3	3.560	
1,700.0	1,634.6	1,704.2	1,636.3	11.3	11.5	-100.70	181.6	333.1	60.7	43.8	3.591	
1,800.0	1,726.9	1,804.0	1,727.0	11.6	11.9	-97.24	200.6	370.0	65.7	47.5	3.606	
1,900.0	1,819.2	1,903.8	1,817.8	12.0	12.2	-94.28	219.5	406.9	70.9	51.3	3.617	
2,000.0	1,911.5	2,003.6	1,908.6	12.4	12.6	-91.74	238.4	443.8	76.2	55.2	3.626	
2,100.0	2,003.8	2,103.4	1,999.4	12.8	13.0	-89.52	257.4	480.7	81.7	59.2	3.637	
2,200.0	2,096.1	2,203.2	2,090.1	13.3	13.4	-87.59	276.3	517.6	87.3	63.4	3.650	
2,300.0	2,188.4	2,303.0	2,180.9	13.7	13.8	-85.89	295.3	554.5	93.0	67.6	3.664	
2,400.0	2,280.7	2,402.8	2,271.7	14.1	14.2	-84.39	314.2	591.4	98.7	71.9	3.679	
2,500.0	2,373.0	2,502.6	2,362.5	14.6	14.7	-83.06	333.2	628.3	104.5	76.2	3.695	
2,600.0	2,465.3	2,602.4	2,453.3	15.0	15.2	-81.86	352.1	665.2	110.4	80.6	3.712	
2,700.0	2,557.5	2,702.2	2,544.0	15.5	15.8	-80.79	371.0	702.1	116.3	85.1	3.729	
2,800.0	2,649.8	2,802.0	2,634.8	16.1	16.5	-79.82	390.0	739.0	122.2	89.6	3.747	
2,900.0	2,742.1	2,901.8	2,725.6	16.8	17.3	-78.94	408.9	775.8	128.2	94.1	3.764	
3,000.0	2,834.4	3,001.7	2,816.4	17.5	18.0	-78.13	427.9	812.7	134.2	98.7	3.781	
3,100.0	2,926.7	3,101.5	2,907.2	18.2	18.8	-77.40	446.8	849.6	140.2	103.3	3.797	
3,200.0	3,019.0	3,201.3	2,997.9	18.9	19.5	-76.73	465.7	886.5	146.2	107.9	3.813	
3,300.0	3,111.3	3,301.1	3,088.7	19.6	20.3	-76.11	484.7	923.4	152.3	112.5	3.829	
3,400.0	3,203.6	3,400.9	3,179.5	20.3	21.0	-75.54	503.6	960.3	158.3	117.1	3.844	
3,500.0	3,295.9	3,500.7	3,270.3	21.0	21.8	-75.01	522.6	997.2	164.4	121.8	3.859	
3,600.0	3,388.1	3,600.5	3,361.0	21.7	22.5	-74.52	541.5	1,034.1	170.5	126.5	3.873	
3,700.0	3,480.4	3,700.3	3,451.8	22.4	23.3	-74.06	560.5	1,071.0	176.6	131.2	3.887	
3,800.0	3,572.7	3,800.1	3,542.6	23.1	24.1	-73.63	579.4	1,107.9	182.8	135.9	3.900	
3,900.0	3,665.0	3,899.9	3,633.4	23.8	24.8	-73.23	598.3	1,144.8	188.9	140.6	3.913	
4,000.0	3,757.3	3,999.7	3,724.2	24.5	25.6	-72.86	617.3	1,181.7	195.0	145.3	3.926	
4,100.0	3,849.6	4,099.5	3,814.9	25.2	26.3	-72.51	636.2	1,218.6	201.2	150.1	3.938	
4,200.0	3,941.9	4,199.3	3,905.7	25.9	27.1	-72.18	655.2	1,255.5	207.3	154.8	3.949	
4,300.0	4,034.2	4,299.1	3,996.5	26.6	27.9	-71.86	674.1	1,292.4	213.5	159.6	3.960	
4,400.0	4,126.5	4,398.9	4,087.3	27.3	28.6	-71.57	693.1	1,329.3	219.7	164.3	3.971	
4,500.0	4,218.8	4,498.7	4,178.1	28.1	29.4	-71.29	712.0	1,366.2	225.8	169.1	3.981	
4,600.0	4,311.0	4,598.5	4,268.8	28.8	30.1	-71.03	730.9	1,403.1	232.0	173.9	3.991	
4,700.0	4,403.3	4,698.3	4,359.6	29.5	30.9	-70.78	749.9	1,439.9	238.2	178.7	4.001	
4,800.0	4,495.6	4,798.1	4,450.4	30.2	31.7	-70.54	768.8	1,476.8	244.4	183.4	4.010	
4,900.0	4,587.9	4,897.9	4,541.2	30.9	32.4	-70.32	787.8	1,513.7	250.6	188.2	4.019	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-16W - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,000.0	4,680.2	4,997.7	4,631.9	31.6	33.2	-70.10	806.7	1,550.6	256.8	193.0	4.027		
5,100.0	4,772.5	5,097.5	4,722.7	32.3	34.0	-69.90	825.6	1,587.5	263.0	197.8	4.036		
5,200.0	4,864.8	5,197.3	4,813.5	33.0	34.7	-69.70	844.6	1,624.4	269.2	202.6	4.044		
5,300.0	4,957.1	5,297.1	4,904.3	33.7	35.5	-69.52	863.5	1,661.3	275.4	207.4	4.052		
5,400.0	5,049.4	5,396.9	4,995.1	34.5	36.2	-69.34	882.5	1,698.2	281.6	212.2	4.059		
5,500.0	5,141.7	5,496.7	5,085.8	35.2	37.0	-69.17	901.4	1,735.1	287.8	217.0	4.066		
5,600.0	5,233.9	5,597.5	5,177.5	35.9	37.8	-69.02	920.5	1,772.3	294.0	221.8	4.073		
5,700.0	5,327.1	5,703.8	5,275.4	36.6	38.5	-69.09	939.4	1,809.0	299.6	225.9	4.065		
5,800.0	5,421.7	5,810.2	5,375.4	37.2	39.2	-69.15	956.1	1,841.7	304.6	229.6	4.062		
5,900.0	5,517.6	5,916.9	5,477.0	37.7	39.8	-69.21	970.8	1,870.2	308.9	232.9	4.061		
6,000.0	5,614.7	6,023.6	5,580.2	38.1	40.2	-69.25	983.3	1,894.6	312.7	235.7	4.061		
6,100.0	5,712.8	6,130.5	5,684.7	38.5	40.6	-69.29	993.6	1,914.7	315.7	238.0	4.061		
6,200.0	5,811.6	6,237.5	5,790.2	38.8	40.9	-69.31	1,001.7	1,930.4	318.1	239.8	4.062		
6,300.0	5,910.9	6,344.5	5,896.4	39.0	41.2	-69.33	1,007.5	1,941.7	319.8	241.1	4.063		
6,400.0	6,010.7	6,451.6	6,003.2	39.1	41.3	-69.33	1,011.0	1,948.6	320.9	242.0	4.065		
6,500.0	6,110.7	6,558.7	6,110.3	39.2	41.4	-69.33	1,012.3	1,951.1	321.3	242.3	4.066		
6,600.0	6,210.7	6,659.1	6,210.7	39.2	41.4	1.11	1,012.3	1,951.1	321.3	242.2	4.062		
6,700.0	6,310.7	6,759.1	6,310.7	39.3	41.4	1.11	1,012.3	1,951.1	321.3	242.1	4.059		
6,800.0	6,410.7	6,859.1	6,410.7	39.3	41.5	1.11	1,012.3	1,951.1	321.3	242.1	4.056		
6,900.0	6,510.7	6,959.1	6,510.7	39.3	41.5	1.11	1,012.3	1,951.1	321.3	242.0	4.053		
7,000.0	6,610.7	7,059.1	6,610.7	39.3	41.5	1.11	1,012.3	1,951.1	321.3	242.0	4.050		
7,100.0	6,710.7	7,159.1	6,710.7	39.4	41.5	1.11	1,012.3	1,951.1	321.3	241.9	4.047		
7,200.0	6,810.7	7,259.1	6,810.7	39.4	41.6	1.11	1,012.3	1,951.1	321.3	241.9	4.044		
7,300.0	6,910.7	7,359.1	6,910.7	39.4	41.6	1.11	1,012.3	1,951.1	321.3	241.8	4.041		
7,400.0	7,010.7	7,459.1	7,010.7	39.5	41.6	1.11	1,012.3	1,951.1	321.3	241.7	4.038		
7,500.0	7,110.7	7,559.1	7,110.7	39.5	41.6	1.11	1,012.3	1,951.1	321.3	241.7	4.035		
7,600.0	7,210.7	7,659.1	7,210.7	39.5	41.7	1.11	1,012.3	1,951.1	321.3	241.6	4.032		
7,700.0	7,310.7	7,759.1	7,310.7	39.5	41.7	1.11	1,012.3	1,951.1	321.3	241.6	4.029		
7,800.0	7,410.7	7,859.1	7,410.7	39.6	41.7	1.11	1,012.3	1,951.1	321.3	241.5	4.026		
7,900.0	7,510.7	7,959.1	7,510.7	39.6	41.7	1.11	1,012.3	1,951.1	321.3	241.4	4.023		
8,000.0	7,610.7	8,059.1	7,610.7	39.6	41.8	1.11	1,012.3	1,951.1	321.3	241.4	4.020		
8,100.0	7,710.7	8,159.1	7,710.7	39.7	41.8	1.11	1,012.3	1,951.1	321.3	241.3	4.017		
8,200.0	7,810.7	8,259.1	7,810.7	39.7	41.8	1.11	1,012.3	1,951.1	321.3	241.3	4.014		
8,208.5	7,819.2	8,267.6	7,819.2	39.7	41.8	1.11	1,012.3	1,951.1	321.3	241.3	4.014		
8,300.0	7,910.7	8,339.4	7,891.0	39.7	41.8	1.11	1,012.3	1,951.1	321.9	241.4	3.999		
8,400.0	8,010.7	8,339.4	7,891.0	39.8	41.8	1.11	1,012.3	1,951.1	342.9	263.8	4.335		
8,500.0	8,110.7	8,339.4	7,891.0	39.8	41.8	1.11	1,012.3	1,951.1	389.2	315.3	5.266		
8,600.0	8,210.7	8,339.4	7,891.0	39.8	41.8	1.11	1,012.3	1,951.1	453.2	385.3	6.669		
8,700.0	8,310.7	8,339.4	7,891.0	39.8	41.8	1.11	1,012.3	1,951.1	528.5	465.8	8.422		
8,800.0	8,410.7	8,339.4	7,891.0	39.9	41.8	1.11	1,012.3	1,951.1	611.0	552.3	10.423		
8,900.0	8,510.7	8,339.4	7,891.0	39.9	41.8	1.11	1,012.3	1,951.1	698.0	642.6	12.592		
9,000.0	8,610.7	8,339.4	7,891.0	39.9	41.8	1.11	1,012.3	1,951.1	788.1	735.1	14.870		
9,097.1	8,707.8	8,339.4	7,891.0	40.0	41.8	1.11	1,012.3	1,951.1	877.7	826.2	17.059		

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-18W - OH - Design #2											Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard											Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	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	133.28	-6.8	7.3	10.0			
100.0	100.0	100.0	100.0	0.8	0.8	133.28	-6.8	7.3	10.0	8.4	6.307	
200.0	200.0	200.0	200.0	1.4	1.4	133.28	-6.8	7.3	10.0	7.2	3.532	
300.0	300.0	299.9	299.9	1.7	1.7	65.01	-6.8	7.4	9.8	6.5	2.956	
353.7	353.7	353.5	353.5	2.4	2.3	68.59	-6.6	8.6	9.7	5.8	2.471	Level 1, CC
400.0	399.9	399.7	399.7	3.0	2.7	72.02	-6.1	10.6	9.8	5.5	2.281	Level 1
500.0	499.5	499.6	499.2	4.3	4.2	79.76	-4.5	18.0	10.5	5.4	2.078	Level 1, ES, SF
600.0	598.6	599.4	598.3	5.4	5.3	86.82	-2.0	29.7	11.9	6.4	2.151	Level 1
700.0	697.1	699.3	696.9	6.3	6.2	92.38	1.4	45.6	14.0	7.9	2.301	Level 1
800.0	794.7	799.2	794.7	7.1	7.0	96.37	5.7	65.6	16.7	9.9	2.465	Level 1
900.0	891.3	899.2	891.5	7.9	7.8	99.04	10.9	89.9	20.1	12.4	2.631	
1,000.0	986.7	999.2	987.2	8.6	8.5	100.75	17.0	118.2	24.0	15.4	2.794	
1,100.0	1,080.6	1,099.1	1,081.5	9.3	9.2	101.79	24.0	150.6	28.4	18.8	2.949	
1,200.0	1,173.2	1,199.1	1,174.5	9.6	9.5	102.74	31.7	186.4	33.4	22.7	3.132	
1,300.0	1,265.5	1,298.9	1,267.2	9.9	9.8	103.76	39.5	222.6	38.5	26.6	3.240	
1,400.0	1,357.8	1,398.8	1,359.9	10.2	10.1	104.53	47.3	258.9	43.5	30.4	3.315	
1,500.0	1,450.1	1,498.7	1,452.7	10.5	10.4	105.15	55.1	295.1	48.6	34.2	3.373	
1,600.0	1,542.4	1,598.6	1,545.4	10.9	10.8	105.64	62.9	331.4	53.7	38.0	3.419	
1,700.0	1,634.6	1,698.4	1,638.1	11.3	11.1	106.06	70.7	367.6	58.8	41.8	3.456	
1,800.0	1,726.9	1,798.3	1,730.9	11.6	11.5	106.40	78.5	403.9	63.9	45.6	3.486	
1,900.0	1,819.2	1,898.2	1,823.6	12.0	11.9	106.70	86.3	440.1	69.0	49.4	3.511	
2,000.0	1,911.5	1,998.0	1,916.3	12.4	12.3	106.95	94.1	476.3	74.1	53.1	3.532	
2,100.0	2,003.8	2,097.9	2,009.1	12.8	12.7	107.17	101.9	512.6	79.2	56.9	3.549	
2,200.0	2,096.1	2,197.8	2,101.8	13.3	13.1	107.37	109.7	548.8	84.3	60.7	3.564	
2,300.0	2,188.4	2,297.6	2,194.5	13.7	13.5	107.54	117.5	585.1	89.4	64.4	3.576	
2,400.0	2,280.7	2,397.5	2,287.3	14.1	14.0	107.69	125.3	621.3	94.5	68.2	3.587	
2,500.0	2,373.0	2,497.4	2,380.0	14.6	14.4	107.83	133.1	657.6	99.6	71.9	3.596	
2,600.0	2,465.3	2,597.2	2,472.7	15.0	14.8	107.95	140.9	693.8	104.7	75.7	3.604	
2,700.0	2,557.5	2,697.1	2,565.5	15.5	15.3	108.07	148.7	730.0	109.8	79.4	3.611	
2,800.0	2,649.8	2,797.0	2,658.2	16.1	15.8	108.17	156.5	766.3	114.9	83.2	3.617	
2,900.0	2,742.1	2,896.9	2,750.9	16.8	16.3	108.26	164.3	802.5	120.0	86.9	3.623	
3,000.0	2,834.4	2,996.7	2,843.7	17.5	17.0	108.35	172.1	838.8	125.1	90.7	3.628	
3,100.0	2,926.7	3,096.6	2,936.4	18.2	17.6	108.43	179.9	875.0	130.3	94.4	3.632	
3,200.0	3,019.0	3,196.5	3,029.1	18.9	18.3	108.50	187.7	911.3	135.4	98.1	3.636	
3,300.0	3,111.3	3,296.3	3,121.9	19.6	19.0	108.57	195.5	947.5	140.5	101.9	3.640	
3,400.0	3,203.6	3,396.2	3,214.6	20.3	19.7	108.64	203.4	983.8	145.6	105.6	3.643	
3,500.0	3,295.9	3,496.1	3,307.3	21.0	20.3	108.70	211.2	1,020.0	150.7	109.3	3.646	
3,600.0	3,388.1	3,595.9	3,400.1	21.7	21.0	108.75	219.0	1,056.2	155.8	113.1	3.648	
3,700.0	3,480.4	3,695.8	3,492.8	22.4	21.7	108.80	226.8	1,092.5	160.9	116.8	3.650	
3,800.0	3,572.7	3,795.7	3,585.5	23.1	22.4	108.85	234.6	1,128.7	166.0	120.6	3.653	
3,900.0	3,665.0	3,895.5	3,678.3	23.8	23.1	108.90	242.4	1,165.0	171.1	124.3	3.655	
4,000.0	3,757.3	3,995.4	3,771.0	24.5	23.8	108.94	250.2	1,201.2	176.2	128.0	3.656	
4,100.0	3,849.6	4,095.3	3,863.7	25.2	24.5	108.98	258.0	1,237.5	181.3	131.8	3.658	
4,200.0	3,941.9	4,195.2	3,956.5	25.9	25.1	109.02	265.8	1,273.7	186.4	135.5	3.660	
4,300.0	4,034.2	4,295.0	4,049.2	26.6	25.8	109.06	273.6	1,309.9	191.5	139.2	3.661	
4,400.0	4,126.5	4,394.9	4,141.9	27.3	26.5	109.09	281.4	1,346.2	196.7	143.0	3.662	
4,500.0	4,218.8	4,494.8	4,234.7	28.1	27.2	109.12	289.2	1,382.4	201.8	146.7	3.664	
4,600.0	4,311.0	4,594.6	4,327.4	28.8	27.9	109.15	297.0	1,418.7	206.9	150.4	3.665	
4,700.0	4,403.3	4,694.5	4,420.1	29.5	28.6	109.18	304.8	1,454.9	212.0	154.1	3.666	
4,800.0	4,495.6	4,794.4	4,512.9	30.2	29.3	109.21	312.6	1,491.2	217.1	157.9	3.667	
4,900.0	4,587.9	4,894.2	4,605.6	30.9	29.9	109.24	320.4	1,527.4	222.2	161.6	3.668	

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 A8
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:	KLXDirectional-AD
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Offset Design Laramie 0993-29-01 - Laramie 29-01 Fed 0993-21-18W - OH - Design #2												Offset Site Error:	0.0 usft
Survey Program: 0-OWSG (REV5) MWD HDGM Standard												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
5,000.0	4,680.2	4,994.1	4,698.3	31.6	30.6	109.27	328.2	1,563.6	227.3	165.3	3.668		
5,100.0	4,772.5	5,094.0	4,791.1	32.3	31.3	109.29	336.0	1,599.9	232.4	169.1	3.669		
5,200.0	4,864.8	5,193.8	4,883.8	33.0	32.0	109.31	343.8	1,636.1	237.5	172.8	3.670		
5,300.0	4,957.1	5,293.7	4,976.5	33.7	32.7	109.34	351.6	1,672.4	242.6	176.5	3.671		
5,400.0	5,049.4	5,393.6	5,069.3	34.5	33.4	109.36	359.4	1,708.6	247.7	180.3	3.671		
5,500.0	5,141.7	5,493.5	5,162.0	35.2	34.1	109.38	367.2	1,744.9	252.8	184.0	3.672		
5,600.0	5,233.9	5,593.3	5,254.7	35.9	34.8	109.40	375.0	1,781.1	258.0	187.7	3.672		
5,700.0	5,327.1	5,691.1	5,346.1	36.6	35.4	109.43	382.3	1,815.0	262.7	191.1	3.668		
5,800.0	5,421.7	5,788.6	5,438.6	37.2	36.0	109.46	388.8	1,845.1	266.9	194.1	3.668		
5,900.0	5,517.6	5,886.0	5,532.3	37.7	36.4	109.49	394.4	1,871.3	270.5	196.8	3.669		
6,000.0	5,614.7	5,983.5	5,627.1	38.1	36.8	109.51	399.2	1,893.5	273.6	199.1	3.669		
6,100.0	5,712.8	6,081.0	5,722.8	38.5	37.2	109.52	403.1	1,911.9	276.2	200.9	3.670		
6,200.0	5,811.6	6,178.5	5,819.1	38.8	37.4	109.54	406.2	1,926.2	278.2	202.4	3.670		
6,300.0	5,910.9	6,276.0	5,916.0	39.0	37.6	109.55	408.4	1,936.4	279.6	203.4	3.670		
6,400.0	6,010.7	6,373.5	6,013.3	39.1	37.8	109.55	409.8	1,942.7	280.5	204.0	3.669		
6,500.0	6,110.7	6,471.0	6,110.8	39.2	37.8	109.56	410.3	1,944.9	280.8	204.2	3.665		
6,600.0	6,210.7	6,570.8	6,210.7	39.2	37.9	180.00	410.3	1,944.9	280.8	204.1	3.661		
6,700.0	6,310.7	6,670.8	6,310.7	39.3	37.9	180.00	410.3	1,944.9	280.8	204.0	3.658		
6,800.0	6,410.7	6,770.8	6,410.7	39.3	37.9	180.00	410.3	1,944.9	280.8	204.0	3.655		
6,900.0	6,510.7	6,870.8	6,510.7	39.3	37.9	180.00	410.3	1,944.9	280.8	203.9	3.653		
7,000.0	6,610.7	6,970.8	6,610.7	39.3	38.0	180.00	410.3	1,944.9	280.8	203.9	3.650		
7,100.0	6,710.7	7,070.8	6,710.7	39.4	38.0	180.00	410.3	1,944.9	280.8	203.8	3.647		
7,200.0	6,810.7	7,170.8	6,810.7	39.4	38.0	180.00	410.3	1,944.9	280.8	203.8	3.644		
7,300.0	6,910.7	7,270.8	6,910.7	39.4	38.1	180.00	410.3	1,944.9	280.8	203.7	3.642		
7,400.0	7,010.7	7,370.8	7,010.7	39.5	38.1	180.00	410.3	1,944.9	280.8	203.6	3.639		
7,500.0	7,110.7	7,470.8	7,110.7	39.5	38.1	180.00	410.3	1,944.9	280.8	203.6	3.636		
7,600.0	7,210.7	7,570.8	7,210.7	39.5	38.1	180.00	410.3	1,944.9	280.8	203.5	3.633		
7,700.0	7,310.7	7,670.8	7,310.7	39.5	38.2	180.00	410.3	1,944.9	280.8	203.5	3.630		
7,800.0	7,410.7	7,770.8	7,410.7	39.6	38.2	180.00	410.3	1,944.9	280.8	203.4	3.628		
7,900.0	7,510.7	7,870.8	7,510.7	39.6	38.2	180.00	410.3	1,944.9	280.8	203.3	3.625		
8,000.0	7,610.7	7,970.8	7,610.7	39.6	38.3	180.00	410.3	1,944.9	280.8	203.3	3.622		
8,100.0	7,710.7	8,070.8	7,710.7	39.7	38.3	180.00	410.3	1,944.9	280.8	203.2	3.619		
8,200.0	7,810.7	8,170.8	7,810.7	39.7	38.3	180.00	410.3	1,944.9	280.8	203.2	3.616		
8,208.0	7,818.6	8,178.8	7,818.6	39.7	38.3	180.00	410.3	1,944.9	280.8	203.2	3.616		
8,300.0	7,910.7	8,250.2	7,890.0	39.7	38.3	180.00	410.3	1,944.9	281.6	204.4	3.651		
8,400.0	8,010.7	8,250.2	7,890.0	39.8	38.3	180.00	410.3	1,944.9	305.6	235.0	4.328		
8,500.0	8,110.7	8,250.2	7,890.0	39.8	38.3	180.00	410.3	1,944.9	357.1	295.4	5.782		
8,600.0	8,210.7	8,250.2	7,890.0	39.8	38.3	180.00	410.3	1,944.9	426.2	372.0	7.856		
8,700.0	8,310.7	8,250.2	7,890.0	39.8	38.3	180.00	410.3	1,944.9	505.8	456.9	10.345		
8,800.0	8,410.7	8,250.2	7,890.0	39.9	38.3	180.00	410.3	1,944.9	591.6	546.3	13.066		
8,900.0	8,510.7	8,250.2	7,890.0	39.9	38.3	180.00	410.3	1,944.9	681.2	638.3	15.884		
9,000.0	8,610.7	8,250.2	7,890.0	39.9	38.3	180.00	410.3	1,944.9	773.4	732.1	18.719		
9,097.1	8,707.8	8,250.2	7,890.0	40.0	38.3	180.00	410.3	1,944.9	864.6	824.3	21.407		

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



Anticollision Report

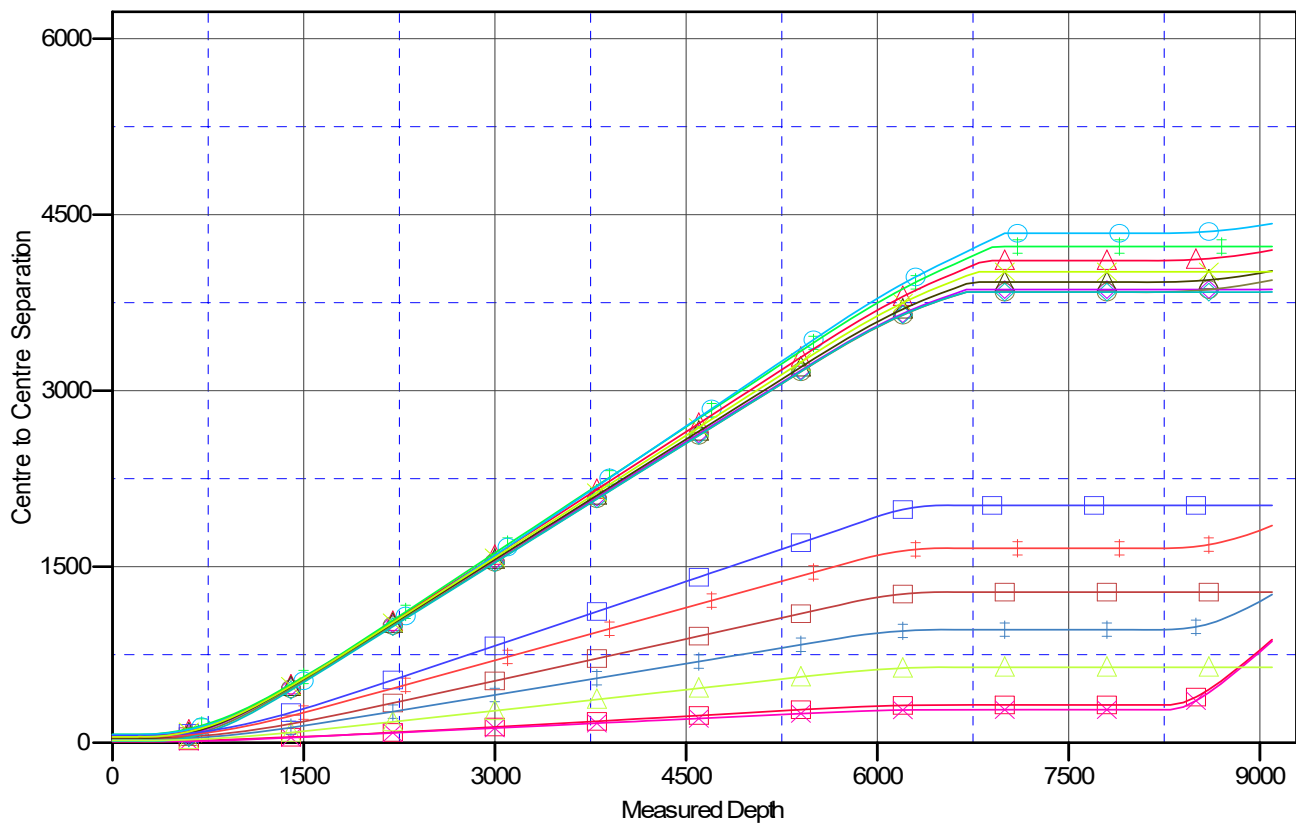


Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A8
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference 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:	KLXDirectional-AD
Reference Design:	Design #2	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 A8
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.44°

Ladder Plot



LEGEND

- | | | |
|---|---|---|
| Laramie 29-01 0993-20-13E, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-18W, OH, Design #2 V0 | Laramie 29-01 0993-20-18E, OH, Design #2 V0 |
| Laramie 29-01 0993-20-12E, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-14W, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-12W, OH, Design #2 V0 |
| Laramie 29-01 Fed 0993-21-16W, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-13W, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-11W, OH, Design #2 V0 |
| Laramie 29-01 0993-20-16E, OH, Design #2 V0 | Laramie 29-01 0993-20-17E, OH, Design #2 V0 | Laramie 29-01 0993-20-14E, OH, Design #2 V0 |
| Laramie 29-01 0993-20-11E, OH, Design #2 V0 | Laramie 29-01 0993-20-15E, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-15W, OH, Design #2 V0 |



Anticollision Report

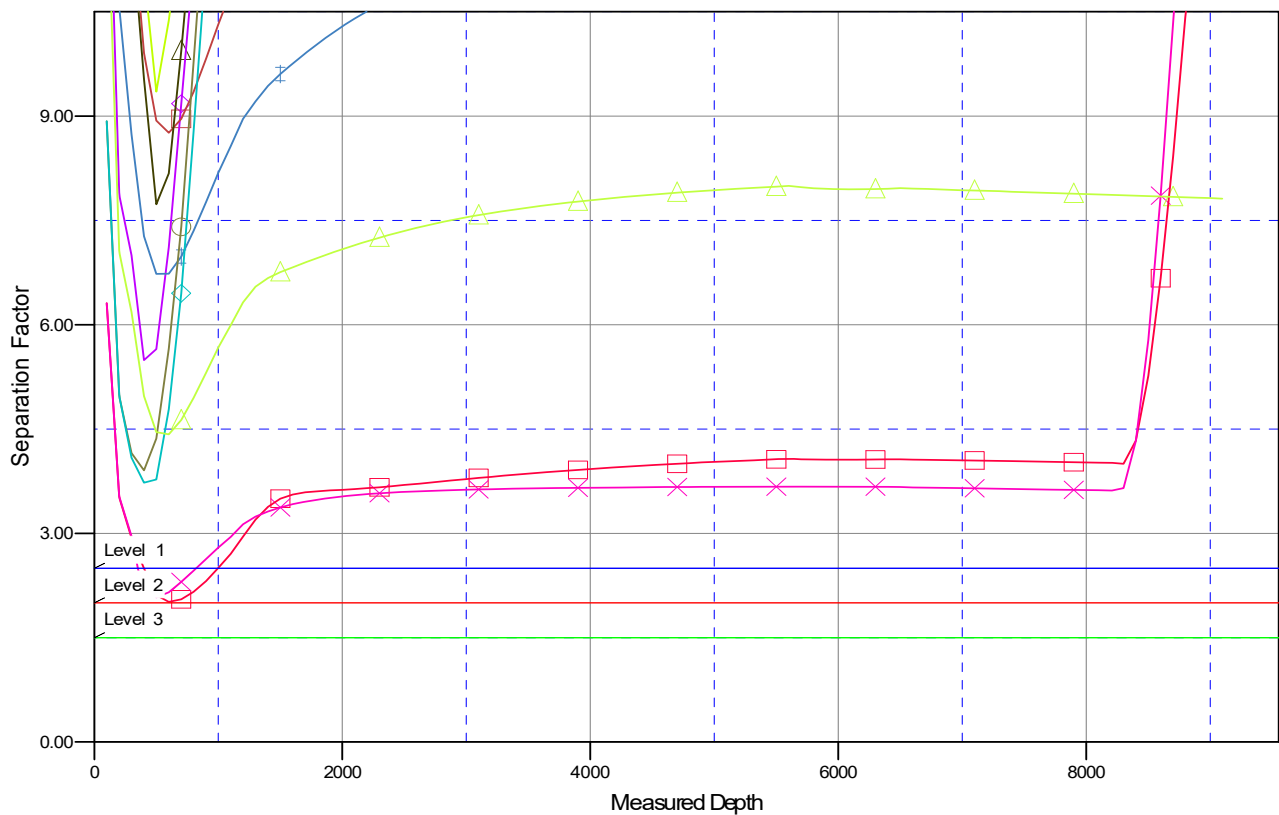


Company:	Laramie Energy, LLC	Local Co-ordinate Reference:	Well Laramie 29-01 Fed 0993-21-17W - Slot A8
Project:	Mesa County, CO	TVD Reference:	RKB=30'; @ 7493.0usft (TBD)
Reference Site:	Laramie 0993-29-01	MD Reference:	RKB=30'; @ 7493.0usft (TBD)
Site Error:	0.0 usft	North Reference:	True
Reference 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:	KLXDirectional-AD
Reference Design:	Design #2	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 A8
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.44°

Separation Factor Plot



LEGEND

- | | | |
|---|---|---|
| Laramie 29-01 0993-20-13E, OH, Design#2 V0 | Laramie 29-01 Fed 0993-21-18W, OH, Design #2 V0 | Laramie 29-01 0993-20-18E, OH, Design#2 V0 |
| Laramie 29-01 0993-20-12E, OH, Design#2 V0 | Laramie 29-01 Fed 0993-21-14W, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-12W, OH, Design #2 V0 |
| Laramie 29-01 Fed 0993-21-16W, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-13W, OH, Design #2 V0 | Laramie 29-01 Fed 0993-21-11W, OH, Design #2 V0 |
| Laramie 29-01 0993-20-16E, OH, Design#2 V0 | Laramie 29-01 0993-20-17E, OH, Design#2 V0 | Laramie 29-01 0993-20-14E, OH, Design#2 V0 |
| Laramie 29-01 0993-20-11E, OH, Design#2 V0 | Laramie 29-01 0993-20-15E, OH, Design#2 V0 | Laramie 29-01 Fed 0993-21-15W, OH, Design#2 V0 |