

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

SW NW SEC. 15 T5N R65W 6th P.M.

VT-LDS 1-16-18

ORIGINAL WELLBORE

PROPOSAL #2

Anticollision Report

10 March, 2016



Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 98.4usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 us	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	10/03/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	20,550.2	PROPOSAL #2 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SW NW SEC. 15 T5N R65W 6th P.M.						
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	900.0	857.0	2,606.6	2,588.0	139.928	CC
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	1,000.0	957.0	2,607.7	2,586.9	125.046	ES
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	8,000.0	4,600.0	6,113.1	5,936.0	34.515	SF
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,165.1	14,862.7	579.6	266.6	1.852	CC
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,169.3	14,862.7	579.6	266.6	1.851	ES, SF
CARLSON B-15-16HC - Wellbore #1 - Design #1	8,164.7	14,905.1	431.5	130.7	1.434	Level 3, CC
CARLSON B-15-16HC - Wellbore #1 - Design #1	8,169.3	14,905.1	431.6	130.7	1.434	Level 3, ES, SF
CARLSON C-15-16HN - Wellbore #1 - Design #1	8,144.2	14,796.3	254.0	-53.4	0.826	Level 1, CC
CARLSON C-15-16HN - Wellbore #1 - Design #1	8,150.0	14,796.3	254.1	-53.5	0.826	Level 1, ES, SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	8,114.4	14,777.6	94.5	-169.7	0.358	Level 1, CC, ES, SF
CARLSON E-15-16HC - Wellbore #1 - Design #1	8,114.8	14,848.6	277.4	0.6	1.002	Level 2, CC, ES, SF
CARLSON F-15-16HN - Wellbore #1 - Design #1	7,891.3	14,573.9	348.5	72.0	1.261	Level 3, CC
CARLSON F-15-16HN - Wellbore #1 - Design #1	8,100.0	14,758.8	361.8	55.7	1.182	Level 2, ES, SF
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,622.5	14,382.5	733.0	467.3	2.758	CC
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,775.6	14,501.4	739.3	459.4	2.641	ES
CARLSON G-15-16HN - Wellbore #1 - Design #1	8,150.0	14,787.6	785.2	474.8	2.529	SF
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,633.1	14,486.4	916.2	650.4	3.446	CC
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,800.0	14,616.1	922.3	642.6	3.298	ES
CARLSON H-15-16HC - Wellbore #1 - Design #1	8,169.3	14,883.6	959.0	650.4	3.107	SF
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,544.7	14,373.4	1,087.9	816.6	4.009	CC
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,578.7	14,397.7	1,088.6	816.3	3.998	ES
CARLSON I-15-16HN - Wellbore #1 - Design #1	8,169.3	14,836.2	1,166.6	855.6	3.751	SF
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,495.3	14,405.2	1,403.6	1,130.5	5.140	CC
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,500.0	14,408.2	1,403.6	1,130.4	5.139	ES
CARLSON J-15-16HN - Wellbore #1 - Design #1	8,250.0	14,901.4	1,505.3	1,192.2	4.809	SF
CARLSON K-15-16HC - Wellbore #1 - Design #1	7,509.8	14,526.5	1,584.3	1,311.9	5.816	CC, ES
CARLSON K-15-16HC - Wellbore #1 - Design #1	8,300.0	15,013.6	1,678.7	1,365.2	5.355	SF
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,456.3	14,456.8	1,723.0	1,449.0	6.290	CC, ES
CARLSON L-15-16HN - Wellbore #1 - Design #1	8,366.1	14,977.0	1,848.1	1,532.3	5.852	SF
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,321.8	7,046.7	4,057.1	3,835.0	18.273	CC
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,401.5	7,046.6	4,057.8	3,833.6	18.098	ES
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,370.0	7,043.7	4,544.8	4,266.0	16.305	SF
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	9,727.0	7,209.7	3,938.8	3,781.1	24.982	CC
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	9,842.5	7,208.3	3,940.5	3,779.7	24.512	ES
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	12,500.0	7,176.7	4,816.9	4,583.7	20.653	SF
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	13,045.8	7,139.5	4,568.2	4,320.2	18.416	CC
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	13,188.9	7,139.7	4,570.5	4,318.5	18.135	ES

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

Anticollision Report



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Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #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)	Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,400.0	7,141.5	5,139.2	4,825.7	16.396	SF
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,643.6	6,871.0	4,570.0	4,376.7	23.650	CC
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,800.0	6,870.3	4,572.6	4,375.1	23.149	ES
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,665.3	6,859.1	5,478.6	5,201.8	19.793	SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,326.7	7,950.0	3,049.3	2,883.4	18.378	CC
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,400.0	7,950.0	3,050.2	2,882.3	18.167	ES
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	11,900.0	7,950.0	3,431.2	3,222.6	16.445	SF
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,650.3	7,686.7	2,638.7	2,357.6	9.386	CC
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,700.0	7,688.1	2,639.2	2,356.7	9.342	ES
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	14,370.0	7,707.0	2,735.0	2,433.9	9.083	SF
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,503.4	7,725.4	1,950.8	1,773.8	11.021	CC
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,531.5	7,726.6	1,951.0	1,773.2	10.974	ES
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	11,100.0	7,750.2	2,039.8	1,846.5	10.553	SF
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,687.7	7,810.8	2,636.2	2,477.3	16.591	CC
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,744.1	7,804.4	2,636.8	2,476.4	16.439	ES
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	10,900.0	7,712.4	2,899.1	2,707.5	15.128	SF
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,443.9	7,996.0	1,369.2	1,137.1	5.901	CC
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,500.0	7,998.0	1,370.3	1,136.7	5.867	ES
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,696.8	8,004.9	1,392.3	1,153.3	5.825	SF
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	12,911.6	7,145.0	3,349.5	3,104.2	13.655	CC
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	13,000.0	7,145.0	3,350.7	3,102.9	13.525	ES
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	14,173.2	7,086.1	3,578.5	3,298.6	12.784	SF
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	14,248.2	7,608.1	4,595.5	4,290.2	15.053	CC
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	14,370.0	7,636.1	4,597.0	4,288.3	14.890	ES
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	16,200.0	7,819.4	4,983.9	4,624.3	13.859	SF
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,725.8	7,699.0	3,906.6	3,626.7	13.957	CC
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,800.0	7,699.0	3,907.3	3,625.4	13.858	ES
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	15,255.9	7,699.0	4,195.6	3,873.3	13.019	SF
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	12,414.8	7,618.4	2,761.8	2,533.0	12.068	CC
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	12,500.0	7,624.7	2,763.1	2,531.9	11.952	ES
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	13,300.0	7,705.0	2,899.2	2,646.5	11.470	SF
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,302.1	6,913.0	4,658.2	4,494.8	28.513	CC
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,433.0	6,913.1	4,660.0	4,493.1	27.918	ES
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	14,000.0	6,915.2	5,947.5	5,682.4	22.437	SF
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	9,081.6	7,276.9	4,641.7	4,488.5	30.293	CC
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	9,200.0	7,275.4	4,643.2	4,486.9	29.698	ES
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	13,000.0	7,231.6	6,074.3	5,814.5	23.385	SF
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	10,937.6	6,946.8	3,982.9	3,807.5	22.707	CC
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	11,023.6	6,946.7	3,983.9	3,806.1	22.413	ES
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,484.2	6,944.1	4,727.5	4,481.9	19.255	SF
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,171.5	7,819.0	2,613.3	2,428.0	14.103	CC
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,220.4	7,819.0	2,613.8	2,427.2	14.006	ES
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	12,200.0	7,819.0	2,808.4	2,595.5	13.191	SF
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	11,017.0	7,906.4	1,419.6	1,230.3	7.500	CC
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	11,023.6	7,906.5	1,419.6	1,230.1	7.493	ES
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	11,300.0	7,908.7	1,447.5	1,250.5	7.347	SF
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,841.1	4,185.0	1,732.9	1,698.4	50.242	CC
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,900.0	4,218.7	1,733.6	1,698.4	49.282	ES
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	8,262.2	7,024.3	3,655.1	3,553.2	35.865	SF
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	2,530.9	2,836.7	2,174.5	2,154.0	106.158	CC
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	2,559.0	2,852.6	2,174.7	2,153.8	104.164	ES
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	13,100.0	7,123.6	9,966.7	9,723.9	41.053	SF
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,822.5	3,219.8	1,804.9	1,780.2	73.207	CC

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Anticollision Report



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Reference Design:	PROPOSAL #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)	Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,854.3	3,244.0	1,805.1	1,780.0	71.830	ES
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	13,800.0	7,072.1	9,996.0	9,739.6	38.989	SF
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,541.9	8,140.0	2,491.0	2,341.6	16.677	CC
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,600.0	8,140.0	2,491.6	2,340.8	16.518	ES
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	9,645.6	7,997.9	2,720.3	2,542.0	15.259	SF
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	7,518.9	7,654.3	3,831.9	3,703.6	29.878	CC
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	7,550.0	7,664.5	3,832.1	3,703.4	29.785	ES
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,925.2	7,215.0	4,631.1	4,417.4	21.664	SF
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	9,147.7	7,675.6	3,407.6	3,254.9	22.314	CC
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	9,251.9	7,666.2	3,409.2	3,253.7	21.931	ES
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	11,220.4	7,432.6	3,979.4	3,771.4	19.132	SF
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,375.6	7,192.7	1,364.0	1,243.1	11.287	CC
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,400.0	7,192.9	1,364.2	1,242.7	11.231	ES
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,759.8	7,196.1	1,417.0	1,286.3	10.838	SF
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	11,743.7	7,620.9	1,990.0	1,784.4	9.679	CC
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	11,800.0	7,622.6	1,990.8	1,783.6	9.610	ES
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	12,300.0	7,638.7	2,066.2	1,845.2	9.350	SF
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,301.3	7,849.0	3,343.6	3,031.5	10.712	CC
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,400.0	7,849.0	3,345.1	3,030.2	10.623	ES
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	15,300.0	7,875.9	3,489.4	3,149.6	10.268	SF
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,102.8	8,199.0	3,976.9	3,627.4	11.378	CC
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,200.0	8,199.0	3,978.1	3,625.9	11.294	ES
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	16,338.5	8,199.0	4,164.5	3,780.6	10.849	SF
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	13,003.8	7,735.1	2,029.2	1,776.3	8.022	CC
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	13,090.5	7,735.1	2,031.1	1,775.7	7.954	ES
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	13,484.2	7,735.1	2,085.3	1,819.1	7.832	SF
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	14,921.7	8,128.5	2,759.4	2,415.0	8.013	CC
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,000.0	8,132.3	2,760.5	2,414.0	7.966	ES
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,551.1	8,156.0	2,830.1	2,468.3	7.821	SF
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	923.5	916.9	1,536.7	1,534.2	605.577	CC, ES
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	12,800.0	6,600.0	9,924.0	9,714.4	47.347	SF
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,098.6	5,376.9	914.9	750.9	5.579	CC
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,200.0	5,459.9	916.8	749.8	5.492	ES
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,400.0	5,623.8	931.1	759.1	5.414	SF
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	900.0	861.0	1,266.1	1,247.5	67.822	CC
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	1,181.1	1,141.6	1,269.5	1,244.6	50.923	ES
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	8,250.0	6,825.9	4,387.0	4,161.5	19.456	SF
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	214.9	196.9	75.1	74.5	132.007	CC
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	1,300.0	1,281.0	77.5	73.9	21.829	ES
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	1,500.0	1,479.8	83.0	78.8	19.939	SF
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	100.0	100.0	214.8	214.6	1,137.602	CC, ES
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	13,600.0	15,072.1	1,982.0	1,511.4	4.211	SF
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	200.0	200.0	192.5	191.9	301.635	CC, ES
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	13,681.1	15,280.6	2,182.0	1,710.7	4.630	SF
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	173.2	172.1	159.228	CC, ES
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	13,700.0	15,100.4	2,338.4	1,864.7	4.936	SF
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	400.0	152.9	151.4	99.449	CC, ES
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	13,800.0	15,171.7	2,681.9	2,204.1	5.614	SF
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	500.0	500.0	138.8	136.9	69.880	CC, ES
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	13,877.9	15,409.8	2,863.4	2,384.3	5.977	SF
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	600.0	600.0	122.7	120.2	50.348	CC, ES
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	13,900.0	15,284.8	3,022.2	2,541.1	6.282	SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	110.8	107.9	38.396	CC, ES

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #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
SW NW SEC. 15 T5N R65W 6th P.M.						
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	14,000.0	15,420.3	3,367.4	2,883.5	6.959	SF
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	800.0	102.3	99.0	30.695	CC, ES
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	14,074.8	15,682.9	3,548.3	3,062.8	7.308	SF
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	99.3	95.6	26.247	CC, ES
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	14,173.2	15,616.6	3,724.1	3,234.6	7.608	SF
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	102.4	98.6	27.062	CC, ES
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	14,300.0	15,843.4	4,076.8	3,583.7	8.267	SF
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	109.8	106.0	29.001	CC, ES
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	14,370.0	16,129.6	4,257.4	3,762.8	8.607	SF
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	122.9	119.1	32.467	CC, ES
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	14,468.5	16,069.4	4,437.0	3,938.5	8.902	SF
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	139.4	135.7	36.840	CC, ES
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	14,600.0	16,281.8	4,791.8	4,289.6	9.541	SF
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	100.0	99.0	191.1	190.9	1,017.250	CC, ES
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,226.0	1,672.2	827.6	1.980	SF
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	900.0	899.0	25.3	21.5	6.696	CC
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	20,550.2	20,700.6	331.5	-524.3	0.387	Level 1, ES, SF
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	900.0	899.0	50.7	46.9	13.392	CC
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	20,550.2	20,873.7	532.8	-265.2	0.668	Level 1, ES, SF
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	700.0	700.0	47.9	45.0	16.599	CC
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,471.3	327.9	-524.4	0.385	Level 1, ES, SF
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	600.0	600.0	70.5	68.0	28.928	CC
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,403.6	659.4	-191.5	0.775	Level 1, ES, SF
VT-LDS 4-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	117.9	116.3	76.788	CC, ES
VT-LDS 4-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,287.9	1,009.1	160.9	1.190	Level 2, SF
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	143.2	142.1	131.640	CC, ES
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,298.7	1,340.7	493.6	1.583	SF
VT-LDS C2-16-18 - ORIGINAL WELLBORE - PROPOSAL	800.0	799.0	22.6	19.2	6.773	CC
VT-LDS C2-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,658.8	254.8	-321.6	0.442	Level 1, ES, SF
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSAL	500.0	500.0	95.3	93.3	47.976	CC
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,510.3	871.2	41.8	1.050	Level 2, ES, SF
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSAL	200.0	199.0	165.8	165.1	260.152	CC, ES
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,550.2	20,473.7	1,517.3	678.2	1.808	SF

Offset Design										SW NW SEC. 15 T5N R65W 6th P.M. - ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1			Offset Site Error:		0.0 usft	
Survey Program: 0-INC												Offset Well Error:		0.0 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.0	0.0	0.0	0.0	0.0	0.0	158.02	-2,417.2	975.5	2,606.9							
98.4	98.4	55.4	55.4	0.1	0.6	158.02	-2,417.2	975.5	2,606.6	2,605.9	0.68	3,858.315				
100.0	100.0	57.0	57.0	0.1	0.6	158.02	-2,417.2	975.5	2,606.6	2,605.9	0.69	3,756.366				
196.8	196.8	153.8	153.8	0.3	2.3	158.02	-2,417.2	975.5	2,606.6	2,604.0	2.61	996.805				
200.0	200.0	157.0	157.0	0.3	2.4	158.02	-2,417.2	975.5	2,606.6	2,603.9	2.70	967.121				
295.3	295.3	252.3	252.3	0.5	4.5	158.02	-2,417.2	975.5	2,606.6	2,601.6	5.00	521.740				
300.0	300.0	257.0	257.0	0.5	4.6	158.02	-2,417.2	975.5	2,606.6	2,601.5	5.10	510.607				
393.7	393.7	350.7	350.7	0.8	6.5	158.02	-2,417.2	975.5	2,606.6	2,599.3	7.25	359.741				
400.0	400.0	357.0	357.0	0.8	6.6	158.02	-2,417.2	975.5	2,606.6	2,599.2	7.39	352.786				
492.1	492.1	449.1	449.1	1.0	8.5	158.02	-2,417.2	975.5	2,606.6	2,597.1	9.47	275.223				
500.0	500.0	457.0	457.0	1.0	8.7	158.02	-2,417.2	975.5	2,606.6	2,596.9	9.65	270.160				

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON D-15-16HN - Wellbore #1 - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	78.72	865.6	4,339.1	4,424.7				
98.4	98.4	77.9	77.9	0.1	0.0	78.72	865.6	4,339.1	4,424.6	4,424.5	0.14	N/A	
100.0	100.0	79.5	79.5	0.1	0.1	78.72	865.6	4,339.1	4,424.6	4,424.5	0.14	N/A	
196.8	196.8	176.3	176.3	0.3	0.2	78.72	865.6	4,339.1	4,424.6	4,424.1	0.55	8,086.039	
200.0	200.0	179.5	179.5	0.3	0.2	78.72	865.6	4,339.1	4,424.6	4,424.1	0.56	7,882.067	
295.3	295.3	274.8	274.8	0.5	0.5	78.72	865.6	4,339.1	4,424.6	4,423.6	0.99	4,470.921	
300.0	300.0	279.5	279.5	0.5	0.5	78.72	865.6	4,339.1	4,424.6	4,423.6	1.01	4,376.980	
393.7	393.7	373.2	373.2	0.8	0.7	78.72	865.6	4,339.1	4,424.6	4,423.2	1.43	3,089.613	
400.0	400.0	379.5	379.5	0.8	0.7	78.72	865.6	4,339.1	4,424.6	4,423.2	1.46	3,029.699	
492.1	492.1	471.6	471.6	1.0	0.9	78.72	865.6	4,339.1	4,424.6	4,422.8	1.87	2,360.368	
500.0	500.0	479.5	479.5	1.0	0.9	78.72	865.6	4,339.1	4,424.6	4,422.7	1.91	2,316.619	
590.5	590.5	570.0	570.0	1.2	1.1	78.72	865.6	4,339.1	4,424.6	4,422.3	2.32	1,909.635	
600.0	600.0	579.5	579.5	1.2	1.1	78.72	865.6	4,339.1	4,424.6	4,422.3	2.36	1,875.253	
689.0	689.0	668.5	668.5	1.4	1.3	78.72	865.6	4,339.1	4,424.6	4,421.9	2.76	1,603.443	
700.0	700.0	679.5	679.5	1.4	1.4	78.72	865.6	4,339.1	4,424.6	4,421.8	2.81	1,575.153	
787.4	787.4	766.9	766.9	1.6	1.6	78.72	865.6	4,339.1	4,424.6	4,421.4	3.20	1,381.873	
800.0	800.0	779.5	779.5	1.7	1.6	78.72	865.6	4,339.1	4,424.6	4,421.4	3.26	1,357.853	
885.8	885.8	833.5	833.5	1.9	1.7	78.72	865.7	4,339.2	4,424.9	4,421.3	3.57	1,238.894	
900.0	900.0	840.8	840.8	1.9	1.7	78.72	865.8	4,339.3	4,425.0	4,421.4	3.62	1,222.519	
984.2	984.2	900.0	900.0	2.1	1.9	150.93	866.6	4,340.0	4,427.2	4,423.3	3.93	1,125.845	
1,000.0	1,000.0	900.0	900.0	2.1	1.9	150.93	866.6	4,340.0	4,427.9	4,424.0	3.97	1,116.412	
1,082.7	1,082.6	934.3	934.2	2.3	1.9	150.88	867.3	4,340.8	4,433.5	4,429.3	4.22	1,051.809	
1,100.0	1,099.8	943.1	943.1	2.3	2.0	150.86	867.5	4,341.0	4,435.0	4,430.7	4.27	1,038.508	
1,181.1	1,180.6	1,000.0	999.9	2.5	2.1	150.79	869.4	4,342.8	4,443.9	4,439.3	4.57	972.387	
1,200.0	1,199.5	1,000.0	999.9	2.6	2.1	150.77	869.4	4,342.8	4,446.2	4,441.6	4.61	964.425	
1,279.5	1,278.4	1,034.1	1,034.0	2.7	2.2	150.66	870.8	4,344.1	4,458.1	4,453.2	4.86	917.071	
1,300.0	1,298.7	1,044.4	1,044.3	2.8	2.2	150.63	871.3	4,344.5	4,461.6	4,456.6	4.93	905.163	
1,377.9	1,375.7	1,100.0	1,099.7	3.0	2.3	150.51	874.1	4,347.3	4,476.4	4,471.1	5.23	855.730	
1,400.0	1,397.5	1,100.0	1,099.7	3.1	2.3	150.46	874.1	4,347.3	4,480.9	4,475.7	5.28	848.452	
1,476.4	1,472.5	1,132.3	1,131.9	3.3	2.4	150.30	876.0	4,349.1	4,498.4	4,492.9	5.54	812.249	
1,500.0	1,495.6	1,143.9	1,143.5	3.4	2.4	150.25	876.8	4,349.8	4,504.3	4,498.7	5.62	801.320	
1,574.8	1,568.6	1,200.0	1,199.3	3.7	2.5	150.09	880.7	4,353.6	4,524.5	4,518.6	5.94	761.851	
1,607.2	1,600.0	1,200.0	1,199.3	3.8	2.5	149.99	880.7	4,353.6	4,533.8	4,527.8	6.02	752.827	
1,672.2	1,663.0	1,227.6	1,226.7	4.1	2.6	150.01	882.9	4,355.7	4,553.2	4,546.9	6.27	726.205	
1,673.2	1,664.1	1,228.1	1,227.2	4.1	2.6	150.01	882.9	4,355.7	4,553.5	4,547.3	6.27	725.777	
1,700.0	1,690.0	1,241.0	1,240.0	4.2	2.6	149.93	883.9	4,356.7	4,561.8	4,555.4	6.38	715.236	
1,771.6	1,759.1	1,288.0	1,286.7	4.5	2.8	149.72	888.1	4,360.7	4,585.2	4,578.5	6.70	684.837	
1,800.0	1,786.3	1,289.0	1,287.7	4.7	2.8	149.62	888.2	4,360.8	4,595.0	4,588.2	6.78	677.622	
1,870.1	1,853.1	1,354.2	1,352.3	5.0	2.9	149.41	894.1	4,366.5	4,620.3	4,613.1	7.15	646.169	
1,900.0	1,881.5	1,381.8	1,379.7	5.2	3.0	149.32	896.7	4,369.0	4,631.5	4,624.2	7.30	634.099	
1,968.5	1,946.1	1,444.6	1,442.0	5.6	3.2	149.11	902.5	4,374.5	4,658.1	4,650.4	7.68	606.900	
2,000.0	1,975.7	1,473.3	1,470.4	5.8	3.3	149.01	905.1	4,377.0	4,670.8	4,662.9	7.85	595.171	
2,066.9	2,038.0	1,533.7	1,530.4	6.3	3.4	148.78	910.6	4,382.4	4,698.6	4,690.4	8.23	570.840	
2,100.0	2,068.6	1,563.4	1,559.8	6.5	3.5	148.67	913.4	4,385.0	4,712.9	4,704.4	8.42	559.616	
2,165.3	2,128.6	1,621.4	1,617.4	7.0	3.7	148.44	918.7	4,390.1	4,741.8	4,733.0	8.82	537.788	
2,200.0	2,160.1	1,651.9	1,647.6	7.3	3.8	148.31	921.5	4,392.8	4,757.6	4,748.6	9.03	526.972	
2,263.8	2,217.8	1,455.6	6,878.5	7.8	132.5	152.26	1,075.8	-296.4	4,783.3	4,743.5	39.75	120.339	
2,300.0	2,250.2	1,470.9	6,878.5	8.1	132.9	152.92	1,075.7	-311.7	4,750.5	4,711.4	39.08	121.569	
2,362.2	2,305.5	1,498.1	6,878.5	8.7	133.7	153.98	1,075.5	-338.9	4,694.6	4,656.4	38.13	123.133	
2,400.0	2,338.8	1,515.1	6,878.5	9.0	134.2	154.59	1,075.4	-355.9	4,660.9	4,623.2	37.65	123.779	
2,460.6	2,391.6	1,543.3	6,878.5	9.6	135.0	155.51	1,075.3	-384.1	4,607.2	4,570.2	37.07	124.284	
2,500.0	2,425.6	1,562.2	6,878.5	10.0	135.5	156.07	1,075.2	-403.0	4,572.7	4,535.9	36.78	124.312	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design		SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON D-15-16HN - Wellbore #1 - Design #1											Offset Site Error:		0.0 usft
Survey Program: 0-MWD													Offset Well Error:		0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
2,559.0	2,476.1	11,591.3	6,878.5	10.7	136.3	156.87	1,075.0	-432.1	4,521.4	4,484.9	36.50	123.877			
2,600.0	2,510.7	11,612.1	6,878.5	11.1	136.9	157.40	1,074.9	-452.9	4,486.1	4,449.7	36.38	123.304			
2,657.5	2,558.8	11,642.1	6,878.5	11.8	137.7	158.10	1,074.7	-482.9	4,437.0	4,400.7	36.34	122.104			
2,700.0	2,593.9	11,664.9	6,878.5	12.3	138.4	158.60	1,074.6	-505.7	4,401.1	4,364.7	36.38	120.991			
2,715.0	2,606.2	11,673.0	6,878.5	12.5	138.6	158.77	1,074.5	-513.8	4,388.5	4,352.1	36.40	120.549			
2,755.9	2,639.7	11,695.3	6,878.5	13.0	139.2	158.77	1,074.4	-536.1	4,354.2	4,317.5	36.73	118.551			
2,800.0	2,675.8	11,719.4	6,878.5	13.6	139.9	158.78	1,074.2	-560.2	4,317.3	4,280.2	37.08	116.432			
2,854.3	2,720.3	11,749.0	6,878.5	14.2	140.7	158.78	1,074.1	-589.8	4,271.7	4,234.2	37.52	113.864			
2,900.0	2,757.7	11,773.9	6,878.5	14.8	141.4	158.79	1,073.9	-614.7	4,233.4	4,195.6	37.88	111.749			
2,952.7	2,801.0	11,802.7	6,878.5	15.5	142.2	158.79	1,073.8	-643.4	4,189.2	4,150.9	38.31	109.347			
3,000.0	2,839.7	11,828.4	6,878.5	16.1	142.9	158.80	1,073.6	-669.2	4,149.6	4,110.9	38.70	107.239			
3,051.2	2,881.6	11,856.3	6,878.5	16.7	143.7	158.80	1,073.5	-697.1	4,106.7	4,067.6	39.11	104.995			
3,100.0	2,921.6	11,882.9	6,878.5	17.4	144.4	158.81	1,073.3	-723.7	4,065.8	4,026.3	39.51	102.897			
3,149.6	2,962.2	11,910.0	6,878.5	18.0	145.2	158.81	1,073.1	-750.8	4,024.2	3,984.3	39.92	100.804			
3,200.0	3,003.5	11,937.5	6,878.5	18.7	146.0	158.82	1,073.0	-778.3	3,982.0	3,941.6	40.34	98.720			
3,248.0	3,042.8	11,963.6	6,878.5	19.3	146.7	158.82	1,072.8	-804.4	3,941.7	3,901.0	40.73	96.769			
3,300.0	3,085.4	11,992.0	6,878.5	19.9	147.5	158.83	1,072.7	-832.8	3,898.1	3,857.0	41.16	94.701			
3,346.4	3,123.5	12,017.3	6,878.5	20.5	148.2	158.84	1,072.5	-858.1	3,859.2	3,817.6	41.55	92.885			
3,400.0	3,167.3	12,046.5	6,878.5	21.2	149.0	158.84	1,072.3	-887.3	3,814.3	3,772.3	41.99	90.833			
3,444.9	3,204.1	12,071.0	6,878.5	21.8	149.7	158.85	1,072.2	-911.8	3,776.7	3,734.3	42.37	89.144			
3,500.0	3,249.2	12,101.0	6,878.5	22.5	150.5	158.86	1,072.0	-941.8	3,730.5	3,687.7	42.82	87.110			
3,543.3	3,284.7	12,124.6	6,878.5	23.1	151.2	158.86	1,071.9	-965.4	3,694.2	3,651.0	43.19	85.541			
3,600.0	3,331.2	12,155.5	6,878.5	23.8	152.0	158.87	1,071.7	-996.3	3,646.6	3,603.0	43.66	83.526			
3,641.7	3,365.3	12,178.3	6,878.5	24.4	152.7	158.88	1,071.6	-1,019.1	3,611.7	3,567.7	44.01	82.070			
3,700.0	3,413.1	12,210.1	6,878.5	25.1	153.6	158.89	1,071.4	-1,050.9	3,562.8	3,518.3	44.49	80.075			
3,740.1	3,446.0	12,232.0	6,878.5	25.7	154.2	158.89	1,071.3	-1,072.7	3,529.2	3,484.3	44.83	78.724			
3,800.0	3,495.0	12,264.6	6,878.5	26.4	155.1	158.90	1,071.1	-1,105.4	3,479.0	3,433.7	45.33	76.749			
3,838.6	3,526.6	12,285.6	6,878.5	27.0	155.7	158.91	1,071.0	-1,126.4	3,446.7	3,401.0	45.65	75.499			
3,900.0	3,576.9	12,319.1	6,878.5	27.8	156.6	158.92	1,070.8	-1,159.9	3,395.2	3,349.0	46.17	73.544			
3,937.0	3,607.2	12,339.3	6,878.5	28.2	157.2	158.92	1,070.6	-1,180.1	3,364.1	3,317.7	46.47	72.387			
4,000.0	3,658.8	12,373.6	6,878.5	29.1	158.1	158.93	1,070.4	-1,214.4	3,311.3	3,264.3	47.00	70.452			
4,035.4	3,687.8	12,393.0	6,878.5	29.5	158.7	158.94	1,070.3	-1,233.7	3,281.6	3,234.3	47.30	69.383			
4,100.0	3,740.7	12,428.2	6,878.5	30.4	159.7	158.95	1,070.1	-1,268.9	3,227.5	3,179.7	47.84	67.470			
4,133.8	3,768.5	12,446.6	6,878.5	30.8	160.2	158.96	1,070.0	-1,287.4	3,199.1	3,151.0	48.12	66.484			
4,200.0	3,822.6	12,482.7	6,878.5	31.7	161.2	158.97	1,069.8	-1,323.5	3,143.7	3,095.0	48.67	64.591			
4,232.3	3,849.1	12,500.3	6,878.5	32.1	161.7	158.98	1,069.7	-1,341.1	3,116.6	3,067.7	48.94	63.683			
4,300.0	3,904.6	12,537.2	6,878.5	33.0	162.7	158.99	1,069.5	-1,378.0	3,059.9	3,010.3	49.50	61.810			
4,330.7	3,929.7	12,553.9	6,878.5	33.4	163.2	159.00	1,069.4	-1,394.7	3,034.1	2,984.4	49.76	60.976			
4,400.0	3,986.5	12,591.7	6,878.5	34.3	164.2	159.01	1,069.2	-1,432.5	2,976.0	2,925.7	50.34	59.124			
4,429.1	4,010.3	12,607.6	6,878.5	34.7	164.7	159.02	1,069.1	-1,448.4	2,951.6	2,901.0	50.58	58.358			
4,500.0	4,068.4	12,646.2	6,878.5	35.6	165.8	159.03	1,068.9	-1,487.0	2,892.2	2,841.0	51.16	56.527			
4,527.5	4,091.0	12,661.3	6,878.5	36.0	166.2	159.04	1,068.8	-1,502.0	2,869.1	2,817.7	51.39	55.827			
4,600.0	4,150.3	12,700.8	6,878.5	37.0	167.3	159.05	1,068.5	-1,541.5	2,808.4	2,756.4	51.99	54.015			
4,626.0	4,171.6	12,714.9	6,878.5	37.3	167.7	159.06	1,068.5	-1,555.7	2,786.6	2,734.4	52.21	53.376			
4,700.0	4,232.2	12,755.3	6,878.5	38.3	168.8	159.08	1,068.2	-1,596.1	2,724.5	2,671.7	52.82	51.585			
4,724.4	4,252.2	12,768.6	6,878.5	38.6	169.2	159.09	1,068.1	-1,609.4	2,704.1	2,651.1	53.02	51.004			
4,800.0	4,314.1	12,809.8	6,878.5	39.6	170.3	159.11	1,067.9	-1,650.6	2,640.7	2,587.1	53.64	49.233			
4,822.8	4,332.8	12,822.3	6,878.5	39.9	170.7	159.11	1,067.8	-1,663.0	2,621.6	2,567.8	53.82	48.706			
4,900.0	4,396.1	12,864.3	6,878.5	40.9	171.9	159.13	1,067.6	-1,705.1	2,556.9	2,502.4	54.45	46.954			
4,921.2	4,413.5	12,875.9	6,878.5	41.2	172.2	159.14	1,067.5	-1,716.7	2,539.1	2,484.4	54.63	46.479			
5,000.0	4,478.0	12,918.9	6,878.5	42.2	173.4	159.16	1,067.3	-1,759.6	2,473.1	2,417.8	55.27	44.747			
5,019.7	4,494.1	12,929.6	6,878.5	42.5	173.7	159.17	1,067.2	-1,770.4	2,456.6	2,401.1	55.43	44.320			

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.0	4,559.9	12,973.4	6,878.5	43.6	174.9	159.19	1,066.9	-1,814.1	2,389.2	2,333.2	56.08	42.607		
5,118.1	4,574.7	12,983.2	6,878.5	43.8	175.2	159.20	1,066.9	-1,824.0	2,374.1	2,317.8	56.22	42.226		
5,200.0	4,641.8	13,027.9	6,878.5	44.9	176.4	159.23	1,066.6	-1,868.7	2,305.4	2,248.5	56.88	40.531		
5,216.5	4,655.3	13,036.9	6,878.5	45.1	176.7	159.23	1,066.6	-1,877.7	2,291.6	2,234.5	57.01	40.194		
5,300.0	4,723.7	13,082.4	6,878.5	46.2	178.0	159.27	1,066.3	-1,923.2	2,221.6	2,163.9	57.68	38.518		
5,314.9	4,736.0	13,090.6	6,878.5	46.4	178.2	159.27	1,066.3	-1,931.3	2,209.1	2,151.3	57.80	38.222		
5,400.0	4,805.6	13,136.9	6,878.5	47.5	179.5	159.31	1,066.0	-1,977.7	2,137.8	2,079.3	58.47	36.564		
5,413.4	4,816.6	13,144.2	6,878.5	47.7	179.7	159.31	1,066.0	-1,985.0	2,126.5	2,068.0	58.57	36.307		
5,500.0	4,887.5	13,191.5	6,878.5	48.8	181.0	159.35	1,065.7	-2,032.2	2,053.9	1,994.7	59.25	34.666		
5,511.8	4,897.2	13,197.9	6,878.5	49.0	181.2	159.35	1,065.6	-2,038.7	2,044.0	1,984.7	59.34	34.446		
5,600.0	4,969.5	13,246.0	6,878.5	50.2	182.5	159.39	1,065.4	-2,086.8	1,970.1	1,910.1	60.02	32.823		
5,610.2	4,977.8	13,251.6	6,878.5	50.3	182.7	159.40	1,065.3	-2,092.3	1,961.5	1,901.4	60.10	32.637		
5,700.0	5,051.4	13,300.5	6,878.5	51.5	184.1	159.45	1,065.0	-2,141.3	1,886.3	1,825.5	60.79	31.032		
5,708.6	5,058.5	13,305.2	6,878.5	51.6	184.2	159.45	1,065.0	-2,146.0	1,879.0	1,818.2	60.85	30.879		
5,800.0	5,133.3	13,355.0	6,878.5	52.8	185.6	159.50	1,064.7	-2,195.8	1,802.5	1,740.9	61.54	29.290		
5,807.1	5,139.1	13,358.9	6,878.5	52.9	185.7	159.51	1,064.7	-2,199.6	1,796.5	1,734.9	61.59	29.169		
5,900.0	5,215.2	13,409.5	6,878.5	54.1	187.1	159.56	1,064.4	-2,250.3	1,718.6	1,656.4	62.28	27.597		
5,905.5	5,219.7	13,412.5	6,878.5	54.2	187.2	159.57	1,064.4	-2,253.3	1,714.0	1,651.7	62.32	27.505		
6,000.0	5,297.1	13,464.1	6,878.5	55.4	188.6	159.63	1,064.1	-2,304.8	1,634.8	1,571.8	63.00	25.950		
6,003.9	5,300.3	13,466.2	6,878.5	55.5	188.7	159.63	1,064.1	-2,307.0	1,631.5	1,568.5	63.03	25.886		
6,100.0	5,379.0	13,518.6	6,878.5	56.8	190.2	159.70	1,063.8	-2,359.4	1,551.0	1,487.3	63.70	24.347		
6,102.3	5,381.0	13,519.9	6,878.5	56.8	190.2	159.70	1,063.8	-2,360.6	1,549.0	1,485.3	63.72	24.309		
6,200.0	5,460.9	13,573.1	6,878.5	58.1	191.7	159.79	1,063.5	-2,413.9	1,467.2	1,402.8	64.39	22.786		
6,200.8	5,461.6	13,573.5	6,878.5	58.1	191.7	159.79	1,063.4	-2,414.3	1,466.5	1,402.1	64.40	22.774		
6,299.2	5,542.2	13,627.2	6,878.5	59.4	193.2	159.88	1,063.1	-2,468.0	1,384.0	1,319.0	65.05	21.277		
6,300.0	5,542.9	13,627.6	6,878.5	59.4	193.2	159.88	1,063.1	-2,468.4	1,383.3	1,318.3	65.05	21.265		
6,397.6	5,622.8	13,680.9	6,878.5	60.7	194.7	159.98	1,062.8	-2,521.6	1,301.5	1,235.8	65.67	19.819		
6,400.0	5,624.8	13,682.2	6,878.5	60.7	194.7	159.98	1,062.8	-2,522.9	1,299.5	1,233.8	65.68	19.784		
6,496.0	5,703.5	13,734.5	6,878.5	62.0	196.2	160.10	1,062.5	-2,575.3	1,219.0	1,152.8	66.26	18.397		
6,500.0	5,706.7	13,736.7	6,878.5	62.1	196.3	160.10	1,062.5	-2,577.4	1,215.7	1,149.4	66.28	18.341		
6,594.5	5,784.1	13,788.2	6,878.5	63.3	197.7	160.23	1,062.2	-2,628.9	1,136.5	1,069.7	66.81	17.010		
6,600.0	5,788.6	13,791.2	6,878.5	63.4	197.8	160.24	1,062.2	-2,632.0	1,131.9	1,065.0	66.84	16.933		
6,692.9	5,864.7	13,841.8	6,878.5	64.6	199.2	160.39	1,061.9	-2,682.6	1,054.0	986.7	67.32	15.657		
6,700.0	5,870.5	13,845.7	6,878.5	64.7	199.3	160.40	1,061.9	-2,686.5	1,048.1	980.7	67.36	15.560		
6,791.3	5,945.3	13,895.5	6,878.5	65.9	200.7	160.57	1,061.6	-2,736.3	971.5	903.8	67.77	14.335		
6,800.0	5,952.4	13,900.2	6,878.5	66.0	200.8	160.58	1,061.5	-2,741.0	964.3	896.5	67.81	14.220		
6,889.7	6,026.0	13,949.2	6,878.5	67.2	202.2	160.78	1,061.3	-2,789.9	889.1	820.9	68.16	13.044		
6,900.0	6,034.4	13,954.8	6,878.5	67.4	202.4	160.81	1,061.2	-2,795.5	880.5	812.3	68.19	12.912		
6,988.2	6,106.6	14,002.8	6,878.5	68.5	203.7	161.04	1,060.9	-2,843.6	806.6	738.1	68.45	11.783		
7,000.0	6,116.3	14,009.3	6,878.5	68.7	203.9	161.07	1,060.9	-2,850.0	796.7	728.2	68.48	11.633		
7,086.6	6,187.2	14,056.5	6,878.5	69.8	205.2	161.36	1,060.6	-2,897.2	724.1	655.4	68.65	10.548		
7,100.0	6,198.2	14,063.8	6,878.5	70.0	205.4	161.41	1,060.6	-2,904.6	712.9	644.2	68.66	10.382		
7,185.0	6,267.8	14,110.2	6,878.5	71.1	206.7	161.76	1,060.3	-2,950.9	641.6	572.9	68.70	9.339		
7,200.0	6,280.1	14,118.3	6,878.5	71.3	207.0	161.82	1,060.3	-2,959.1	629.1	560.4	68.70	9.157		
7,283.4	6,348.5	14,163.8	6,878.5	72.4	208.2	162.27	1,060.0	-3,004.6	559.2	490.6	68.60	8.151		
7,300.0	6,362.0	14,172.8	6,878.5	72.7	208.5	162.37	1,059.9	-3,013.6	545.3	476.7	68.56	7.953		
7,381.9	6,429.1	14,217.5	6,878.5	73.7	209.7	162.96	1,059.7	-3,058.2	476.7	408.4	68.30	6.979		
7,400.0	6,443.9	14,227.4	6,878.5	74.0	210.0	163.12	1,059.6	-3,068.1	461.5	393.3	68.23	6.765		
7,424.0	6,463.6	14,240.5	6,878.5	74.3	210.4	163.34	1,059.6	-3,081.2	441.5	373.3	68.12	6.480		
7,450.0	6,484.5	14,255.1	6,878.5	74.7	210.8	164.69	1,059.5	-3,095.8	420.0	351.4	68.61	6.121		
7,480.3	6,508.1	14,273.2	6,878.5	75.1	211.3	166.18	1,059.4	-3,114.0	395.8	326.2	69.63	5.685		
7,500.0	6,522.8	14,285.7	6,878.5	75.4	211.6	167.13	1,059.3	-3,126.4	380.7	310.2	70.45	5.403		

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design													SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON D-15-16HN - Wellbore #1 - Design #1		Offset Site Error:		0.0 usft
Survey Program: 0-MWD													Offset Well Error:		0.0 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
7,550.0	6,558.1	14,319.3	6,878.5	76.3	212.6	169.53	1,059.1	-3,160.1	344.2	271.4	72.81	4.727					
7,578.7	6,576.9	14,340.0	6,878.5	76.8	213.2	170.95	1,059.0	-3,180.7	324.6	250.3	74.28	4.370					
7,600.0	6,590.1	14,355.8	6,878.5	77.2	213.6	172.04	1,058.9	-3,196.5	310.9	235.5	75.40	4.123					
7,622.2	6,603.3	14,372.8	6,878.5	77.7	214.1	173.22	1,058.8	-3,213.6	297.2	220.6	76.62	3.879					
7,677.1	6,634.9	14,415.5	6,878.5	78.8	215.3	176.02	1,058.5	-3,256.2	264.5	184.3	80.24	3.297					
7,700.0	6,648.1	14,433.2	6,878.5	79.3	215.8	177.38	1,058.4	-3,274.0	251.1	168.4	82.66	3.038					
7,775.6	6,691.6	14,492.0	6,878.5	80.9	217.4	-177.02	1,058.1	-3,332.7	207.6	111.2	96.37	2.154					
7,800.0	6,705.7	14,510.9	6,878.5	81.4	218.0	-174.74	1,058.0	-3,351.7	193.9	90.6	103.28	1.878					
7,874.0	6,748.3	14,568.4	6,878.5	82.9	219.6	-165.82	1,057.6	-3,409.2	154.5	19.9	134.68	1.147 Level 2					
7,875.4	6,749.1	14,569.5	6,878.5	82.9	219.6	-165.62	1,057.6	-3,410.2	153.9	18.4	135.43	1.136 Level 2					
7,900.0	6,762.9	14,589.0	6,878.5	83.4	220.1	-162.03	1,057.5	-3,429.7	142.1	-3.0	145.03	0.980 Level 1					
7,950.0	6,788.5	14,630.4	6,878.5	84.5	221.3	-153.86	1,057.3	-3,471.1	122.2	-47.5	169.72	0.720 Level 1					
7,972.4	6,798.9	14,649.7	6,878.5	85.0	221.8	-149.84	1,057.2	-3,490.4	115.1	-67.6	182.78	0.630 Level 1					
8,000.0	6,810.6	14,674.1	6,878.5	85.7	222.5	-144.66	1,057.0	-3,514.8	108.0	-91.9	199.91	0.540 Level 1					
8,050.0	6,829.2	14,719.7	6,878.5	86.9	223.8	-135.01	1,056.8	-3,560.4	99.3	-132.1	231.43	0.429 Level 1					
8,070.8	6,835.8	14,739.2	6,878.5	87.4	224.3	-131.08	1,056.6	-3,580.0	97.1	-146.6	243.69	0.398 Level 1					
8,100.0	6,844.0	14,766.9	6,878.5	88.1	225.1	-125.92	1,056.5	-3,607.7	95.1	-164.0	259.05	0.367 Level 1					
8,114.4	6,847.5	14,777.6	6,878.5	88.5	225.4	-124.08	1,056.4	-3,618.3	94.5	-169.7	264.27	0.358 Level 1, CC, ES, SF					
8,150.0	6,854.9	14,777.6	6,878.5	89.3	225.4	-123.10	1,056.4	-3,618.3	101.2	-165.6	266.80	0.379 Level 1					
8,169.3	6,858.1	14,777.6	6,878.5	89.8	225.4	-122.03	1,056.4	-3,618.3	109.7	-160.0	269.72	0.407 Level 1					
8,200.0	6,861.9	14,777.6	6,878.5	90.6	225.4	-119.54	1,056.4	-3,618.3	128.3	-148.1	276.40	0.464 Level 1					
8,250.0	6,864.9	14,777.6	6,878.5	91.8	225.4	-113.36	1,056.4	-3,618.3	166.7	-124.4	291.11	0.573 Level 1					
8,262.2	6,865.0	14,777.6	6,878.5	92.1	225.4	-111.45	1,056.4	-3,618.3	177.0	-118.0	295.02	0.600 Level 1					
8,267.7	6,865.0	14,777.6	6,878.5	92.2	225.4	-111.45	1,056.4	-3,618.3	181.6	-113.5	295.15	0.615 Level 1					
8,300.0	6,865.0	14,777.6	6,878.5	93.0	225.4	-111.45	1,056.4	-3,618.3	210.0	-85.9	295.91	0.710 Level 1					
8,366.1	6,865.0	14,777.6	6,878.5	94.7	225.4	-111.45	1,056.4	-3,618.3	270.9	-26.6	297.48	0.911 Level 1					
8,400.0	6,865.0	14,777.6	6,878.5	95.5	225.4	-111.45	1,056.4	-3,618.3	303.0	4.7	298.29	1.016 Level 2					
8,464.5	6,865.0	14,777.6	6,878.5	97.1	225.4	-111.45	1,056.4	-3,618.3	364.9	65.1	299.84	1.217 Level 2					
8,500.0	6,865.0	14,777.6	6,878.5	98.0	225.4	-111.45	1,056.4	-3,618.3	399.3	98.6	300.69	1.328 Level 3					
8,563.0	6,865.0	14,777.6	6,878.5	99.5	225.4	-111.45	1,056.4	-3,618.3	460.8	158.6	302.20	1.525					
8,600.0	6,865.0	14,777.6	6,878.5	100.5	225.4	-111.45	1,056.4	-3,618.3	497.1	194.0	303.10	1.640					
8,661.4	6,865.0	14,777.6	6,878.5	102.0	225.4	-111.45	1,056.4	-3,618.3	557.6	253.0	304.58	1.831					
8,700.0	6,865.0	14,777.6	6,878.5	103.0	225.4	-111.45	1,056.4	-3,618.3	595.6	290.1	305.52	1.950					
8,759.8	6,865.0	14,777.6	6,878.5	104.5	225.4	-111.45	1,056.4	-3,618.3	654.8	347.8	306.97	2.133					
8,800.0	6,865.0	14,777.6	6,878.5	105.5	225.4	-111.45	1,056.4	-3,618.3	694.6	386.7	307.95	2.256					
8,858.2	6,865.0	14,777.6	6,878.5	107.0	225.4	-111.45	1,056.4	-3,618.3	752.4	443.0	309.37	2.432					
8,900.0	6,865.0	14,777.6	6,878.5	108.0	225.4	-111.45	1,056.4	-3,618.3	793.8	483.4	310.39	2.557					
8,956.7	6,865.0	14,777.6	6,878.5	109.5	225.4	-111.45	1,056.4	-3,618.3	850.1	538.3	311.78	2.727					
9,000.0	6,865.0	14,777.6	6,878.5	110.6	225.4	-111.45	1,056.4	-3,618.3	893.2	580.4	312.84	2.855					
9,055.1	6,865.0	14,777.6	6,878.5	112.0	225.4	-111.45	1,056.4	-3,618.3	948.0	633.8	314.20	3.017					
9,100.0	6,865.0	14,777.6	6,878.5	113.2	225.4	-111.45	1,056.4	-3,618.3	992.7	677.4	315.30	3.148					
9,153.5	6,865.0	14,777.6	6,878.5	114.5	225.4	-111.45	1,056.4	-3,618.3	1,046.0	729.4	316.63	3.304					
9,200.0	6,865.0	14,777.6	6,878.5	115.7	225.4	-111.45	1,056.4	-3,618.3	1,092.3	774.5	317.77	3.437					
9,251.9	6,865.0	14,777.6	6,878.5	117.1	225.4	-111.45	1,056.4	-3,618.3	1,144.1	825.0	319.06	3.586					
9,300.0	6,865.0	14,777.6	6,878.5	118.3	225.4	-111.45	1,056.4	-3,618.3	1,192.0	871.7	320.25	3.722					
9,350.4	6,865.0	14,777.6	6,878.5	119.6	225.4	-111.45	1,056.4	-3,618.3	1,242.2	920.7	321.50	3.864					
9,400.0	6,865.0	14,777.6	6,878.5	120.9	225.4	-111.45	1,056.4	-3,618.3	1,291.7	969.0	322.73	4.002					
9,448.8	6,865.0	14,777.6	6,878.5	122.2	225.4	-111.45	1,056.4	-3,618.3	1,340.4	1,016.4	323.95	4.138					
9,500.0	6,865.0	14,777.6	6,878.5	123.5	225.4	-111.45	1,056.4	-3,618.3	1,391.5	1,066.2	325.22	4.278					
9,547.2	6,865.0	14,777.6	6,878.5	124.8	225.4	-111.45	1,056.4	-3,618.3	1,438.6	1,112.2	326.40	4.407					
9,600.0	6,865.0	14,777.6	6,878.5	126.1	225.4	-111.45	1,056.4	-3,618.3	1,491.3	1,163.5	327.72	4.550					
9,645.6	6,865.0	14,777.6	6,878.5	127.3	225.4	-111.45	1,056.4	-3,618.3	1,536.8	1,208.0	328.86	4.673					

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,700.0	6,865.0	14,777.6	6,878.5	128.8	225.4	-111.45	1,056.4	-3,618.3	1,591.1	1,260.8	330.22	4.818	
9,744.1	6,865.0	14,777.6	6,878.5	129.9	225.4	-111.45	1,056.4	-3,618.3	1,635.1	1,303.7	331.33	4.935	
9,800.0	6,865.0	14,777.6	6,878.5	131.4	225.4	-111.45	1,056.4	-3,618.3	1,690.9	1,358.2	332.73	5.082	
9,842.5	6,865.0	14,777.6	6,878.5	132.5	225.4	-111.45	1,056.4	-3,618.3	1,733.3	1,399.5	333.80	5.193	
9,900.0	6,865.0	14,777.6	6,878.5	134.0	225.4	-111.45	1,056.4	-3,618.3	1,790.8	1,455.5	335.24	5.342	
9,940.9	6,865.0	14,777.6	6,878.5	135.1	225.4	-111.45	1,056.4	-3,618.3	1,831.6	1,495.4	336.27	5.447	
10,000.0	6,865.0	14,777.6	6,878.5	136.7	225.4	-111.45	1,056.4	-3,618.3	1,890.6	1,552.9	337.76	5.598	
10,039.3	6,865.0	14,777.6	6,878.5	137.7	225.4	-111.45	1,056.4	-3,618.3	1,929.9	1,591.2	338.75	5.697	
10,100.0	6,865.0	14,777.6	6,878.5	139.3	225.4	-111.45	1,056.4	-3,618.3	1,990.5	1,650.2	340.28	5.850	
10,137.8	6,865.0	14,777.6	6,878.5	140.3	225.4	-111.45	1,056.4	-3,618.3	2,028.3	1,687.0	341.24	5.944	
10,200.0	6,865.0	14,777.6	6,878.5	142.0	225.4	-111.45	1,056.4	-3,618.3	2,090.4	1,747.6	342.81	6.098	
10,236.2	6,865.0	14,777.6	6,878.5	143.0	225.4	-111.45	1,056.4	-3,618.3	2,126.6	1,782.9	343.73	6.187	
10,300.0	6,865.0	14,777.6	6,878.5	144.7	225.4	-111.45	1,056.4	-3,618.3	2,190.3	1,845.0	345.34	6.342	
10,334.6	6,865.0	14,777.6	6,878.5	145.6	225.4	-111.45	1,056.4	-3,618.3	2,224.9	1,878.7	346.22	6.426	
10,400.0	6,865.0	14,777.6	6,878.5	147.3	225.4	-111.45	1,056.4	-3,618.3	2,290.2	1,942.4	347.88	6.583	
10,433.0	6,865.0	14,777.6	6,878.5	148.2	225.4	-111.45	1,056.4	-3,618.3	2,323.3	1,974.5	348.72	6.662	
10,500.0	6,865.0	14,777.6	6,878.5	150.0	225.4	-111.45	1,056.4	-3,618.3	2,390.2	2,039.7	350.42	6.821	
10,531.5	6,865.0	14,777.6	6,878.5	150.8	225.4	-111.45	1,056.4	-3,618.3	2,421.6	2,070.4	351.22	6.895	
10,600.0	6,865.0	14,777.6	6,878.5	152.7	225.4	-111.45	1,056.4	-3,618.3	2,490.1	2,137.1	352.96	7.055	
10,629.9	6,865.0	14,777.6	6,878.5	153.5	225.4	-111.45	1,056.4	-3,618.3	2,520.0	2,166.2	353.72	7.124	
10,700.0	6,865.0	14,777.6	6,878.5	155.4	225.4	-111.45	1,056.4	-3,618.3	2,590.0	2,234.5	355.50	7.285	
10,728.3	6,865.0	14,777.6	6,878.5	156.1	225.4	-111.45	1,056.4	-3,618.3	2,618.3	2,262.1	356.23	7.350	
10,800.0	6,865.0	14,777.6	6,878.5	158.1	225.4	-111.45	1,056.4	-3,618.3	2,690.0	2,331.9	358.05	7.513	
10,826.7	6,865.0	14,777.6	6,878.5	158.8	225.4	-111.45	1,056.4	-3,618.3	2,716.7	2,358.0	358.73	7.573	
10,900.0	6,865.0	14,777.6	6,878.5	160.8	225.4	-111.45	1,056.4	-3,618.3	2,789.9	2,429.3	360.60	7.737	
10,925.2	6,865.0	14,777.6	6,878.5	161.4	225.4	-111.45	1,056.4	-3,618.3	2,815.1	2,453.8	361.25	7.793	
11,000.0	6,865.0	14,777.6	6,878.5	163.4	225.4	-111.45	1,056.4	-3,618.3	2,889.8	2,526.7	363.16	7.958	
11,023.6	6,865.0	14,777.6	6,878.5	164.1	225.4	-111.45	1,056.4	-3,618.3	2,913.4	2,549.7	363.76	8.009	
11,100.0	6,865.0	14,777.6	6,878.5	166.1	225.4	-111.45	1,056.4	-3,618.3	2,989.8	2,624.1	365.71	8.175	
11,122.0	6,865.0	14,777.6	6,878.5	166.7	225.4	-111.45	1,056.4	-3,618.3	3,011.8	2,645.5	366.28	8.223	
11,200.0	6,865.0	14,777.6	6,878.5	168.9	225.4	-111.45	1,056.4	-3,618.3	3,089.8	2,721.5	368.27	8.390	
11,220.4	6,865.0	14,777.6	6,878.5	169.4	225.4	-111.45	1,056.4	-3,618.3	3,110.2	2,741.4	368.80	8.433	
11,300.0	6,865.0	14,777.6	6,878.5	171.6	225.4	-111.45	1,056.4	-3,618.3	3,189.7	2,818.9	370.84	8.601	
11,318.9	6,865.0	14,777.6	6,878.5	172.1	225.4	-111.45	1,056.4	-3,618.3	3,208.6	2,837.3	371.32	8.641	
11,400.0	6,865.0	14,777.6	6,878.5	174.3	225.4	-111.45	1,056.4	-3,618.3	3,289.7	2,916.3	373.40	8.810	
11,417.3	6,865.0	14,777.6	6,878.5	174.7	225.4	-111.45	1,056.4	-3,618.3	3,307.0	2,933.1	373.84	8.846	
11,500.0	6,865.0	14,777.6	6,878.5	177.0	225.4	-111.45	1,056.4	-3,618.3	3,389.6	3,013.7	375.97	9.016	
11,515.7	6,865.0	14,777.6	6,878.5	177.4	225.4	-111.45	1,056.4	-3,618.3	3,405.3	3,029.0	376.37	9.048	
11,600.0	6,865.0	14,777.6	6,878.5	179.7	225.4	-111.45	1,056.4	-3,618.3	3,489.6	3,111.1	378.53	9.219	
11,614.1	6,865.0	14,777.6	6,878.5	180.1	225.4	-111.45	1,056.4	-3,618.3	3,503.7	3,124.8	378.90	9.247	
11,700.0	6,865.0	14,777.6	6,878.5	182.4	225.4	-111.45	1,056.4	-3,618.3	3,589.6	3,208.5	381.10	9.419	
11,712.6	6,865.0	14,777.6	6,878.5	182.8	225.4	-111.45	1,056.4	-3,618.3	3,602.1	3,220.7	381.43	9.444	
11,800.0	6,865.0	14,777.6	6,878.5	185.1	225.4	-111.45	1,056.4	-3,618.3	3,689.5	3,305.8	383.68	9.616	
11,811.0	6,865.0	14,777.6	6,878.5	185.4	225.4	-111.45	1,056.4	-3,618.3	3,700.5	3,316.6	383.96	9.638	
11,900.0	6,865.0	14,777.6	6,878.5	187.9	225.4	-111.45	1,056.4	-3,618.3	3,789.5	3,403.2	386.25	9.811	
11,909.4	6,865.0	14,777.6	6,878.5	188.1	225.4	-111.45	1,056.4	-3,618.3	3,798.9	3,412.4	386.49	9.829	
12,000.0	6,865.0	14,777.6	6,878.5	190.6	225.4	-111.45	1,056.4	-3,618.3	3,889.5	3,500.6	388.83	10.003	
12,007.8	6,865.0	14,777.6	6,878.5	190.8	225.4	-111.45	1,056.4	-3,618.3	3,897.3	3,508.3	389.03	10.018	
12,100.0	6,865.0	14,777.6	6,878.5	193.3	225.4	-111.45	1,056.4	-3,618.3	3,989.4	3,598.0	391.40	10.193	
12,106.3	6,865.0	14,777.6	6,878.5	193.5	225.4	-111.45	1,056.4	-3,618.3	3,995.7	3,604.1	391.56	10.204	
12,200.0	6,865.0	14,777.6	6,878.5	196.1	225.4	-111.45	1,056.4	-3,618.3	4,089.4	3,695.4	393.98	10.380	
12,204.7	6,865.0	14,777.6	6,878.5	196.2	225.4	-111.45	1,056.4	-3,618.3	4,094.1	3,700.0	394.10	10.388	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,300.0	6,865.0	14,777.6	6,878.5	198.8	225.4	-111.45	1,056.4	-3,618.3	4,189.4	3,792.8	396.56	10.564	
12,303.1	6,865.0	14,777.6	6,878.5	198.9	225.4	-111.45	1,056.4	-3,618.3	4,192.5	3,795.9	396.64	10.570	
12,400.0	6,865.0	14,777.6	6,878.5	201.5	225.4	-111.45	1,056.4	-3,618.3	4,289.4	3,890.2	399.14	10.746	
12,401.5	6,865.0	14,777.6	6,878.5	201.6	225.4	-111.45	1,056.4	-3,618.3	4,290.9	3,891.7	399.18	10.749	
12,500.0	6,865.0	14,777.6	6,878.5	204.3	225.4	-111.45	1,056.4	-3,618.3	4,389.3	3,987.6	401.73	10.926	
12,598.4	6,865.0	14,777.6	6,878.5	207.0	225.4	-111.45	1,056.4	-3,618.3	4,487.7	4,083.4	404.27	11.101	
12,600.0	6,865.0	14,777.6	6,878.5	207.0	225.4	-111.45	1,056.4	-3,618.3	4,489.3	4,085.0	404.31	11.104	
12,696.8	6,865.0	14,777.6	6,878.5	209.7	225.4	-111.45	1,056.4	-3,618.3	4,586.1	4,179.3	406.81	11.273	
12,700.0	6,865.0	14,777.6	6,878.5	209.8	225.4	-111.45	1,056.4	-3,618.3	4,589.3	4,182.4	406.90	11.279	
12,795.2	6,865.0	14,777.6	6,878.5	212.4	225.4	-111.45	1,056.4	-3,618.3	4,684.5	4,275.2	409.36	11.443	
12,800.0	6,865.0	14,777.6	6,878.5	212.5	225.4	-111.45	1,056.4	-3,618.3	4,689.3	4,279.8	409.48	11.452	
12,893.7	6,865.0	14,777.6	6,878.5	215.1	225.4	-111.45	1,056.4	-3,618.3	4,782.9	4,371.0	411.91	11.612	
12,900.0	6,865.0	14,777.6	6,878.5	215.3	225.4	-111.45	1,056.4	-3,618.3	4,789.3	4,377.2	412.07	11.622	
12,992.1	6,865.0	14,777.6	6,878.5	217.8	225.4	-111.45	1,056.4	-3,618.3	4,881.3	4,466.9	414.46	11.778	
13,000.0	6,865.0	14,777.6	6,878.5	218.0	225.4	-111.45	1,056.4	-3,618.3	4,889.2	4,474.6	414.66	11.791	
13,090.5	6,865.0	14,777.6	6,878.5	220.5	225.4	-111.45	1,056.4	-3,618.3	4,979.7	4,562.7	417.01	11.942	
13,100.0	6,865.0	14,777.6	6,878.5	220.8	225.4	-111.45	1,056.4	-3,618.3	4,989.2	4,572.0	417.25	11.957	
13,188.9	6,865.0	14,777.6	6,878.5	223.2	225.4	-111.45	1,056.4	-3,618.3	5,078.2	4,658.6	419.56	12.104	
13,200.0	6,865.0	14,777.6	6,878.5	223.5	225.4	-111.45	1,056.4	-3,618.3	5,089.2	4,669.4	419.84	12.122	
13,287.4	6,865.0	14,777.6	6,878.5	225.9	225.4	-111.45	1,056.4	-3,618.3	5,176.6	4,754.5	422.11	12.264	
13,300.0	6,865.0	14,777.6	6,878.5	226.3	225.4	-111.45	1,056.4	-3,618.3	5,189.2	4,766.7	422.44	12.284	
13,385.8	6,865.0	14,777.6	6,878.5	228.6	225.4	-111.45	1,056.4	-3,618.3	5,275.0	4,850.3	424.66	12.422	
13,400.0	6,865.0	14,777.6	6,878.5	229.0	225.4	-111.45	1,056.4	-3,618.3	5,289.2	4,864.1	425.03	12.444	
13,484.2	6,865.0	14,777.6	6,878.5	231.3	225.4	-111.45	1,056.4	-3,618.3	5,373.4	4,946.2	427.22	12.578	
13,500.0	6,865.0	14,777.6	6,878.5	231.8	225.4	-111.45	1,056.4	-3,618.3	5,389.2	4,961.5	427.62	12.603	
13,582.6	6,865.0	14,777.6	6,878.5	234.0	225.4	-111.45	1,056.4	-3,618.3	5,471.8	5,042.0	429.77	12.732	
13,600.0	6,865.0	14,777.6	6,878.5	234.5	225.4	-111.45	1,056.4	-3,618.3	5,489.1	5,058.9	430.22	12.759	
13,681.1	6,865.0	14,777.6	6,878.5	236.8	225.4	-111.45	1,056.4	-3,618.3	5,570.2	5,137.9	432.33	12.884	
13,700.0	6,865.0	14,777.6	6,878.5	237.3	225.4	-111.45	1,056.4	-3,618.3	5,589.1	5,156.3	432.82	12.913	
13,779.5	6,865.0	14,777.6	6,878.5	239.5	225.4	-111.45	1,056.4	-3,618.3	5,668.6	5,233.7	434.88	13.035	
13,800.0	6,865.0	14,777.6	6,878.5	240.0	225.4	-111.45	1,056.4	-3,618.3	5,689.1	5,253.7	435.41	13.066	
13,877.9	6,865.0	14,777.6	6,878.5	242.2	225.4	-111.45	1,056.4	-3,618.3	5,767.0	5,329.6	437.44	13.184	
13,900.0	6,865.0	14,777.6	6,878.5	242.8	225.4	-111.45	1,056.4	-3,618.3	5,789.1	5,351.1	438.01	13.217	
13,976.3	6,865.0	14,777.6	6,878.5	244.9	225.4	-111.45	1,056.4	-3,618.3	5,865.4	5,425.4	440.00	13.331	
14,000.0	6,865.0	14,777.6	6,878.5	245.6	225.4	-111.45	1,056.4	-3,618.3	5,889.1	5,448.5	440.61	13.366	
14,074.8	6,865.0	14,777.6	6,878.5	247.6	225.4	-111.45	1,056.4	-3,618.3	5,963.9	5,521.3	442.55	13.476	
14,100.0	6,865.0	14,777.6	6,878.5	248.3	225.4	-111.45	1,056.4	-3,618.3	5,989.1	5,545.9	443.21	13.513	
14,173.2	6,865.0	14,777.6	6,878.5	250.4	225.4	-111.45	1,056.4	-3,618.3	6,062.3	5,617.2	445.11	13.620	
14,200.0	6,865.0	14,777.6	6,878.5	251.1	225.4	-111.45	1,056.4	-3,618.3	6,089.1	5,643.3	445.81	13.658	
14,271.6	6,865.0	14,777.6	6,878.5	253.1	225.4	-111.45	1,056.4	-3,618.3	6,160.7	5,713.0	447.67	13.762	
14,300.0	6,865.0	14,777.6	6,878.5	253.9	225.4	-111.45	1,056.4	-3,618.3	6,189.0	5,740.6	448.41	13.802	
14,370.0	6,865.0	14,777.6	6,878.5	255.8	225.4	-111.45	1,056.4	-3,618.3	6,259.1	5,808.9	450.23	13.902	
14,400.0	6,865.0	14,777.6	6,878.5	256.6	225.4	-111.45	1,056.4	-3,618.3	6,289.0	5,838.0	451.01	13.944	
14,468.5	6,865.0	14,777.6	6,878.5	258.5	225.4	-111.45	1,056.4	-3,618.3	6,357.5	5,904.7	452.80	14.041	
14,500.0	6,865.0	14,777.6	6,878.5	259.4	225.4	-111.45	1,056.4	-3,618.3	6,389.0	5,935.4	453.62	14.085	
14,566.9	6,865.0	14,777.6	6,878.5	261.2	225.4	-111.45	1,056.4	-3,618.3	6,455.9	6,000.6	455.36	14.178	
14,600.0	6,865.0	14,777.6	6,878.5	262.2	225.4	-111.45	1,056.4	-3,618.3	6,489.0	6,032.8	456.22	14.223	
14,665.3	6,865.0	14,777.6	6,878.5	264.0	225.4	-111.45	1,056.4	-3,618.3	6,554.3	6,096.4	457.92	14.313	
14,700.0	6,865.0	14,777.6	6,878.5	264.9	225.4	-111.45	1,056.4	-3,618.3	6,589.0	6,130.2	458.82	14.361	
14,763.7	6,865.0	14,777.6	6,878.5	266.7	225.4	-111.45	1,056.4	-3,618.3	6,652.8	6,192.3	460.48	14.447	
14,800.0	6,865.0	14,777.6	6,878.5	267.7	225.4	-111.45	1,056.4	-3,618.3	6,689.0	6,227.6	461.43	14.496	
14,862.2	6,865.0	14,777.6	6,878.5	269.4	225.4	-111.45	1,056.4	-3,618.3	6,751.2	6,288.1	463.05	14.580	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,900.0	6,865.0	14,777.6	6,878.5	270.5	225.4	-111.45	1,056.4	-3,618.3	6,789.0	6,325.0	464.03	14.630		
14,960.6	6,865.0	14,777.6	6,878.5	272.2	225.4	-111.45	1,056.4	-3,618.3	6,849.6	6,384.0	465.61	14.711		
15,000.0	6,865.0	14,777.6	6,878.5	273.2	225.4	-111.45	1,056.4	-3,618.3	6,889.0	6,422.3	466.64	14.763		
15,059.0	6,865.0	14,777.6	6,878.5	274.9	225.4	-111.45	1,056.4	-3,618.3	6,948.0	6,479.8	468.18	14.841		
15,100.0	6,865.0	14,777.6	6,878.5	276.0	225.4	-111.45	1,056.4	-3,618.3	6,989.0	6,519.7	469.24	14.894		
15,157.4	6,865.0	14,777.6	6,878.5	277.6	225.4	-111.45	1,056.4	-3,618.3	7,046.4	6,575.7	470.74	14.969		
15,200.0	6,865.0	14,777.6	6,878.5	278.8	225.4	-111.45	1,056.4	-3,618.3	7,089.0	6,617.1	471.85	15.024		
15,255.9	6,865.0	14,777.6	6,878.5	280.3	225.4	-111.45	1,056.4	-3,618.3	7,144.8	6,671.5	473.31	15.096		
15,300.0	6,865.0	14,777.6	6,878.5	281.6	225.4	-111.45	1,056.4	-3,618.3	7,189.0	6,714.5	474.46	15.152		
15,354.3	6,865.0	14,777.6	6,878.5	283.1	225.4	-111.45	1,056.4	-3,618.3	7,243.2	6,767.4	475.87	15.221		
15,400.0	6,865.0	14,777.6	6,878.5	284.3	225.4	-111.45	1,056.4	-3,618.3	7,288.9	6,811.9	477.06	15.279		
15,452.7	6,865.0	14,777.6	6,878.5	285.8	225.4	-111.45	1,056.4	-3,618.3	7,341.7	6,863.2	478.44	15.345		
15,500.0	6,865.0	14,777.6	6,878.5	287.1	225.4	-111.45	1,056.4	-3,618.3	7,388.9	6,909.3	479.67	15.404		
15,551.1	6,865.0	14,777.6	6,878.5	288.5	225.4	-111.45	1,056.4	-3,618.3	7,440.1	6,959.1	481.01	15.468		
15,600.0	6,865.0	14,777.6	6,878.5	289.9	225.4	-111.45	1,056.4	-3,618.3	7,488.9	7,006.6	482.28	15.528		
15,649.6	6,865.0	14,777.6	6,878.5	291.3	225.4	-111.45	1,056.4	-3,618.3	7,538.5	7,054.9	483.57	15.589		
15,700.0	6,865.0	14,777.6	6,878.5	292.7	225.4	-111.45	1,056.4	-3,618.3	7,588.9	7,104.0	484.89	15.651		
15,748.0	6,865.0	14,777.6	6,878.5	294.0	225.4	-111.45	1,056.4	-3,618.3	7,636.9	7,150.8	486.14	15.709		
15,800.0	6,865.0	14,777.6	6,878.5	295.4	225.4	-111.45	1,056.4	-3,618.3	7,688.9	7,201.4	487.50	15.772		
15,846.4	6,865.0	14,777.6	6,878.5	296.7	225.4	-111.45	1,056.4	-3,618.3	7,735.3	7,246.6	488.71	15.828		
15,900.0	6,865.0	14,777.6	6,878.5	298.2	225.4	-111.45	1,056.4	-3,618.3	7,788.9	7,298.8	490.11	15.892		
15,944.8	6,865.0	14,777.6	6,878.5	299.5	225.4	-111.45	1,056.4	-3,618.3	7,833.8	7,342.5	491.28	15.946		
16,000.0	6,865.0	14,777.6	6,878.5	301.0	225.4	-111.45	1,056.4	-3,618.3	7,888.9	7,396.2	492.72	16.011		
16,043.3	6,865.0	14,777.6	6,878.5	302.2	225.4	-111.45	1,056.4	-3,618.3	7,932.2	7,438.3	493.85	16.062		
16,100.0	6,865.0	14,777.6	6,878.5	303.8	225.4	-111.45	1,056.4	-3,618.3	7,988.9	7,493.6	495.33	16.128		
16,141.7	6,865.0	14,777.6	6,878.5	304.9	225.4	-111.45	1,056.4	-3,618.3	8,030.6	7,534.2	496.42	16.177		
16,200.0	6,865.0	14,777.6	6,878.5	306.6	225.4	-111.45	1,056.4	-3,618.3	8,088.9	7,590.9	497.94	16.245		
16,240.1	6,865.0	14,777.6	6,878.5	307.7	225.4	-111.45	1,056.4	-3,618.3	8,129.0	7,630.0	498.99	16.291		
16,300.0	6,865.0	14,777.6	6,878.5	309.3	225.4	-111.45	1,056.4	-3,618.3	8,188.9	7,688.3	500.55	16.360		
16,338.5	6,865.0	14,777.6	6,878.5	310.4	225.4	-111.45	1,056.4	-3,618.3	8,227.4	7,725.9	501.56	16.404		
16,400.0	6,865.0	14,777.6	6,878.5	312.1	225.4	-111.45	1,056.4	-3,618.3	8,288.9	7,785.7	503.16	16.473		
16,437.0	6,865.0	14,777.6	6,878.5	313.2	225.4	-111.45	1,056.4	-3,618.3	8,325.8	7,821.7	504.13	16.515		
16,500.0	6,865.0	14,777.6	6,878.5	314.9	225.4	-111.45	1,056.4	-3,618.3	8,388.9	7,883.1	505.78	16.586		
16,535.4	6,865.0	14,777.6	6,878.5	315.9	225.4	-111.45	1,056.4	-3,618.3	8,424.3	7,917.6	506.70	16.626		
16,600.0	6,865.0	14,777.6	6,878.5	317.7	225.4	-111.45	1,056.4	-3,618.3	8,488.9	7,980.5	508.39	16.698		
16,633.8	6,865.0	14,777.6	6,878.5	318.6	225.4	-111.45	1,056.4	-3,618.3	8,522.7	8,013.4	509.27	16.735		
16,700.0	6,865.0	14,777.6	6,878.5	320.5	225.4	-111.45	1,056.4	-3,618.3	8,588.9	8,077.9	511.00	16.808		
16,732.2	6,865.0	14,777.6	6,878.5	321.4	225.4	-111.45	1,056.4	-3,618.3	8,621.1	8,109.3	511.85	16.843		
16,800.0	6,865.0	14,777.6	6,878.5	323.3	225.4	-111.45	1,056.4	-3,618.3	8,688.8	8,175.2	513.62	16.917		
16,830.7	6,865.0	14,777.6	6,878.5	324.1	225.4	-111.45	1,056.4	-3,618.3	8,719.5	8,205.1	514.42	16.950		
16,900.0	6,865.0	14,777.6	6,878.5	326.0	225.4	-111.45	1,056.4	-3,618.3	8,788.8	8,272.6	516.23	17.025		
16,929.1	6,865.0	14,777.6	6,878.5	326.9	225.4	-111.45	1,056.4	-3,618.3	8,817.9	8,301.0	516.99	17.056		
17,000.0	6,865.0	14,777.6	6,878.5	328.8	225.4	-111.45	1,056.4	-3,618.3	8,888.8	8,370.0	518.84	17.132		
17,027.5	6,865.0	14,777.6	6,878.5	329.6	225.4	-111.45	1,056.4	-3,618.3	8,916.4	8,396.8	519.56	17.161		
17,100.0	6,865.0	14,777.6	6,878.5	331.6	225.4	-111.45	1,056.4	-3,618.3	8,988.8	8,467.4	521.46	17.238		
17,125.9	6,865.0	14,777.6	6,878.5	332.3	225.4	-111.45	1,056.4	-3,618.3	9,014.8	8,492.6	522.14	17.265		
17,200.0	6,865.0	14,777.6	6,878.5	334.4	225.4	-111.45	1,056.4	-3,618.3	9,088.8	8,564.8	524.07	17.343		
17,224.4	6,865.0	14,777.6	6,878.5	335.1	225.4	-111.45	1,056.4	-3,618.3	9,113.2	8,588.5	524.71	17.368		
17,300.0	6,865.0	14,777.6	6,878.5	337.2	225.4	-111.45	1,056.4	-3,618.3	9,188.8	8,662.1	526.69	17.446		
17,322.8	6,865.0	14,777.6	6,878.5	337.8	225.4	-111.45	1,056.4	-3,618.3	9,211.6	8,684.3	527.28	17.470		
17,400.0	6,865.0	14,777.6	6,878.5	340.0	225.4	-111.45	1,056.4	-3,618.3	9,288.8	8,759.5	529.30	17.549		
17,421.2	6,865.0	14,777.6	6,878.5	340.6	225.4	-111.45	1,056.4	-3,618.3	9,310.0	8,780.2	529.86	17.571		

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON D-15-16HN - Wellbore #1 - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,500.0	6,865.0	14,777.6	6,878.5	342.8	225.4	-111.45	1,056.4	-3,618.3	9,388.8	8,856.9	531.92	17.651	
17,519.6	6,865.0	14,777.6	6,878.5	343.3	225.4	-111.45	1,056.4	-3,618.3	9,408.5	8,876.0	532.43	17.671	
17,600.0	6,865.0	14,777.6	6,878.5	345.5	225.4	-111.45	1,056.4	-3,618.3	9,488.8	8,954.3	534.53	17.752	
17,618.1	6,865.0	14,777.6	6,878.5	346.0	225.4	-111.45	1,056.4	-3,618.3	9,506.9	8,971.9	535.01	17.770	
17,700.0	6,865.0	14,777.6	6,878.5	348.3	225.4	-111.45	1,056.4	-3,618.3	9,588.8	9,051.7	537.15	17.851	
17,716.5	6,865.0	14,777.6	6,878.5	348.8	225.4	-111.45	1,056.4	-3,618.3	9,605.3	9,067.7	537.58	17.868	
17,800.0	6,865.0	14,777.6	6,878.5	351.1	225.4	-111.45	1,056.4	-3,618.3	9,688.8	9,149.0	539.77	17.950	
17,814.9	6,865.0	14,777.6	6,878.5	351.5	225.4	-111.45	1,056.4	-3,618.3	9,703.7	9,163.6	540.16	17.965	
17,900.0	6,865.0	14,777.6	6,878.5	353.9	225.4	-111.45	1,056.4	-3,618.3	9,788.8	9,246.4	542.38	18.048	
17,913.3	6,865.0	14,777.6	6,878.5	354.3	225.4	-111.45	1,056.4	-3,618.3	9,802.1	9,259.4	542.73	18.061	
18,000.0	6,865.0	14,777.6	6,878.5	356.7	225.4	-111.45	1,056.4	-3,618.3	9,888.8	9,343.8	545.00	18.145	
18,011.8	6,865.0	14,777.6	6,878.5	357.0	225.4	-111.45	1,056.4	-3,618.3	9,900.6	9,355.3	545.31	18.156	
18,100.0	6,865.0	14,777.6	6,878.5	359.5	225.4	-111.45	1,056.4	-3,618.3	9,988.8	9,441.2	547.62	18.240	
18,110.2	6,865.0	14,777.6	6,878.5	359.8	225.4	-111.45	1,056.4	-3,618.3	9,999.0	9,451.1	547.88	18.250	

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-145.98	-62.3	-42.1	77.3					
98.4	98.4	80.5	80.5	0.1	0.0	-146.15	-62.4	-41.9	75.1	75.0	0.14	535.262		
100.0	100.0	82.0	82.0	0.1	0.0	-146.16	-62.4	-41.8	75.1	75.0	0.14	525.137		
196.8	196.8	178.9	178.9	0.3	0.2	-146.67	-62.7	-41.3	75.1	74.6	0.50	150.474		
200.0	200.0	182.0	182.0	0.3	0.2	-146.69	-62.8	-41.2	75.1	74.6	0.51	146.889		
214.9	214.9	196.9	196.9	0.4	0.2	-146.77	-62.8	-41.1	75.1	74.5	0.57	132.007 CC		
295.3	295.3	277.1	277.1	0.5	0.3	-147.13	-63.2	-40.8	75.2	74.4	0.81	92.562		
300.0	300.0	281.8	281.8	0.5	0.3	-147.14	-63.2	-40.8	75.2	74.4	0.83	90.992		
393.7	393.7	375.2	375.2	0.8	0.3	-147.34	-63.7	-40.8	75.7	74.6	1.10	68.960		
400.0	400.0	381.5	381.5	0.8	0.4	-147.34	-63.7	-40.8	75.7	74.6	1.12	67.882		
492.1	492.1	473.6	473.6	1.0	0.4	-147.38	-64.3	-41.2	76.4	75.0	1.37	55.571		
500.0	500.0	481.5	481.5	1.0	0.4	-147.37	-64.4	-41.2	76.4	75.0	1.40	54.734		
590.5	590.5	572.0	572.0	1.2	0.5	-147.31	-64.8	-41.6	77.1	75.4	1.64	46.864		
600.0	600.0	581.5	581.5	1.2	0.5	-147.30	-64.9	-41.7	77.1	75.4	1.67	46.180		
689.0	689.0	670.4	670.4	1.4	0.5	-147.18	-65.3	-42.1	77.7	75.8	1.91	40.699		
700.0	700.0	681.4	681.4	1.4	0.5	-147.17	-65.4	-42.2	77.8	75.9	1.94	40.121		
787.4	787.4	768.8	768.8	1.6	0.6	-147.08	-65.9	-42.7	78.5	76.3	2.17	36.133		
800.0	800.0	781.4	781.4	1.7	0.6	-147.06	-66.0	-42.7	78.6	76.4	2.21	35.629		
885.8	885.8	867.3	867.3	1.9	0.6	-146.91	-66.4	-43.3	79.2	76.8	2.43	32.571		
900.0	900.0	881.5	881.5	1.9	0.6	-146.88	-66.4	-43.3	79.3	76.9	2.47	32.116		
984.2	984.2	965.8	965.8	2.1	0.6	-75.28	-66.7	-43.9	79.5	76.8	2.72	29.234		
1,000.0	1,000.0	981.6	981.5	2.1	0.7	-75.58	-66.7	-44.0	79.5	76.7	2.76	28.789		
1,082.7	1,082.6	1,064.2	1,064.2	2.3	0.7	-78.07	-66.8	-44.7	78.9	76.0	2.97	26.588		
1,100.0	1,099.8	1,081.5	1,081.5	2.3	0.7	-78.79	-66.8	-44.8	78.8	75.8	3.01	26.151		
1,181.1	1,180.6	1,162.5	1,162.5	2.5	0.7	-83.16	-66.7	-45.6	78.0	74.8	3.22	24.190		
1,200.0	1,199.5	1,181.3	1,181.3	2.6	0.7	-84.42	-66.7	-45.8	77.8	74.5	3.27	23.776		
1,279.5	1,278.4	1,260.6	1,260.6	2.7	0.8	-90.65	-66.3	-46.7	77.4	73.9	3.49	22.172		
1,282.6	1,281.5	1,263.7	1,263.6	2.8	0.8	-90.92	-66.3	-46.7	77.4	73.9	3.50	22.119		
1,300.0	1,298.7	1,281.0	1,280.9	2.8	0.8	-92.50	-66.2	-46.9	77.5	73.9	3.55	21.829 ES		
1,377.9	1,375.7	1,358.7	1,358.7	3.0	0.8	-100.42	-65.5	-47.8	78.3	74.5	3.78	20.704		
1,400.0	1,397.5	1,380.7	1,380.6	3.1	0.8	-102.88	-65.2	-48.1	78.7	74.9	3.84	20.481		
1,476.4	1,472.5	1,456.4	1,456.4	3.3	0.8	-112.01	-63.7	-48.8	81.6	77.5	4.09	19.957		
1,500.0	1,495.6	1,479.8	1,479.7	3.4	0.8	-114.99	-63.2	-48.9	83.0	78.8	4.16	19.939 SF		
1,574.8	1,568.6	1,552.9	1,552.8	3.7	0.8	-124.43	-61.2	-49.0	89.4	84.9	4.42	20.232		
1,607.2	1,600.0	1,584.4	1,584.2	3.8	0.8	-128.38	-60.4	-49.0	93.2	88.7	4.52	20.628		
1,672.2	1,663.0	1,647.5	1,647.3	4.1	0.8	-135.71	-58.7	-48.7	102.5	97.8	4.72	21.705		
1,673.2	1,664.1	1,648.5	1,648.4	4.1	0.8	-135.82	-58.6	-48.7	102.7	98.0	4.73	21.724		
1,700.0	1,690.0	1,674.5	1,674.3	4.2	0.9	-138.48	-57.9	-48.6	107.1	102.3	4.81	22.247		
1,771.6	1,759.1	1,743.3	1,743.1	4.5	0.9	-144.97	-55.8	-48.0	120.9	115.8	5.04	23.959		
1,800.0	1,786.3	1,770.3	1,770.1	4.7	0.9	-147.26	-55.0	-47.7	127.1	122.0	5.13	24.786		
1,870.1	1,853.1	1,836.5	1,836.3	5.0	0.9	-152.26	-53.1	-46.8	144.7	139.3	5.35	27.021		
1,900.0	1,881.5	1,864.6	1,864.3	5.2	0.9	-154.13	-52.3	-46.3	153.0	147.6	5.44	28.100		
1,968.5	1,946.1	1,928.3	1,928.0	5.6	0.9	-157.89	-50.7	-45.0	173.8	168.2	5.66	30.693		
2,000.0	1,975.7	1,957.4	1,957.1	5.8	0.9	-159.41	-49.9	-44.3	184.2	178.4	5.76	31.969		
2,066.9	2,038.0	2,018.5	2,018.2	6.3	0.9	-162.26	-48.1	-42.7	207.7	201.8	5.98	34.746		
2,100.0	2,068.6	2,048.1	2,047.7	6.5	0.9	-163.48	-47.3	-41.8	220.2	214.1	6.08	36.187		
2,165.3	2,128.6	2,106.0	2,105.6	7.0	0.9	-165.56	-46.0	-39.8	246.3	240.0	6.31	39.061		
2,200.0	2,160.1	2,136.7	2,136.3	7.3	0.9	-166.52	-45.3	-38.7	260.9	254.5	6.42	40.635		
2,263.8	2,217.8	2,192.6	2,192.1	7.8	1.0	-168.05	-44.3	-36.5	289.1	282.4	6.64	43.505		
2,300.0	2,250.2	2,224.2	2,223.6	8.1	1.0	-168.81	-43.8	-35.3	305.8	299.0	6.77	45.173		
2,362.2	2,305.5	2,278.0	2,277.4	8.7	1.0	-169.95	-43.0	-33.1	335.5	328.5	6.99	47.983		
2,400.0	2,338.8	2,310.3	2,309.7	9.0	1.0	-170.55	-42.6	-31.8	354.3	347.2	7.13	49.707		

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,460.6	2,391.6	2,361.0	2,360.4	9.6	1.0	-171.39	-42.1	-29.7	385.4	378.1	7.35	52.402	
2,500.0	2,425.6	2,393.6	2,392.9	10.0	1.0	-171.87	-41.8	-28.3	406.3	398.8	7.50	54.168	
2,559.0	2,476.1	2,442.5	2,441.8	10.7	1.0	-172.51	-41.5	-26.2	438.6	430.9	7.73	56.740	
2,600.0	2,510.7	2,476.1	2,475.3	11.1	1.0	-172.92	-41.2	-24.7	461.7	453.8	7.89	58.529	
2,657.5	2,558.8	2,522.8	2,522.0	11.8	1.0	-173.44	-40.9	-22.6	494.8	486.7	8.12	60.959	
2,700.0	2,593.9	2,557.2	2,556.3	12.3	1.0	-173.78	-40.6	-21.1	520.0	511.7	8.29	62.762	
2,715.0	2,606.2	2,569.2	2,568.3	12.5	1.0	-173.90	-40.5	-20.6	529.0	520.7	8.35	63.385	
2,755.9	2,639.7	2,601.9	2,601.0	13.0	1.0	-174.26	-40.3	-19.2	553.6	545.1	8.52	65.010	
2,800.0	2,675.8	2,636.4	2,635.5	13.6	1.1	-174.62	-40.0	-17.6	580.2	571.5	8.70	66.686	
2,854.3	2,720.3	2,678.8	2,677.9	14.2	1.1	-175.00	-39.6	-15.7	613.0	604.1	8.93	68.630	
2,900.0	2,757.7	2,715.0	2,714.0	14.8	1.1	-175.30	-39.4	-14.0	640.6	631.5	9.13	70.193	
2,952.7	2,801.0	2,757.7	2,756.7	15.5	1.1	-175.62	-39.1	-12.1	672.5	663.2	9.36	71.884	
3,000.0	2,839.7	2,796.1	2,795.0	16.1	1.1	-175.89	-38.8	-10.4	701.0	691.5	9.56	73.326	
3,051.2	2,881.6	2,837.9	2,836.8	16.7	1.1	-176.15	-38.4	-8.6	731.9	722.1	9.78	74.800	
3,100.0	2,921.6	2,878.0	2,876.8	17.4	1.1	-176.38	-38.1	-6.9	761.3	751.3	10.00	76.139	
3,149.6	2,962.2	2,918.0	2,916.8	18.0	1.1	-176.60	-37.7	-5.3	791.1	780.9	10.22	77.412	
3,200.0	3,003.5	2,957.9	2,956.7	18.7	1.1	-176.79	-37.4	-3.7	821.4	810.9	10.44	78.643	
3,248.0	3,042.8	2,995.9	2,994.7	19.3	1.1	-176.95	-37.2	-2.2	850.3	839.6	10.66	79.752	
3,300.0	3,085.4	3,039.6	3,038.3	19.9	1.2	-177.13	-37.0	-0.5	881.5	870.6	10.90	80.895	
3,346.4	3,123.5	3,079.0	3,077.7	20.5	1.2	-177.27	-36.7	0.9	909.3	898.2	11.11	81.854	
3,400.0	3,167.3	3,124.1	3,122.8	21.2	1.2	-177.43	-36.4	2.5	941.3	929.9	11.35	82.909	
3,444.9	3,204.1	3,161.8	3,160.4	21.8	1.2	-177.55	-36.1	3.6	968.0	956.4	11.56	83.744	
3,500.0	3,249.2	3,207.8	3,206.4	22.5	1.2	-177.68	-35.8	5.0	1,000.7	988.9	11.81	84.718	
3,543.3	3,284.7	3,242.7	3,241.3	23.1	1.2	-177.77	-35.6	6.0	1,026.4	1,014.4	12.01	85.432	
3,600.0	3,331.2	3,288.4	3,287.0	23.8	1.2	-177.87	-35.5	7.2	1,060.1	1,047.8	12.28	86.329	
3,641.7	3,365.3	3,322.5	3,321.1	24.4	1.2	-177.94	-35.6	8.1	1,084.8	1,072.4	12.48	86.949	
3,700.0	3,413.1	3,370.5	3,369.0	25.1	1.2	-178.02	-35.7	9.2	1,119.4	1,106.6	12.75	87.775	
3,740.1	3,446.0	3,403.5	3,402.0	25.7	1.2	-178.07	-35.8	10.0	1,143.1	1,130.2	12.94	88.315	
3,800.0	3,495.0	3,452.4	3,450.9	26.4	1.3	-178.14	-36.0	11.1	1,178.6	1,165.3	13.23	89.084	
3,838.6	3,526.6	3,484.0	3,482.5	27.0	1.3	-178.18	-36.2	11.8	1,201.4	1,187.9	13.41	89.557	
3,900.0	3,576.9	3,533.6	3,532.1	27.8	1.3	-178.23	-36.4	12.8	1,237.7	1,223.9	13.71	90.277	
3,937.0	3,607.2	3,563.3	3,561.8	28.2	1.3	-178.27	-36.6	13.5	1,259.5	1,245.6	13.89	90.690	
4,000.0	3,658.8	3,613.2	3,611.7	29.1	1.3	-178.32	-36.8	14.5	1,296.8	1,282.6	14.19	91.369	
4,035.4	3,687.8	3,640.2	3,638.7	29.5	1.3	-178.35	-37.0	15.1	1,317.7	1,303.4	14.36	91.734	
4,100.0	3,740.7	3,689.2	3,687.7	30.4	1.3	-178.39	-37.4	16.3	1,356.1	1,341.4	14.68	92.383	
4,133.8	3,768.5	3,715.3	3,713.7	30.8	1.3	-178.41	-37.6	16.9	1,376.2	1,361.4	14.84	92.707	
4,200.0	3,822.6	3,766.6	3,765.1	31.7	1.3	-178.45	-38.1	18.2	1,415.6	1,400.4	15.17	93.320	
4,232.3	3,849.1	3,791.6	3,790.1	32.1	1.3	-178.47	-38.4	18.9	1,434.9	1,419.5	15.33	93.609	
4,300.0	3,904.6	3,845.9	3,844.3	33.0	1.4	-178.51	-38.8	20.4	1,475.3	1,459.6	15.66	94.196	
4,330.7	3,929.7	3,870.6	3,869.0	33.4	1.4	-178.53	-39.0	21.1	1,493.6	1,477.8	15.81	94.452	
4,400.0	3,986.5	3,932.9	3,931.3	34.3	1.4	-178.58	-39.4	22.7	1,534.9	1,518.7	16.16	95.003	
4,429.1	4,010.3	3,962.3	3,960.6	34.7	1.4	-178.60	-39.5	23.4	1,552.1	1,535.8	16.30	95.214	
4,500.0	4,068.4	4,035.4	4,033.7	35.6	1.4	-178.67	-39.5	24.6	1,593.7	1,577.0	16.65	95.709	
4,527.5	4,091.0	4,064.4	4,062.8	36.0	1.4	-178.69	-39.4	24.9	1,609.6	1,592.9	16.79	95.890	
4,600.0	4,150.3	4,136.5	4,134.9	37.0	1.4	-178.76	-38.9	25.2	1,651.3	1,634.1	17.14	96.338	
4,626.0	4,171.6	4,161.0	4,159.3	37.3	1.4	-178.78	-38.8	25.2	1,666.1	1,648.9	17.27	96.489	
4,700.0	4,232.2	4,227.7	4,226.1	38.3	1.4	-178.83	-38.2	25.0	1,708.2	1,690.6	17.63	96.890	
4,724.4	4,252.2	4,248.5	4,246.8	38.6	1.4	-178.84	-38.1	24.9	1,722.1	1,704.3	17.75	97.014	
4,800.0	4,314.1	4,312.2	4,310.6	39.6	1.4	-178.89	-37.5	24.5	1,765.0	1,746.8	18.12	97.382	
4,822.8	4,332.8	4,330.9	4,329.2	39.9	1.4	-178.90	-37.3	24.4	1,777.9	1,759.7	18.24	97.486	
4,900.0	4,396.1	4,393.8	4,392.1	40.9	1.5	-178.94	-36.8	24.1	1,821.7	1,803.0	18.62	97.829	
4,921.2	4,413.5	4,411.6	4,410.0	41.2	1.5	-178.95	-36.6	24.0	1,833.7	1,815.0	18.73	97.918	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,478.0	4,479.0	4,477.4	42.2	1.5	-179.00	-36.1	23.6	1,878.3	1,859.2	19.12	98.232		
5,019.7	4,494.1	4,495.9	4,494.2	42.5	1.5	-179.01	-35.9	23.4	1,889.4	1,870.2	19.22	98.307		
5,100.0	4,559.9	4,559.6	4,558.0	43.6	1.5	-179.04	-35.4	23.0	1,934.9	1,915.3	19.62	98.612		
5,118.1	4,574.7	4,573.9	4,572.2	43.8	1.5	-179.05	-35.4	22.9	1,945.2	1,925.5	19.71	98.679		
5,200.0	4,641.8	4,639.4	4,637.8	44.9	1.5	-179.08	-35.0	22.5	1,991.7	1,971.5	20.12	98.969		
5,216.5	4,655.3	4,652.8	4,651.1	45.1	1.5	-179.08	-34.9	22.4	2,001.0	1,980.8	20.21	99.024		
5,300.0	4,723.7	4,720.1	4,718.4	46.2	1.5	-179.11	-34.6	22.1	2,048.5	2,027.8	20.63	99.299		
5,314.9	4,736.0	4,732.1	4,730.4	46.4	1.5	-179.11	-34.6	22.0	2,057.0	2,036.3	20.70	99.346		
5,400.0	4,805.6	4,800.0	4,798.3	47.5	1.5	-179.14	-34.3	21.7	2,105.3	2,084.2	21.14	99.613		
5,413.4	4,816.6	4,810.8	4,809.1	47.7	1.5	-179.14	-34.3	21.7	2,113.0	2,091.8	21.20	99.652		
5,500.0	4,887.5	4,878.6	4,877.0	48.8	1.5	-179.17	-34.0	21.4	2,162.3	2,140.7	21.64	99.910		
5,511.8	4,897.2	4,887.9	4,886.2	49.0	1.5	-179.17	-33.9	21.4	2,169.1	2,147.4	21.70	99.944		
5,600.0	4,969.5	4,955.8	4,954.1	50.2	1.5	-179.20	-33.7	21.4	2,219.5	2,197.3	22.15	100.195		
5,610.2	4,977.8	4,963.6	4,962.0	50.3	1.5	-179.20	-33.6	21.4	2,225.4	2,203.2	22.20	100.224		
5,700.0	5,051.4	5,031.4	5,029.7	51.5	1.5	-179.22	-33.4	21.4	2,276.9	2,254.2	22.66	100.473		
5,708.6	5,058.5	5,037.8	5,036.1	51.6	1.5	-179.22	-33.4	21.5	2,281.8	2,259.1	22.71	100.496		
5,800.0	5,133.3	5,105.6	5,103.9	52.8	1.6	-179.25	-33.3	21.7	2,334.5	2,311.3	23.17	100.744		
5,807.1	5,139.1	5,111.2	5,109.5	52.9	1.6	-179.25	-33.3	21.8	2,338.6	2,315.4	23.21	100.761		
5,900.0	5,215.2	5,184.6	5,182.9	54.1	1.6	-179.27	-33.3	22.2	2,392.3	2,368.6	23.69	100.985		
5,905.5	5,219.7	5,189.0	5,187.3	54.2	1.6	-179.27	-33.3	22.2	2,395.5	2,371.7	23.72	100.998		
6,000.0	5,297.1	5,260.2	5,258.6	55.4	1.6	-179.29	-33.4	22.7	2,450.2	2,426.0	24.21	101.226		
6,003.9	5,300.3	5,263.2	5,261.5	55.5	1.6	-179.29	-33.4	22.8	2,452.5	2,428.3	24.23	101.235		
6,100.0	5,379.0	5,339.4	5,337.7	56.8	1.6	-179.31	-33.4	23.5	2,508.3	2,483.6	24.72	101.451		
6,102.3	5,381.0	5,341.4	5,339.7	56.8	1.6	-179.31	-33.4	23.5	2,509.7	2,485.0	24.74	101.455		
6,200.0	5,460.9	5,424.5	5,422.8	58.1	1.6	-179.33	-33.3	24.3	2,566.4	2,541.1	25.25	101.646		
6,200.8	5,461.6	5,425.2	5,423.5	58.1	1.6	-179.33	-33.3	24.3	2,566.8	2,541.6	25.25	101.648		
6,299.2	5,542.2	5,510.4	5,508.7	59.4	1.6	-179.37	-32.9	25.1	2,623.8	2,598.1	25.77	101.825		
6,300.0	5,542.9	5,511.1	5,509.4	59.4	1.6	-179.37	-32.9	25.1	2,624.3	2,598.5	25.77	101.826		
6,397.6	5,622.8	5,592.5	5,590.8	60.7	1.7	-179.40	-32.4	25.7	2,680.7	2,654.5	26.28	101.995		
6,400.0	5,624.8	5,594.5	5,592.8	60.7	1.7	-179.40	-32.3	25.7	2,682.1	2,655.8	26.30	101.999		
6,496.0	5,703.5	5,654.5	5,652.8	62.0	1.7	-179.42	-32.1	26.3	2,737.9	2,711.1	26.79	102.208		
6,500.0	5,706.7	5,656.9	5,655.2	62.1	1.7	-179.42	-32.1	26.4	2,740.2	2,713.4	26.81	102.217		
6,594.5	5,784.1	5,718.5	5,716.8	63.3	1.7	-179.44	-32.0	27.4	2,795.5	2,768.3	27.29	102.422		
6,600.0	5,788.6	5,723.0	5,721.3	63.4	1.7	-179.44	-32.0	27.5	2,798.8	2,771.5	27.32	102.431		
6,692.9	5,864.7	5,797.5	5,795.7	64.6	1.7	-179.46	-32.1	28.9	2,853.4	2,825.6	27.82	102.579		
6,700.0	5,870.5	5,803.3	5,801.6	64.7	1.7	-179.46	-32.1	29.0	2,857.6	2,829.7	27.85	102.590		
6,791.3	5,945.3	5,880.7	5,879.0	65.9	1.7	-179.47	-32.4	30.3	2,911.3	2,882.9	28.34	102.723		
6,800.0	5,952.4	5,888.1	5,886.3	66.0	1.7	-179.48	-32.4	30.4	2,916.3	2,888.0	28.39	102.736		
6,889.7	6,026.0	5,965.5	5,963.8	67.2	1.8	-179.48	-32.9	31.5	2,969.0	2,940.1	28.87	102.850		
6,900.0	6,034.4	5,974.4	5,972.7	67.4	1.8	-179.48	-33.0	31.6	2,975.0	2,946.1	28.92	102.862		
6,988.2	6,106.6	6,048.1	6,046.3	68.5	1.8	-179.49	-33.4	32.6	3,026.6	2,997.2	29.39	102.970		
7,000.0	6,116.3	6,057.7	6,056.0	68.7	1.8	-179.49	-33.4	32.7	3,033.5	3,004.0	29.46	102.984		
7,086.6	6,187.2	6,131.0	6,129.2	69.8	1.8	-179.50	-33.9	33.6	3,084.1	3,054.2	29.92	103.078		
7,100.0	6,198.2	6,142.9	6,141.1	70.0	1.8	-179.50	-34.0	33.8	3,091.9	3,062.0	29.99	103.090		
7,185.0	6,267.8	6,216.9	6,215.2	71.1	1.8	-179.50	-34.4	34.5	3,141.5	3,111.1	30.45	103.164		
7,200.0	6,280.1	6,229.2	6,227.5	71.3	1.8	-179.50	-34.4	34.7	3,150.2	3,119.7	30.53	103.179		
7,283.4	6,348.5	6,297.8	6,296.0	72.4	1.8	-179.51	-34.6	35.4	3,198.9	3,167.9	30.98	103.258		
7,300.0	6,362.0	6,311.5	6,309.8	72.7	1.8	-179.51	-34.6	35.5	3,208.5	3,177.4	31.07	103.272		
7,381.9	6,429.1	6,379.8	6,378.1	73.7	1.8	-179.52	-34.7	36.3	3,256.1	3,224.6	31.51	103.337		
7,400.0	6,443.9	6,395.0	6,393.2	74.0	1.8	-179.53	-34.7	36.4	3,266.7	3,235.1	31.61	103.351		
7,424.0	6,463.6	6,415.2	6,413.4	74.3	1.9	-179.53	-34.8	36.6	3,280.7	3,248.9	31.74	103.368		
7,450.0	6,484.5	6,436.9	6,435.1	74.7	1.9	-179.52	-34.8	36.8	3,296.2	3,264.3	32.00	103.023		

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
7,480.3	6,508.1	6,461.1	6,459.3	75.1	1.9	-179.50	-34.8	37.1	3,315.6	3,283.3	32.23	102.863		
7,500.0	6,522.8	6,476.3	6,474.5	75.4	1.9	-179.48	-34.9	37.2	3,328.8	3,296.4	32.35	102.912		
7,550.0	6,558.1	6,512.9	6,511.2	76.3	1.9	-179.44	-34.9	37.5	3,364.5	3,332.0	32.50	103.522		
7,578.7	6,576.9	6,532.7	6,530.9	76.8	1.9	-179.41	-34.9	37.7	3,386.4	3,353.9	32.50	104.195		
7,600.0	6,590.1	6,546.6	6,544.8	77.2	1.9	-179.39	-35.0	37.8	3,403.1	3,370.7	32.45	104.862		
7,622.2	6,603.3	6,560.3	6,558.6	77.7	1.9	-179.36	-35.0	37.9	3,421.1	3,388.8	32.37	105.699		
7,677.1	6,634.9	6,593.5	6,591.7	78.8	1.9	-179.37	-35.1	38.1	3,466.3	3,433.5	32.74	105.888		
7,700.0	6,648.1	6,606.9	6,605.1	79.3	1.9	-179.37	-35.1	38.2	3,485.0	3,452.2	32.89	105.966		
7,775.6	6,691.6	6,649.8	6,648.0	80.9	1.9	-179.38	-35.2	38.5	3,547.1	3,513.7	33.39	106.221		
7,800.0	6,705.7	6,663.7	6,661.9	81.4	1.9	-179.39	-35.2	38.6	3,567.2	3,533.6	33.56	106.301		
7,874.0	6,748.3	6,700.0	6,698.2	82.9	1.9	-179.39	-35.3	38.9	3,628.0	3,593.9	34.05	106.563		
7,875.4	6,749.1	6,700.0	6,698.2	82.9	1.9	-179.39	-35.3	38.9	3,629.1	3,595.0	34.05	106.571		
7,900.0	6,762.9	6,700.0	6,698.2	83.4	1.9	-176.76	-35.3	38.9	3,649.7	3,615.5	34.19	106.738		
7,950.0	6,788.5	6,700.0	6,698.2	84.5	1.9	-170.67	-35.3	38.9	3,692.9	3,657.3	35.68	103.510		
7,972.4	6,798.9	6,700.0	6,698.2	85.0	1.9	-167.49	-35.3	38.9	3,713.0	3,675.7	37.22	99.764		
8,000.0	6,810.6	6,700.0	6,698.2	85.7	1.9	-163.05	-35.3	38.9	3,738.0	3,697.9	40.18	93.033		
8,050.0	6,829.2	6,700.0	6,698.2	86.9	1.9	-153.02	-35.3	38.9	3,784.5	3,735.3	49.27	76.814		
8,070.8	6,835.8	6,700.0	6,698.2	87.4	1.9	-147.88	-35.3	38.9	3,804.2	3,749.7	54.53	69.761		
8,100.0	6,844.0	6,700.0	6,698.2	88.1	1.9	-139.57	-35.3	38.9	3,832.0	3,769.0	63.03	60.793		
8,150.0	6,854.9	6,700.0	6,698.2	89.3	1.9	-122.40	-35.3	38.9	3,880.1	3,801.9	78.21	49.609		
8,169.3	6,858.1	6,700.0	6,698.2	89.8	1.9	-115.10	-35.3	38.9	3,898.7	3,815.7	83.03	46.953		
8,200.0	6,861.9	6,700.0	6,698.2	90.6	1.9	-103.41	-35.3	38.9	3,928.4	3,840.2	88.25	44.517		
8,250.0	6,864.9	6,700.0	6,698.2	91.8	1.9	-86.23	-35.3	38.9	3,976.6	3,886.3	90.29	44.044		
8,262.2	6,865.0	6,700.0	6,698.2	92.1	1.9	-82.60	-35.3	38.9	3,988.3	3,898.4	89.90	44.364		
8,267.7	6,865.0	6,700.0	6,698.2	92.2	1.9	-82.60	-35.3	38.9	3,993.6	3,903.5	90.04	44.355		
8,300.0	6,865.0	6,700.0	6,698.2	93.0	1.9	-82.60	-35.3	38.9	4,024.5	3,933.6	90.85	44.300		
8,366.1	6,865.0	6,700.0	6,698.2	94.7	1.9	-82.60	-35.3	38.9	4,087.9	3,995.4	92.51	44.186		
8,400.0	6,865.0	6,700.0	6,698.2	95.5	1.9	-82.60	-35.3	38.9	4,120.4	4,027.0	93.37	44.130		
8,464.5	6,865.0	6,700.0	6,698.2	97.1	1.9	-82.60	-35.3	38.9	4,182.4	4,087.4	95.01	44.021		
8,500.0	6,865.0	6,700.0	6,698.2	98.0	1.9	-82.60	-35.3	38.9	4,216.4	4,120.5	95.91	43.964		
8,563.0	6,865.0	6,700.0	6,698.2	99.5	1.9	-82.60	-35.3	38.9	4,277.0	4,179.5	97.51	43.861		
8,600.0	6,865.0	6,700.0	6,698.2	100.5	1.9	-82.60	-35.3	38.9	4,312.7	4,214.2	98.46	43.802		
8,661.4	6,865.0	6,700.0	6,698.2	102.0	1.9	-82.60	-35.3	38.9	4,371.9	4,271.9	100.03	43.704		
8,700.0	6,865.0	6,700.0	6,698.2	103.0	1.9	-82.60	-35.3	38.9	4,409.1	4,308.1	101.02	43.644		
8,759.8	6,865.0	6,700.0	6,698.2	104.5	1.9	-82.60	-35.3	38.9	4,466.9	4,364.3	102.57	43.551		
8,800.0	6,865.0	6,700.0	6,698.2	105.5	1.9	-82.60	-35.3	38.9	4,505.7	4,402.1	103.60	43.491		
8,858.2	6,865.0	6,700.0	6,698.2	107.0	1.9	-82.60	-35.3	38.9	4,562.0	4,456.9	105.11	43.403		
8,900.0	6,865.0	6,700.0	6,698.2	108.0	1.9	-82.60	-35.3	38.9	4,602.4	4,496.2	106.19	43.342		
8,956.7	6,865.0	6,700.0	6,698.2	109.5	1.9	-82.60	-35.3	38.9	4,657.3	4,549.6	107.66	43.259		
9,000.0	6,865.0	6,700.0	6,698.2	110.6	1.9	-82.60	-35.3	38.9	4,699.3	4,590.5	108.79	43.197		
9,055.1	6,865.0	6,700.0	6,698.2	112.0	1.9	-82.60	-35.3	38.9	4,752.7	4,642.5	110.22	43.119		
9,100.0	6,865.0	6,700.0	6,698.2	113.2	1.9	-82.60	-35.3	38.9	4,796.3	4,684.9	111.39	43.057		
9,153.5	6,865.0	6,700.0	6,698.2	114.5	1.9	-82.60	-35.3	38.9	4,848.2	4,735.5	112.79	42.983		
9,200.0	6,865.0	6,700.0	6,698.2	115.7	1.9	-82.60	-35.3	38.9	4,893.4	4,779.4	114.01	42.921		
9,251.9	6,865.0	6,700.0	6,698.2	117.1	1.9	-82.60	-35.3	38.9	4,943.9	4,828.5	115.37	42.851		
9,300.0	6,865.0	6,700.0	6,698.2	118.3	1.9	-82.60	-35.3	38.9	4,990.6	4,874.0	116.63	42.789		
9,350.4	6,865.0	6,700.0	6,698.2	119.6	1.9	-82.60	-35.3	38.9	5,039.6	4,921.7	117.96	42.723		
9,400.0	6,865.0	6,700.0	6,698.2	120.9	1.9	-82.60	-35.3	38.9	5,088.0	4,968.7	119.27	42.661		
9,448.8	6,865.0	6,700.0	6,698.2	122.2	1.9	-82.60	-35.3	38.9	5,135.5	5,014.9	120.55	42.599		
9,500.0	6,865.0	6,700.0	6,698.2	123.5	1.9	-82.60	-35.3	38.9	5,185.4	5,063.5	121.90	42.536		
9,547.2	6,865.0	6,700.0	6,698.2	124.8	1.9	-82.60	-35.3	38.9	5,231.4	5,108.3	123.15	42.479		
9,600.0	6,865.0	6,700.0	6,698.2	126.1	1.9	-82.60	-35.3	38.9	5,282.9	5,158.4	124.55	42.416		

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,645.6	6,865.0	6,700.0	6,698.2	127.3	1.9	-82.60	-35.3	38.9	5,327.5	5,201.7	125.76	42.362	
9,700.0	6,865.0	6,700.0	6,698.2	128.8	1.9	-82.60	-35.3	38.9	5,380.5	5,253.3	127.20	42.299	
9,744.1	6,865.0	6,700.0	6,698.2	129.9	1.9	-82.60	-35.3	38.9	5,423.6	5,295.2	128.37	42.248	
9,800.0	6,865.0	6,700.0	6,698.2	131.4	1.9	-82.60	-35.3	38.9	5,478.2	5,348.4	129.86	42.186	
9,842.5	6,865.0	6,700.0	6,698.2	132.5	1.9	-82.60	-35.3	38.9	5,519.8	5,388.8	130.99	42.138	
9,900.0	6,865.0	6,700.0	6,698.2	134.0	1.9	-82.60	-35.3	38.9	5,576.0	5,443.5	132.52	42.076	
9,940.9	6,865.0	6,700.0	6,698.2	135.1	1.9	-82.60	-35.3	38.9	5,616.1	5,482.5	133.62	42.032	
10,000.0	6,865.0	6,700.0	6,698.2	136.7	1.9	-82.60	-35.3	38.9	5,673.9	5,538.7	135.19	41.969	
10,039.3	6,865.0	6,700.0	6,698.2	137.7	1.9	-82.60	-35.3	38.9	5,712.4	5,576.2	136.24	41.928	
10,100.0	6,865.0	6,700.0	6,698.2	139.3	1.9	-82.60	-35.3	38.9	5,771.8	5,634.0	137.86	41.866	
10,137.8	6,865.0	6,700.0	6,698.2	140.3	1.9	-82.60	-35.3	38.9	5,808.9	5,670.0	138.88	41.827	
10,200.0	6,865.0	6,700.0	6,698.2	142.0	1.9	-82.60	-35.3	38.9	5,869.8	5,729.3	140.54	41.766	
10,236.2	6,865.0	6,700.0	6,698.2	143.0	1.9	-82.60	-35.3	38.9	5,905.3	5,763.8	141.51	41.730	
10,300.0	6,865.0	6,700.0	6,698.2	144.7	1.9	-82.60	-35.3	38.9	5,967.9	5,824.7	143.22	41.668	
10,334.6	6,865.0	6,700.0	6,698.2	145.6	1.9	-82.60	-35.3	38.9	6,001.9	5,857.7	144.16	41.635	
10,400.0	6,865.0	6,700.0	6,698.2	147.3	1.9	-82.60	-35.3	38.9	6,066.1	5,920.1	145.91	41.574	
10,433.0	6,865.0	6,700.0	6,698.2	148.2	1.9	-82.60	-35.3	38.9	6,098.5	5,951.7	146.80	41.543	
10,500.0	6,865.0	6,700.0	6,698.2	150.0	1.9	-82.60	-35.3	38.9	6,164.3	6,015.7	148.60	41.482	
10,531.5	6,865.0	6,700.0	6,698.2	150.8	1.9	-82.60	-35.3	38.9	6,195.2	6,045.7	149.45	41.453	
10,600.0	6,865.0	6,700.0	6,698.2	152.7	1.9	-82.60	-35.3	38.9	6,262.5	6,111.2	151.30	41.393	
10,629.9	6,865.0	6,700.0	6,698.2	153.5	1.9	-82.60	-35.3	38.9	6,291.9	6,139.8	152.10	41.366	
10,700.0	6,865.0	6,700.0	6,698.2	155.4	1.9	-82.60	-35.3	38.9	6,360.8	6,206.8	153.99	41.306	
10,728.3	6,865.0	6,700.0	6,698.2	156.1	1.9	-82.60	-35.3	38.9	6,388.7	6,233.9	154.76	41.282	
10,800.0	6,865.0	6,700.0	6,698.2	158.1	1.9	-82.60	-35.3	38.9	6,459.2	6,302.5	156.69	41.222	
10,826.7	6,865.0	6,700.0	6,698.2	158.8	1.9	-82.60	-35.3	38.9	6,485.5	6,328.1	157.42	41.200	
10,900.0	6,865.0	6,700.0	6,698.2	160.8	1.9	-82.60	-35.3	38.9	6,557.6	6,398.2	159.40	41.140	
10,925.2	6,865.0	6,700.0	6,698.2	161.4	1.9	-82.60	-35.3	38.9	6,582.4	6,422.3	160.08	41.120	
11,000.0	6,865.0	6,700.0	6,698.2	163.4	1.9	-82.60	-35.3	38.9	6,656.0	6,493.9	162.10	41.061	
11,023.6	6,865.0	6,700.0	6,698.2	164.1	1.9	-82.60	-35.3	38.9	6,679.3	6,516.5	162.74	41.042	
11,100.0	6,865.0	6,700.0	6,698.2	166.1	1.9	-82.60	-35.3	38.9	6,754.6	6,589.7	164.81	40.983	
11,122.0	6,865.0	6,700.0	6,698.2	166.7	1.9	-82.60	-35.3	38.9	6,776.3	6,610.8	165.41	40.967	
11,200.0	6,865.0	6,700.0	6,698.2	168.9	1.9	-82.60	-35.3	38.9	6,853.1	6,685.6	167.52	40.908	
11,220.4	6,865.0	6,700.0	6,698.2	169.4	1.9	-82.60	-35.3	38.9	6,873.3	6,705.2	168.08	40.893	
11,300.0	6,865.0	6,700.0	6,698.2	171.6	1.9	-82.60	-35.3	38.9	6,951.7	6,781.4	170.24	40.835	
11,318.9	6,865.0	6,700.0	6,698.2	172.1	1.9	-82.60	-35.3	38.9	6,970.3	6,799.5	170.75	40.821	
11,400.0	6,865.0	6,700.0	6,698.2	174.3	1.9	-82.60	-35.3	38.9	7,050.3	6,877.4	172.96	40.764	
11,417.3	6,865.0	6,700.0	6,698.2	174.7	1.9	-82.60	-35.3	38.9	7,067.4	6,894.0	173.43	40.752	
11,500.0	6,865.0	6,700.0	6,698.2	177.0	1.9	-82.60	-35.3	38.9	7,149.0	6,973.3	175.67	40.694	
11,515.7	6,865.0	6,700.0	6,698.2	177.4	1.9	-82.60	-35.3	38.9	7,164.5	6,988.4	176.10	40.684	
11,600.0	6,865.0	6,700.0	6,698.2	179.7	1.9	-82.60	-35.3	38.9	7,247.7	7,069.3	178.40	40.627	
11,614.1	6,865.0	6,700.0	6,698.2	180.1	1.9	-82.60	-35.3	38.9	7,261.6	7,082.9	178.78	40.617	
11,700.0	6,865.0	6,700.0	6,698.2	182.4	1.9	-82.60	-35.3	38.9	7,346.4	7,165.3	181.12	40.561	
11,712.6	6,865.0	6,700.0	6,698.2	182.8	1.9	-82.60	-35.3	38.9	7,358.8	7,177.4	181.46	40.553	
11,800.0	6,865.0	6,700.0	6,698.2	185.1	1.9	-82.60	-35.3	38.9	7,445.2	7,261.3	183.85	40.497	
11,811.0	6,865.0	6,700.0	6,698.2	185.4	1.9	-82.60	-35.3	38.9	7,456.1	7,271.9	184.15	40.490	
11,900.0	6,865.0	6,700.0	6,698.2	187.9	1.9	-82.60	-35.3	38.9	7,544.0	7,357.4	186.57	40.435	
11,909.4	6,865.0	6,700.0	6,698.2	188.1	1.9	-82.60	-35.3	38.9	7,553.3	7,366.5	186.83	40.429	
12,000.0	6,865.0	6,700.0	6,698.2	190.6	1.9	-82.60	-35.3	38.9	7,642.8	7,453.5	189.30	40.374	
12,007.8	6,865.0	6,700.0	6,698.2	190.8	1.9	-82.60	-35.3	38.9	7,650.6	7,461.1	189.52	40.369	
12,100.0	6,865.0	6,700.0	6,698.2	193.3	1.9	-82.60	-35.3	38.9	7,741.7	7,549.7	192.03	40.314	
12,106.3	6,865.0	6,700.0	6,698.2	193.5	1.9	-82.60	-35.3	38.9	7,747.9	7,555.7	192.20	40.311	
12,200.0	6,865.0	6,700.0	6,698.2	196.1	1.9	-82.60	-35.3	38.9	7,840.6	7,645.8	194.77	40.256	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,204.7	6,865.0	6,700.0	6,698.2	196.2	1.9	-82.60	-35.3	38.9	7,845.2	7,650.3	194.89	40.254	
12,300.0	6,865.0	6,700.0	6,698.2	198.8	1.9	-82.60	-35.3	38.9	7,939.5	7,742.0	197.50	40.200	
12,303.1	6,865.0	6,700.0	6,698.2	198.9	1.9	-82.60	-35.3	38.9	7,942.6	7,745.0	197.59	40.198	
12,400.0	6,865.0	6,700.0	6,698.2	201.5	1.9	-82.60	-35.3	38.9	8,038.5	7,838.2	200.24	40.145	
12,401.5	6,865.0	6,700.0	6,698.2	201.6	1.9	-82.60	-35.3	38.9	8,040.0	7,839.7	200.28	40.144	
12,500.0	6,865.0	6,700.0	6,698.2	204.3	1.9	-82.60	-35.3	38.9	8,137.4	7,934.5	202.97	40.091	
12,598.4	6,865.0	6,700.0	6,698.2	207.0	1.9	-82.60	-35.3	38.9	8,234.8	8,029.2	205.67	40.039	
12,600.0	6,865.0	6,700.0	6,698.2	207.0	1.9	-82.60	-35.3	38.9	8,236.4	8,030.7	205.71	40.039	
12,696.8	6,865.0	6,700.0	6,698.2	209.7	1.9	-82.60	-35.3	38.9	8,332.3	8,123.9	208.37	39.989	
12,700.0	6,865.0	6,700.0	6,698.2	209.8	1.9	-82.60	-35.3	38.9	8,335.4	8,127.0	208.45	39.987	
12,795.2	6,865.0	6,700.0	6,698.2	212.4	1.9	-82.60	-35.3	38.9	8,429.8	8,218.7	211.06	39.940	
12,800.0	6,865.0	6,700.0	6,698.2	212.5	1.9	-82.60	-35.3	38.9	8,434.5	8,223.3	211.19	39.937	
12,893.7	6,865.0	6,700.0	6,698.2	215.1	1.9	-82.60	-35.3	38.9	8,527.3	8,313.5	213.76	39.891	
12,900.0	6,865.0	6,700.0	6,698.2	215.3	1.9	-82.60	-35.3	38.9	8,533.6	8,319.6	213.94	39.888	
12,992.1	6,865.0	6,700.0	6,698.2	217.8	1.9	-82.60	-35.3	38.9	8,624.8	8,408.4	216.46	39.844	
13,000.0	6,865.0	6,700.0	6,698.2	218.0	1.9	-82.60	-35.3	38.9	8,632.6	8,416.0	216.68	39.841	
13,090.5	6,865.0	6,700.0	6,698.2	220.5	1.9	-82.60	-35.3	38.9	8,722.4	8,503.2	219.16	39.798	
13,100.0	6,865.0	6,700.0	6,698.2	220.8	1.9	-82.60	-35.3	38.9	8,731.8	8,512.3	219.42	39.794	
13,188.9	6,865.0	6,700.0	6,698.2	223.2	1.9	-82.60	-35.3	38.9	8,819.9	8,598.1	221.87	39.753	
13,200.0	6,865.0	6,700.0	6,698.2	223.5	1.9	-82.60	-35.3	38.9	8,830.9	8,608.7	222.17	39.748	
13,287.4	6,865.0	6,700.0	6,698.2	225.9	1.9	-82.60	-35.3	38.9	8,917.5	8,692.9	224.57	39.709	
13,300.0	6,865.0	6,700.0	6,698.2	226.3	1.9	-82.60	-35.3	38.9	8,930.0	8,705.1	224.92	39.703	
13,385.8	6,865.0	6,700.0	6,698.2	228.6	1.9	-82.60	-35.3	38.9	9,015.1	8,787.8	227.28	39.666	
13,400.0	6,865.0	6,700.0	6,698.2	229.0	1.9	-82.60	-35.3	38.9	9,029.2	8,801.5	227.67	39.660	
13,484.2	6,865.0	6,700.0	6,698.2	231.3	1.9	-82.60	-35.3	38.9	9,112.7	8,882.8	229.98	39.624	
13,500.0	6,865.0	6,700.0	6,698.2	231.8	1.9	-82.60	-35.3	38.9	9,128.4	8,898.0	230.42	39.617	
13,582.6	6,865.0	6,700.0	6,698.2	234.0	1.9	-82.60	-35.3	38.9	9,210.4	8,977.7	232.69	39.582	
13,600.0	6,865.0	6,700.0	6,698.2	234.5	1.9	-82.60	-35.3	38.9	9,227.6	8,994.4	233.17	39.575	
13,681.1	6,865.0	6,700.0	6,698.2	236.8	1.9	-82.60	-35.3	38.9	9,308.0	9,072.6	235.40	39.542	
13,700.0	6,865.0	6,700.0	6,698.2	237.3	1.9	-82.60	-35.3	38.9	9,326.8	9,090.9	235.92	39.534	
13,779.5	6,865.0	6,700.0	6,698.2	239.5	1.9	-82.60	-35.3	38.9	9,405.7	9,167.6	238.10	39.502	
13,800.0	6,865.0	6,700.0	6,698.2	240.0	1.9	-82.60	-35.3	38.9	9,426.1	9,187.4	238.67	39.494	
13,877.9	6,865.0	6,700.0	6,698.2	242.2	1.9	-82.60	-35.3	38.9	9,503.4	9,262.6	240.81	39.464	
13,900.0	6,865.0	6,700.0	6,698.2	242.8	1.9	-82.60	-35.3	38.9	9,525.3	9,283.9	241.42	39.455	
13,976.3	6,865.0	6,700.0	6,698.2	244.9	1.9	-82.60	-35.3	38.9	9,601.1	9,357.6	243.52	39.426	
14,000.0	6,865.0	6,700.0	6,698.2	245.6	1.9	-82.60	-35.3	38.9	9,624.6	9,380.4	244.18	39.417	
14,074.8	6,865.0	6,700.0	6,698.2	247.6	1.9	-82.60	-35.3	38.9	9,698.8	9,452.6	246.24	39.388	
14,100.0	6,865.0	6,700.0	6,698.2	248.3	1.9	-82.60	-35.3	38.9	9,723.9	9,476.9	246.93	39.379	
14,173.2	6,865.0	6,700.0	6,698.2	250.4	1.9	-82.60	-35.3	38.9	9,796.5	9,547.6	248.95	39.352	
14,200.0	6,865.0	6,700.0	6,698.2	251.1	1.9	-82.60	-35.3	38.9	9,823.2	9,573.5	249.69	39.342	
14,271.6	6,865.0	6,700.0	6,698.2	253.1	1.9	-82.60	-35.3	38.9	9,894.3	9,642.6	251.66	39.316	
14,300.0	6,865.0	6,700.0	6,698.2	253.9	1.9	-82.60	-35.3	38.9	9,922.5	9,670.0	252.44	39.306	
14,370.0	6,865.0	6,700.0	6,698.2	255.8	1.9	-82.60	-35.3	38.9	9,992.0	9,737.7	254.37	39.281	

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 1-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 1-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB-EST @ 4664.0usft (Original Well ECoordinates are relative to: VT-LDS 1-16-18

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.500000

Grid Convergence at Surface is: 0.54°

Separation Factor Plot

