

EXTRACTION OIL & GAS

**WELD COUNTY, COLORADO (NAD 83)
SW NW SEC. 15 T5N R65W 6th P.M.
VT-LDS 2-16-18**

**ORIGINAL WELLBORE
PROPOSAL #2**

Anticollision Report

10 March, 2016



Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 2-16-18
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 2-16-18	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	20,471.3	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	700.0	657.0	2,618.0	2,603.8	185.091	CC
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	800.0	757.0	2,619.0	2,602.6	159.949	ES
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	7,750.0	4,600.0	5,768.1	5,599.3	34.172	SF
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,111.4	14,862.7	906.8	595.3	2.911	CC, ES
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,150.0	14,862.7	908.4	596.2	2.910	SF
CARLSON B-15-16HC - Wellbore #1 - Design #1	8,108.6	14,905.1	751.1	443.8	2.444	CC, ES
CARLSON B-15-16HC - Wellbore #1 - Design #1	8,150.0	14,905.1	753.2	445.0	2.444	SF
CARLSON C-15-16HN - Wellbore #1 - Design #1	8,094.6	14,796.3	579.2	269.5	1.870	CC
CARLSON C-15-16HN - Wellbore #1 - Design #1	8,100.0	14,796.3	579.3	269.4	1.869	ES, SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	8,069.6	14,777.6	253.8	-50.0	0.835	Level 1, CC
CARLSON D-15-16HN - Wellbore #1 - Design #1	8,070.8	14,777.6	253.8	-50.1	0.835	Level 1, ES, SF
CARLSON E-15-16HC - Wellbore #1 - Design #1	8,063.9	14,848.6	152.9	-29.7	0.837	Level 1, CC
CARLSON E-15-16HC - Wellbore #1 - Design #1	8,070.8	14,848.6	153.1	-29.8	0.837	Level 1, ES, SF
CARLSON F-15-16HN - Wellbore #1 - Design #1	8,036.6	14,769.7	57.4	-109.9	0.343	Level 1, CC, ES, SF
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,683.2	14,467.4	408.3	139.9	1.521	CC
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,775.6	14,550.0	413.6	135.7	1.488	Level 3, ES
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,874.0	14,641.3	426.3	138.3	1.480	Level 3, SF
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,688.8	14,568.0	591.5	324.1	2.212	CC
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,750.0	14,622.3	593.7	321.5	2.182	ES
CARLSON H-15-16HC - Wellbore #1 - Design #1	8,050.0	14,883.6	628.8	328.9	2.097	SF
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,583.2	14,433.9	766.6	491.6	2.788	CC
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,650.0	14,487.5	769.1	490.4	2.760	ES
CARLSON I-15-16HN - Wellbore #1 - Design #1	8,050.0	14,836.2	832.0	526.6	2.724	SF
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,526.0	14,456.5	1,085.7	809.7	3.934	CC
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,578.7	14,495.3	1,087.1	809.2	3.912	ES
CARLSON J-15-16HN - Wellbore #1 - Design #1	8,150.0	14,901.4	1,176.4	866.4	3.795	SF
CARLSON K-15-16HC - Wellbore #1 - Design #1	7,548.5	14,584.6	1,265.2	989.8	4.594	CC
CARLSON K-15-16HC - Wellbore #1 - Design #1	7,578.7	14,607.3	1,265.6	989.2	4.579	ES
CARLSON K-15-16HC - Wellbore #1 - Design #1	8,183.2	15,013.6	1,349.3	1,039.5	4.355	SF
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,482.7	14,502.5	1,408.0	1,131.9	5.099	CC
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,500.0	14,514.0	1,408.1	1,131.6	5.092	ES
CARLSON L-15-16HN - Wellbore #1 - Design #1	8,200.0	14,977.0	1,511.0	1,199.8	4.854	SF
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,245.6	7,050.1	3,729.2	3,509.4	16.966	CC
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,303.1	7,050.0	3,729.7	3,508.3	16.846	ES
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,000.0	7,047.4	4,121.3	3,852.9	15.357	SF
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	9,650.7	7,212.0	3,610.9	3,455.5	23.231	CC
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	9,744.1	7,210.8	3,612.1	3,454.2	22.871	ES

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

Anticollision Report



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Project:	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 2-16-18	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.						
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	12,000.0	7,183.8	4,307.8	4,088.5	19.639	SF
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	12,969.5	7,140.7	4,240.4	3,994.5	17.248	CC
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	13,090.5	7,140.8	4,242.1	3,992.9	17.023	ES
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,000.0	7,142.3	4,701.5	4,399.2	15.556	SF
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,567.3	6,874.4	4,242.1	4,051.1	22.208	CC
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,700.0	6,873.8	4,244.2	4,049.5	21.803	ES
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,200.0	6,863.5	4,992.6	4,728.9	18.928	SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,250.4	7,950.0	2,723.7	2,560.3	16.661	CC
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,334.6	7,950.0	2,725.0	2,559.3	16.441	ES
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	11,500.0	7,950.0	2,996.7	2,799.4	15.187	SF
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,573.9	7,679.0	2,310.9	2,032.0	8.286	CC
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,600.0	7,679.8	2,311.1	2,031.5	8.265	ES
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	14,100.0	7,693.9	2,370.0	2,076.5	8.075	SF
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,426.5	7,712.5	1,623.3	1,448.6	9.290	CC
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,500.0	7,715.9	1,625.0	1,448.2	9.194	ES
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,826.7	7,730.2	1,671.8	1,486.2	9.006	SF
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,615.5	7,775.4	2,311.4	2,154.9	14.765	CC
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,700.0	7,768.4	2,313.0	2,154.2	14.564	ES
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	10,531.5	7,687.0	2,484.8	2,303.5	13.703	SF
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,367.3	7,983.8	1,041.5	811.8	4.533	CC
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,400.0	7,984.9	1,042.0	811.4	4.518	ES
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,500.0	7,988.4	1,049.9	816.5	4.498	SF
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	12,835.1	7,149.3	3,022.0	2,778.9	12.433	CC
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	12,900.0	7,145.0	3,022.6	2,777.8	12.346	ES
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	13,877.9	7,103.4	3,196.4	2,924.7	11.766	SF
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	14,169.6	7,595.6	4,267.8	3,964.8	14.088	CC
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	14,300.0	7,624.6	4,269.7	3,963.0	13.925	ES
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	15,900.0	7,795.0	4,596.8	4,245.7	13.093	SF
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,649.5	7,699.0	3,580.4	3,302.9	12.905	CC
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,779.5	7,699.0	3,582.7	3,301.7	12.748	ES
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	14,900.0	7,699.0	3,792.5	3,480.4	12.154	SF
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	12,335.9	7,594.0	2,435.8	2,209.4	10.760	CC
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	12,401.5	7,599.0	2,436.7	2,208.5	10.680	ES
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	13,090.5	7,651.8	2,549.1	2,302.3	10.330	SF
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,225.9	6,917.0	4,330.3	4,169.2	26.872	CC
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,334.6	6,917.1	4,331.7	4,167.6	26.398	ES
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	13,484.2	6,919.0	5,419.3	5,168.6	21.619	SF
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	9,005.3	7,278.8	4,313.9	4,162.8	28.567	CC
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	9,100.0	7,277.6	4,314.9	4,161.4	28.110	ES
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	12,401.5	7,238.9	5,490.2	5,247.0	22.582	SF
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	10,861.4	6,950.2	3,655.1	3,481.9	21.105	CC
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	10,925.2	6,950.2	3,655.7	3,480.7	20.898	ES
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,000.0	6,948.0	4,234.8	4,002.8	18.252	SF
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,095.1	7,755.9	2,293.5	2,110.8	12.553	CC
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,122.0	7,755.9	2,293.6	2,110.2	12.504	ES
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,900.0	7,756.8	2,430.6	2,226.3	11.900	SF
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	10,940.5	7,882.4	1,092.5	905.6	5.843	CC
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	11,000.0	7,883.0	1,094.2	905.6	5.801	ES
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	11,122.0	7,884.1	1,107.5	915.6	5.770	SF
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,712.3	4,147.0	1,881.4	1,848.2	56.775	CC
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,800.0	4,185.0	1,881.8	1,847.8	55.273	ES
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	8,183.2	7,027.3	3,674.6	3,570.4	35.260	SF
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	2,168.5	2,431.0	2,262.0	2,246.1	142.270	CC

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

Anticollision Report



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Reference Well:	VT-LDS 2-16-18	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)	Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	2,200.0	2,445.0	2,262.2	2,245.9	139.083	ES
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	13,000.0	7,123.7	9,951.0	9,710.3	41.345	SF
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,655.4	3,119.0	1,930.7	1,906.9	80.858	CC
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,700.0	3,140.0	1,931.1	1,906.7	79.063	ES
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	12,007.8	7,084.3	8,272.0	8,071.8	41.336	SF
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,468.4	8,124.0	2,166.7	2,019.7	14.747	CC
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,500.0	8,118.6	2,166.9	2,019.1	14.667	ES
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	9,350.4	7,988.3	2,334.7	2,164.6	13.727	SF
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	7,659.4	7,750.9	3,516.8	3,387.4	27.172	CC
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	7,700.0	7,760.4	3,517.2	3,387.0	27.015	ES
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,531.5	7,249.6	4,186.7	3,983.5	20.605	SF
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	9,074.2	7,656.9	3,081.1	2,930.7	20.483	CC
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	9,153.5	7,649.3	3,082.1	2,929.6	20.210	ES
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	10,800.0	7,449.7	3,524.1	3,327.6	17.942	SF
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,299.4	7,188.0	1,036.1	917.5	8.734	CC
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,300.0	7,188.0	1,036.1	917.5	8.733	ES
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,563.0	7,190.2	1,069.1	943.7	8.527	SF
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	11,667.2	7,612.7	1,662.2	1,458.9	8.174	CC
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	11,712.6	7,614.0	1,662.8	1,458.2	8.127	ES
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	12,007.8	7,623.1	1,696.7	1,484.0	7.975	SF
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,225.0	7,849.0	3,016.1	2,706.2	9.734	CC
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,300.0	7,849.0	3,017.0	2,705.1	9.672	ES
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	15,059.0	7,849.0	3,129.3	2,796.2	9.396	SF
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,026.6	8,199.0	3,650.4	3,303.3	10.517	CC
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,100.0	8,199.0	3,651.1	3,302.0	10.458	ES
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	16,100.0	8,199.0	3,804.9	3,428.0	10.095	SF
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	12,927.6	7,735.1	1,701.3	1,450.6	6.786	CC
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	12,992.1	7,735.1	1,702.6	1,450.1	6.743	ES
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	13,287.4	7,735.1	1,739.0	1,478.3	6.671	SF
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	14,845.2	8,120.7	2,431.6	2,089.5	7.108	CC
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	14,900.0	8,123.4	2,432.2	2,088.6	7.078	ES
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,300.0	8,141.4	2,473.7	2,118.9	6.973	SF
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	719.4	711.1	1,583.8	1,581.8	796.050	CC, ES
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	12,800.0	6,600.0	9,960.3	9,752.9	48.010	SF
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,222.1	5,549.8	681.2	513.9	4.070	CC
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,299.2	5,615.2	682.5	512.9	4.026	ES
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,400.0	5,700.7	687.7	515.7	3.997	SF
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	700.0	661.0	1,256.4	1,242.3	88.575	CC
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	1,000.0	960.5	1,259.5	1,238.6	60.327	ES
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	8,169.3	6,825.9	4,214.6	3,991.4	18.888	SF
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	98.4	80.3	55.4	55.3	398.064	CC, ES
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	1,082.7	1,063.8	70.8	67.8	23.782	SF
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	100.0	100.0	173.2	173.0	917.472	CC, ES
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	13,484.2	15,072.1	1,651.8	1,184.5	3.535	SF
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	200.0	200.0	152.9	152.2	239.508	CC, ES
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	13,500.0	15,280.6	1,845.4	1,380.0	3.965	SF
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	135.9	134.8	124.923	CC, ES
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	13,582.6	15,100.4	2,008.0	1,537.7	4.269	SF
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	400.0	119.4	117.9	77.691	CC, ES
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	13,600.0	15,171.7	2,339.6	1,867.5	4.956	SF
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	500.0	500.0	110.8	108.8	55.770	CC, ES
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	13,681.1	15,409.8	2,521.0	2,047.8	5.328	SF
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	600.0	600.0	102.3	99.9	42.007	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 2-16-18
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 2-16-18	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 17 - ORIGINAL WELLBORE - PROPOSAL #2	13,700.0	15,284.8	2,678.6	2,203.2	5.634	SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	99.3	96.5	34.423	CC, ES
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	13,800.0	15,420.3	3,022.7	2,544.4	6.320	SF
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	102.4	99.5	35.507	CC, ES
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	13,877.9	15,682.9	3,204.0	2,724.2	6.678	SF
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	109.8	106.9	38.036	CC, ES
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	13,976.3	15,616.6	3,378.2	2,894.3	6.981	SF
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	122.9	120.0	42.578	CC, ES
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	14,074.8	15,843.4	3,724.1	3,237.3	7.651	SF
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	137.2	134.3	47.535	CC, ES
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	14,173.2	16,129.6	3,910.8	3,421.9	7.998	SF
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	155.9	153.0	54.012	CC, ES
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	14,200.0	16,069.4	4,072.6	3,581.7	8.296	SF
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	175.4	172.5	60.761	CC, ES
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	14,370.0	16,281.8	4,435.7	3,939.9	8.947	SF
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	100.0	99.0	143.2	143.0	762.306	CC, ES
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	20,471.3	20,226.0	1,344.3	502.0	1.596	SF
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	700.0	699.0	73.2	70.4	25.396	CC
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	20,471.3	20,697.9	659.4	-194.1	0.773	Level 1, ES, SF
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	700.0	699.0	98.6	95.7	34.179	CC
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	20,471.3	20,871.0	846.3	15.5	1.019	Level 2, ES, SF
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	700.0	700.0	47.9	45.0	16.599	CC
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,471.3	20,547.6	327.9	-524.4	0.385	Level 1, ES, SF
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	600.0	600.0	22.6	20.1	9.267	CC
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,471.3	20,403.6	331.5	-517.1	0.391	Level 1, ES, SF
VT-LDS 4-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	70.0	68.5	45.604	CC
VT-LDS 4-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,471.3	20,287.9	681.3	-164.7	0.805	Level 1, ES, SF
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	95.3	94.2	87.625	CC, ES
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,471.3	20,298.7	1,012.8	168.0	1.199	Level 2, SF
VT-LDS C2-16-18 - ORIGINAL WELLBORE - PROPOSAL	700.0	699.0	25.3	22.4	8.783	CC
VT-LDS C2-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,471.3	20,657.5	254.8	-313.2	0.449	Level 1, ES, SF
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSAL	500.0	500.0	47.5	45.5	23.900	CC
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,471.3	20,510.3	556.6	-240.4	0.698	Level 1, ES, SF
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSAL	200.0	199.0	117.9	117.2	184.995	CC, ES
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,471.3	20,473.7	1,192.9	360.2	1.432	Level 3, 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						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	157.00	-2,409.9	1,022.8	2,618.3						
98.4	98.4	55.4	55.4	0.1	0.6	157.00	-2,409.9	1,022.8	2,618.0	2,617.3	0.68	3,875.156			
100.0	100.0	57.0	57.0	0.1	0.6	157.00	-2,409.9	1,022.8	2,618.0	2,617.3	0.69	3,772.762			
196.8	196.8	153.8	153.8	0.3	2.3	157.00	-2,409.9	1,022.8	2,618.0	2,615.4	2.61	1,001.156			
200.0	200.0	157.0	157.0	0.3	2.4	157.00	-2,409.9	1,022.8	2,618.0	2,615.3	2.70	971.342			
295.3	295.3	252.3	252.3	0.5	4.5	157.00	-2,409.9	1,022.8	2,618.0	2,613.0	5.00	524.017			
300.0	300.0	257.0	257.0	0.5	4.6	157.00	-2,409.9	1,022.8	2,618.0	2,612.9	5.10	512.836			
393.7	393.7	350.7	350.7	0.8	6.5	157.00	-2,409.9	1,022.8	2,618.0	2,610.7	7.25	361.311			
400.0	400.0	357.0	357.0	0.8	6.6	157.00	-2,409.9	1,022.8	2,618.0	2,610.6	7.39	354.325			

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 2-16-18
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 2-16-18	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	
0.0	0.0	0.0	0.0	0.0	0.0	78.67	873.3	4,356.7	4,443.4				
98.4	98.4	77.9	77.9	0.1	0.0	78.67	873.3	4,356.7	4,443.3	4,443.2	0.14	N/A	
100.0	100.0	79.5	79.5	0.1	0.1	78.67	873.3	4,356.7	4,443.3	4,443.2	0.14	N/A	
196.8	196.8	176.3	176.3	0.3	0.2	78.67	873.3	4,356.7	4,443.3	4,442.8	0.55	8,120.228	
200.0	200.0	179.5	179.5	0.3	0.2	78.67	873.3	4,356.7	4,443.3	4,442.8	0.56	7,915.394	
295.3	295.3	274.8	274.8	0.5	0.5	78.67	873.3	4,356.7	4,443.3	4,442.3	0.99	4,489.825	
300.0	300.0	279.5	279.5	0.5	0.5	78.67	873.3	4,356.7	4,443.3	4,442.3	1.01	4,395.486	
393.7	393.7	373.2	373.2	0.8	0.7	78.67	873.3	4,356.7	4,443.3	4,441.9	1.43	3,102.676	
400.0	400.0	379.5	379.5	0.8	0.7	78.67	873.3	4,356.7	4,443.3	4,441.9	1.46	3,042.509	
492.1	492.1	471.6	471.6	1.0	0.9	78.67	873.3	4,356.7	4,443.3	4,441.5	1.87	2,370.348	
500.0	500.0	479.5	479.5	1.0	0.9	78.67	873.3	4,356.7	4,443.3	4,441.4	1.91	2,326.414	
590.5	590.5	570.0	570.0	1.2	1.1	78.67	873.3	4,356.7	4,443.3	4,441.0	2.32	1,917.709	
600.0	600.0	579.5	579.5	1.2	1.1	78.67	873.3	4,356.7	4,443.3	4,441.0	2.36	1,883.182	
689.0	689.0	668.5	668.5	1.4	1.3	78.67	873.3	4,356.7	4,443.3	4,440.6	2.76	1,610.223	
700.0	700.0	679.5	679.5	1.4	1.4	78.67	873.3	4,356.7	4,443.3	4,440.5	2.81	1,581.813	
787.4	787.4	766.9	766.9	1.6	1.6	155.83	873.3	4,356.7	4,444.5	4,441.4	3.19	1,391.733	
800.0	800.0	779.5	779.5	1.7	1.6	155.83	873.3	4,356.7	4,444.9	4,441.7	3.25	1,368.190	
885.8	885.7	865.2	865.2	1.8	1.8	155.82	873.3	4,356.7	4,448.8	4,445.2	3.62	1,228.766	
900.0	899.8	879.3	879.3	1.9	1.8	155.82	873.3	4,356.7	4,449.7	4,446.0	3.68	1,208.686	
984.2	983.8	963.3	963.3	2.1	2.0	155.80	873.3	4,356.7	4,456.2	4,452.1	4.05	1,100.606	
1,000.0	999.5	979.0	979.0	2.1	2.0	155.80	873.3	4,356.7	4,457.7	4,453.5	4.12	1,082.741	
1,082.7	1,081.5	1,061.0	1,061.0	2.3	2.2	155.78	873.3	4,356.7	4,466.6	4,462.1	4.48	996.961	
1,100.0	1,098.7	1,078.2	1,078.2	2.4	2.3	155.77	873.3	4,356.7	4,468.8	4,464.2	4.56	980.902	
1,181.1	1,178.8	1,158.3	1,158.3	2.6	2.4	155.74	873.3	4,356.7	4,480.1	4,475.2	4.92	911.357	
1,200.0	1,197.5	1,177.0	1,177.0	2.6	2.5	155.74	873.3	4,356.7	4,483.1	4,478.1	5.00	896.769	
1,279.5	1,275.6	1,200.0	1,200.0	2.9	2.5	155.64	873.3	4,356.7	4,497.0	4,491.8	5.24	858.623	
1,300.0	1,295.6	1,235.7	1,235.7	3.0	2.6	155.65	873.2	4,356.8	4,500.9	4,495.5	5.36	840.000	
1,377.9	1,371.6	1,271.6	1,271.6	3.3	2.7	155.55	873.2	4,357.3	4,517.6	4,512.0	5.63	802.854	
1,400.0	1,393.1	1,300.0	1,300.0	3.4	2.7	155.55	873.1	4,358.0	4,522.9	4,517.2	5.74	787.880	
1,476.4	1,466.9	1,300.0	1,300.0	3.7	2.7	155.38	873.1	4,358.0	4,542.5	4,536.6	5.95	764.045	
1,500.0	1,489.6	1,327.0	1,327.0	3.8	2.8	155.36	872.9	4,358.8	4,549.0	4,543.0	6.06	750.575	
1,574.8	1,561.3	1,360.4	1,360.3	4.2	2.9	155.23	872.7	4,360.0	4,571.3	4,565.0	6.34	720.779	
1,600.0	1,585.3	1,371.5	1,371.4	4.4	2.9	155.18	872.6	4,360.5	4,579.3	4,572.9	6.44	711.494	
1,615.5	1,600.0	1,400.0	1,399.9	4.4	2.9	155.19	872.4	4,361.8	4,584.5	4,578.0	6.54	701.179	
1,673.2	1,654.8	1,400.0	1,399.9	4.8	2.9	155.19	872.4	4,361.8	4,603.6	4,596.9	6.73	684.037	
1,680.5	1,661.7	1,400.0	1,399.9	4.8	2.9	155.19	872.4	4,361.8	4,606.0	4,599.3	6.75	682.009	
1,700.0	1,680.2	1,400.0	1,399.9	4.9	2.9	155.13	872.4	4,361.8	4,612.7	4,605.9	6.82	676.805	
1,771.6	1,747.8	1,446.1	1,445.9	5.4	3.0	154.99	872.0	4,364.5	4,638.4	4,631.2	7.14	650.074	
1,800.0	1,774.3	1,458.1	1,457.9	5.6	3.1	154.92	871.9	4,365.3	4,649.1	4,641.8	7.26	640.388	
1,870.1	1,839.6	1,500.0	1,499.7	6.1	3.2	154.76	871.4	4,368.3	4,677.0	4,669.4	7.59	616.055	
1,900.0	1,867.2	1,500.0	1,499.7	6.3	3.2	154.65	871.4	4,368.3	4,689.5	4,681.8	7.70	608.860	
1,968.5	1,930.1	1,500.0	1,499.7	6.8	3.2	154.36	871.4	4,368.3	4,719.5	4,711.5	7.97	591.851	
2,000.0	1,958.8	1,540.5	1,540.0	7.1	3.2	154.33	870.8	4,371.6	4,733.6	4,725.5	8.17	579.070	
2,066.9	2,019.3	1,566.9	1,566.4	7.7	3.3	154.10	870.4	4,374.1	4,765.3	4,756.8	8.51	559.774	
2,100.0	2,048.9	1,608.7	1,607.9	7.9	3.4	154.07	869.8	4,378.2	4,781.7	4,773.0	8.73	547.627	
2,165.3	2,107.0	1,608.7	1,607.9	8.6	3.4	153.73	869.8	4,378.2	4,814.8	4,805.8	9.04	532.396	
2,200.0	2,137.4	1,567.3	1,567.5	8.9	3.5	161.89	802.2	-367.2	4,815.6	4,784.2	31.44	153.187	
2,263.8	2,193.0	1,597.7	1,597.5	9.6	3.6	162.58	802.0	-397.7	4,759.6	4,728.1	31.48	151.199	
2,300.0	2,224.3	1,615.5	1,615.5	9.9	3.6	162.94	801.9	-415.5	4,728.0	4,696.5	31.56	149.794	
2,362.2	2,277.4	1,647.0	1,647.5	10.6	3.7	163.54	801.8	-447.0	4,674.4	4,642.6	31.81	146.944	
2,365.0	2,279.8	1,648.5	1,648.5	10.6	3.7	163.56	801.7	-448.4	4,672.0	4,640.2	31.82	146.806	
2,400.0	2,309.5	1,666.5	1,666.5	11.0	3.8	163.56	801.6	-466.5	4,642.0	4,610.0	32.07	144.754	

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 2-16-18
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 2-16-18	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 F-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		
2,460.6	2,360.9	11,697.8	6,878.5	11.7	139.2	163.55	801.5	-497.8	4,590.1	4,557.6	32.49	141.257		
2,500.0	2,394.3	11,718.1	6,878.5	12.2	139.8	163.54	801.3	-518.1	4,556.4	4,523.6	32.77	139.028		
2,559.0	2,444.4	11,748.6	6,878.5	12.9	140.7	163.53	801.2	-548.5	4,505.8	4,472.6	33.19	135.738		
2,600.0	2,479.1	11,769.7	6,878.5	13.3	141.3	163.52	801.0	-569.7	4,470.7	4,437.2	33.49	133.501		
2,657.5	2,527.8	11,799.4	6,878.5	14.0	142.1	163.51	800.9	-599.3	4,421.5	4,387.6	33.90	130.413		
2,700.0	2,563.9	11,821.3	6,878.5	14.5	142.7	163.50	800.7	-621.3	4,385.1	4,350.8	34.21	128.173		
2,755.9	2,611.3	11,850.2	6,878.5	15.2	143.5	163.49	800.6	-650.1	4,337.2	4,302.6	34.62	125.277		
2,800.0	2,648.7	11,872.9	6,878.5	15.7	144.1	163.48	800.4	-672.9	4,299.4	4,264.5	34.94	123.037		
2,854.3	2,694.8	11,901.0	6,878.5	16.3	144.9	163.46	800.3	-700.9	4,252.9	4,217.5	35.34	120.325		
2,900.0	2,733.5	11,924.5	6,878.5	16.8	145.6	163.45	800.1	-724.5	4,213.8	4,178.1	35.68	118.089		
2,952.7	2,778.3	11,951.8	6,878.5	17.5	146.3	163.44	800.0	-751.7	4,168.6	4,132.5	36.08	115.551		
3,000.0	2,818.3	11,976.1	6,878.5	18.0	147.0	163.43	799.8	-776.1	4,128.1	4,091.7	36.43	113.321		
3,051.2	2,861.7	12,002.5	6,878.5	18.6	147.8	163.42	799.7	-802.5	4,084.3	4,047.4	36.81	110.948		
3,100.0	2,903.1	12,027.7	6,878.5	19.2	148.5	163.41	799.5	-827.7	4,042.4	4,005.3	37.18	108.726		
3,149.6	2,945.2	12,053.3	6,878.5	19.8	149.2	163.39	799.4	-853.3	4,000.0	3,962.4	37.56	106.509		
3,200.0	2,987.9	12,079.3	6,878.5	20.4	149.9	163.38	799.2	-879.3	3,956.8	3,918.9	37.94	104.298		
3,248.0	3,028.7	12,104.1	6,878.5	21.0	150.6	163.37	799.1	-904.1	3,915.7	3,877.3	38.30	102.228		
3,300.0	3,072.7	12,130.9	6,878.5	21.6	151.3	163.35	798.9	-930.9	3,871.1	3,832.4	38.70	100.028		
3,346.4	3,112.1	12,154.9	6,878.5	22.1	152.0	163.34	798.8	-954.8	3,831.3	3,792.3	39.06	98.097		
3,400.0	3,157.5	12,182.5	6,878.5	22.8	152.8	163.33	798.6	-982.5	3,785.5	3,746.0	39.47	95.910		
3,444.9	3,195.6	12,205.7	6,878.5	23.3	153.4	163.31	798.5	-1,005.6	3,747.0	3,707.2	39.82	94.110		
3,500.0	3,242.4	12,234.1	6,878.5	24.0	154.2	163.30	798.3	-1,034.1	3,699.8	3,659.6	40.24	91.937		
3,543.3	3,279.1	12,256.5	6,878.5	24.5	154.8	163.28	798.2	-1,056.4	3,662.7	3,622.2	40.58	90.260		
3,600.0	3,327.2	12,285.7	6,878.5	25.2	155.7	163.27	798.0	-1,085.7	3,614.2	3,573.2	41.02	88.102		
3,641.7	3,362.5	12,307.3	6,878.5	25.6	156.3	163.25	797.9	-1,107.2	3,578.4	3,537.1	41.35	86.541		
3,700.0	3,412.0	12,337.3	6,878.5	26.3	157.1	163.23	797.7	-1,137.3	3,528.5	3,486.7	41.81	84.399		
3,740.1	3,446.0	12,358.1	6,878.5	26.8	157.7	163.22	797.6	-1,158.0	3,494.1	3,452.0	42.12	82.947		
3,800.0	3,496.8	12,388.9	6,878.5	27.5	158.5	163.20	797.4	-1,188.9	3,442.9	3,400.3	42.60	80.821		
3,838.6	3,529.5	12,408.8	6,878.5	28.0	159.1	163.19	797.3	-1,208.8	3,409.8	3,366.9	42.91	79.473		
3,900.0	3,581.6	12,440.5	6,878.5	28.7	160.0	163.17	797.1	-1,240.5	3,357.2	3,313.8	43.40	77.363		
3,937.0	3,612.9	12,459.6	6,878.5	29.2	160.5	163.15	797.0	-1,259.6	3,325.5	3,281.8	43.69	76.112		
4,000.0	3,666.4	12,492.1	6,878.5	29.9	161.4	163.13	796.8	-1,292.1	3,271.6	3,227.4	44.20	74.019		
4,035.4	3,696.4	12,510.4	6,878.5	30.4	161.9	163.12	796.7	-1,310.3	3,241.2	3,196.7	44.49	72.861		
4,100.0	3,751.2	12,543.7	6,878.5	31.1	162.9	163.09	796.5	-1,343.7	3,185.9	3,140.9	45.01	70.784		
4,133.8	3,779.9	12,561.2	6,878.5	31.5	163.4	163.08	796.4	-1,361.1	3,156.9	3,111.6	45.28	69.713		
4,200.0	3,836.0	12,595.3	6,878.5	32.3	164.3	163.05	796.2	-1,395.3	3,100.3	3,054.4	45.83	67.653		
4,232.3	3,863.4	12,612.0	6,878.5	32.7	164.8	163.03	796.1	-1,411.9	3,072.6	3,026.5	46.09	66.664		
4,300.0	3,920.8	12,646.9	6,878.5	33.5	165.8	163.01	795.9	-1,446.9	3,014.6	2,968.0	46.65	64.622		
4,330.7	3,946.8	12,662.8	6,878.5	33.9	166.2	162.99	795.9	-1,462.7	2,988.3	2,941.4	46.90	63.710		
4,400.0	4,005.6	12,698.5	6,878.5	34.7	167.2	162.96	795.6	-1,498.5	2,929.0	2,881.5	47.48	61.685		
4,429.1	4,030.3	12,713.6	6,878.5	35.1	167.6	162.95	795.6	-1,513.5	2,904.0	2,856.3	47.73	60.847		
4,500.0	4,090.4	12,750.1	6,878.5	35.9	168.6	162.91	795.3	-1,550.1	2,843.3	2,795.0	48.32	58.840		
4,527.5	4,113.8	12,764.3	6,878.5	36.3	169.0	162.90	795.3	-1,564.3	2,819.7	2,771.2	48.56	58.071		
4,600.0	4,175.2	12,801.7	6,878.5	37.1	170.1	162.86	795.0	-1,601.7	2,757.7	2,708.5	49.17	56.080		
4,626.0	4,197.2	12,815.1	6,878.5	37.4	170.5	162.84	795.0	-1,615.1	2,735.4	2,686.0	49.40	55.377		
4,700.0	4,260.0	12,853.3	6,878.5	38.3	171.5	162.80	794.7	-1,653.3	2,672.0	2,622.0	50.03	53.404		
4,724.4	4,280.7	12,865.9	6,878.5	38.6	171.9	162.79	794.7	-1,665.8	2,651.1	2,600.9	50.25	52.764		
4,800.0	4,344.8	12,904.9	6,878.5	39.5	173.0	162.74	794.4	-1,704.9	2,586.4	2,535.5	50.91	50.808		
4,822.8	4,364.2	12,916.7	6,878.5	39.8	173.3	162.73	794.4	-1,716.6	2,566.8	2,515.7	51.11	50.226		
4,900.0	4,429.6	12,956.5	6,878.5	40.7	174.4	162.68	794.1	-1,756.5	2,500.7	2,448.9	51.79	48.287		
4,921.2	4,447.6	12,967.5	6,878.5	41.0	174.7	162.67	794.1	-1,767.4	2,482.5	2,430.5	51.98	47.761		
5,000.0	4,514.4	13,008.1	6,878.5	41.9	175.9	162.61	793.8	-1,808.1	2,415.1	2,362.4	52.69	45.839		

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 2-16-18
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 2-16-18	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		
5,019.7	4,531.1	13,018.3	6,878.5	42.2	176.1	162.60	793.8	-1,818.2	2,398.2	2,345.4	52.86	45.366		
5,100.0	4,599.2	13,059.7	6,878.5	43.1	177.3	162.54	793.5	-1,859.7	2,329.4	2,275.8	53.60	43.461		
5,118.1	4,614.6	13,069.1	6,878.5	43.4	177.6	162.53	793.5	-1,869.0	2,313.9	2,260.2	53.76	43.038		
5,200.0	4,684.0	13,111.3	6,878.5	44.3	178.7	162.46	793.2	-1,911.3	2,243.8	2,189.3	54.53	41.150		
5,216.5	4,698.0	13,119.9	6,878.5	44.5	179.0	162.45	793.2	-1,919.8	2,229.6	2,174.9	54.68	40.774		
5,300.0	4,768.8	13,162.9	6,878.5	45.5	180.2	162.38	792.9	-1,962.9	2,158.1	2,102.7	55.47	38.903		
5,314.9	4,781.5	13,170.6	6,878.5	45.7	180.4	162.37	792.9	-1,970.6	2,145.3	2,089.7	55.62	38.572		
5,400.0	4,853.6	13,214.5	6,878.5	46.8	181.6	162.29	792.6	-2,014.4	2,072.5	2,016.1	56.44	36.718		
5,413.4	4,865.0	13,221.4	6,878.5	46.9	181.8	162.28	792.6	-2,021.4	2,061.0	2,004.5	56.58	36.430		
5,500.0	4,938.4	13,266.1	6,878.5	48.0	183.1	162.19	792.3	-2,066.0	1,986.9	1,929.4	57.44	34.592		
5,511.8	4,948.5	13,272.2	6,878.5	48.1	183.3	162.18	792.3	-2,072.1	1,976.8	1,919.2	57.56	34.345		
5,600.0	5,023.3	13,317.7	6,878.5	49.2	184.5	162.08	792.0	-2,117.6	1,901.2	1,842.8	58.46	32.523		
5,610.2	5,031.9	13,323.0	6,878.5	49.3	184.7	162.07	792.0	-2,122.9	1,892.5	1,833.9	58.56	32.314		
5,700.0	5,108.1	13,369.3	6,878.5	50.4	186.0	161.96	791.7	-2,169.2	1,815.6	1,756.1	59.51	30.508		
5,708.6	5,115.4	13,373.8	6,878.5	50.5	186.1	161.95	791.7	-2,173.7	1,808.2	1,748.6	59.60	30.337		
5,800.0	5,192.9	13,420.9	6,878.5	51.6	187.4	161.84	791.4	-2,220.8	1,729.9	1,669.3	60.60	28.547		
5,807.1	5,198.9	13,424.6	6,878.5	51.7	187.5	161.83	791.4	-2,224.5	1,723.9	1,663.2	60.68	28.410		
5,900.0	5,277.7	13,472.5	6,878.5	52.8	188.9	161.69	791.1	-2,272.4	1,644.3	1,582.6	61.73	26.636		
5,905.5	5,282.3	13,475.4	6,878.5	52.8	188.9	161.68	791.1	-2,275.3	1,639.6	1,577.8	61.80	26.532		
6,000.0	5,362.5	13,524.1	6,878.5	54.0	190.3	161.53	790.8	-2,324.0	1,558.7	1,495.8	62.92	24.774		
6,003.9	5,365.8	13,526.2	6,878.5	54.0	190.4	161.53	790.8	-2,326.1	1,555.3	1,492.4	62.96	24.702		
6,100.0	5,447.3	13,575.7	6,878.5	55.2	191.7	161.36	790.5	-2,375.6	1,473.1	1,408.9	64.16	22.959		
6,102.3	5,449.3	13,576.9	6,878.5	55.2	191.8	161.35	790.5	-2,376.9	1,471.1	1,406.9	64.19	22.917		
6,200.0	5,532.1	13,627.3	6,878.5	56.4	193.2	161.16	790.2	-2,427.2	1,387.4	1,322.0	65.48	21.190		
6,200.8	5,532.7	13,627.7	6,878.5	56.4	193.2	161.16	790.2	-2,427.6	1,386.8	1,321.3	65.49	21.177		
6,299.2	5,616.2	13,678.5	6,878.5	57.6	194.6	160.93	789.9	-2,478.4	1,302.5	1,235.6	66.87	19.479		
6,300.0	5,616.9	13,678.9	6,878.5	57.6	194.6	160.93	789.9	-2,478.8	1,301.8	1,234.9	66.88	19.465		
6,397.6	5,699.7	13,729.3	6,878.5	58.8	196.0	160.68	789.6	-2,529.2	1,218.3	1,149.9	68.35	17.823		
6,400.0	5,701.7	13,730.5	6,878.5	58.8	196.1	160.68	789.6	-2,530.4	1,216.2	1,147.8	68.39	17.783		
6,496.0	5,783.1	13,780.1	6,878.5	59.9	197.5	160.39	789.3	-2,580.0	1,134.0	1,064.0	69.97	16.207		
6,500.0	5,786.5	13,782.1	6,878.5	60.0	197.5	160.38	789.3	-2,582.0	1,130.6	1,060.6	70.04	16.143		
6,594.5	5,866.6	13,830.9	6,878.5	61.1	198.9	160.06	789.0	-2,630.8	1,049.8	978.0	71.75	14.631		
6,600.0	5,871.3	13,833.7	6,878.5	61.2	199.0	160.04	789.0	-2,633.6	1,045.0	973.2	71.85	14.544		
6,692.9	5,950.1	13,881.7	6,878.5	62.3	200.3	159.67	788.8	-2,681.6	965.5	891.8	73.74	13.094		
6,700.0	5,956.1	13,885.3	6,878.5	62.4	200.4	159.63	788.7	-2,685.2	959.4	885.6	73.89	12.985		
6,791.3	6,033.6	13,932.4	6,878.5	63.5	201.7	159.20	788.5	-2,732.4	881.3	805.3	76.00	11.596		
6,800.0	6,040.9	13,936.9	6,878.5	63.6	201.9	159.15	788.4	-2,736.8	873.9	797.7	76.22	11.466		
6,889.7	6,117.0	13,983.2	6,878.5	64.7	203.2	158.63	788.2	-2,783.1	797.1	718.5	78.63	10.137		
6,900.0	6,125.7	13,988.5	6,878.5	64.8	203.3	158.56	788.1	-2,788.4	788.3	709.4	78.93	9.987		
6,988.2	6,200.5	14,034.0	6,878.5	65.9	204.6	157.93	787.9	-2,833.9	712.9	631.2	81.77	8.718		
7,000.0	6,210.5	14,040.1	6,878.5	66.0	204.7	157.84	787.8	-2,840.0	702.8	620.6	82.20	8.551		
7,086.6	6,284.0	14,084.8	6,878.5	67.1	206.0	157.05	787.6	-2,884.7	628.8	543.1	85.64	7.342		
7,100.0	6,295.3	14,091.7	6,878.5	67.2	206.2	156.91	787.5	-2,891.6	617.3	531.1	86.24	7.159		
7,185.0	6,367.4	14,135.6	6,878.5	68.3	207.4	155.89	787.3	-2,935.5	544.7	454.1	90.58	6.014		
7,200.0	6,380.1	14,143.3	6,878.5	68.4	207.6	155.69	787.2	-2,943.2	531.9	440.5	91.45	5.816		
7,283.4	6,450.9	14,186.4	6,878.5	69.4	208.8	154.33	787.0	-2,986.3	460.7	363.5	97.19	4.740		
7,300.0	6,464.9	14,194.9	6,878.5	69.6	209.1	154.01	786.9	-2,994.8	446.6	348.1	98.53	4.532		
7,381.0	6,533.6	14,236.7	6,878.5	70.6	210.3	152.11	786.7	-3,036.6	377.6	271.1	106.49	3.546		
7,381.9	6,534.4	14,237.2	6,878.5	70.6	210.3	152.15	786.7	-3,037.1	376.8	270.4	106.39	3.542		
7,400.0	6,549.6	14,246.8	6,878.5	70.9	210.5	152.98	786.6	-3,046.7	361.6	257.0	104.61	3.456		
7,450.0	6,589.8	14,275.7	6,878.5	71.5	211.3	154.88	786.5	-3,075.6	321.0	219.5	101.49	3.163		
7,480.3	6,612.9	14,294.8	6,878.5	72.0	211.9	155.85	786.3	-3,094.7	297.6	197.0	100.51	2.960		

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 2-16-18
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 2-16-18	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 F-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		
7,500.0	6,627.3	14,307.8	6,878.5	72.3	212.2	156.44	786.3	-3,107.7	282.8	182.7	100.11	2.825		
7,550.0	6,661.8	14,343.1	6,878.5	73.2	213.2	157.84	786.1	-3,143.0	247.4	147.9	99.57	2.485		
7,578.7	6,680.1	14,364.6	6,878.5	73.8	213.8	158.66	785.9	-3,164.5	228.4	129.1	99.34	2.300		
7,600.0	6,692.9	14,381.1	6,878.5	74.2	214.3	159.28	785.8	-3,181.0	215.0	115.9	99.10	2.170		
7,650.0	6,720.6	14,421.7	6,878.5	75.2	215.4	160.96	785.6	-3,221.6	185.8	87.8	98.00	1.896		
7,677.1	6,734.1	14,444.6	6,878.5	75.8	216.1	162.05	785.5	-3,244.5	171.4	74.5	96.89	1.769		
7,700.0	6,744.5	14,464.4	6,878.5	76.3	216.6	163.10	785.4	-3,264.3	160.1	64.5	95.58	1.675		
7,750.0	6,764.5	14,509.0	6,878.5	77.5	217.9	165.96	785.1	-3,308.9	138.1	46.8	91.31	1.512		
7,775.6	6,773.2	14,532.4	6,878.5	78.1	218.5	167.80	785.0	-3,332.3	128.5	40.1	88.40	1.453 Level 3		
7,783.9	6,775.8	14,540.1	6,878.5	78.3	218.8	168.46	784.9	-3,340.0	125.6	38.2	87.37	1.437 Level 3		
7,800.0	6,780.7	14,555.1	6,878.5	78.7	219.2	169.70	784.8	-3,355.0	120.1	35.1	85.05	1.412 Level 3		
7,874.0	6,803.2	14,623.7	6,878.5	80.5	221.1	177.11	784.4	-3,423.6	95.9	16.7	79.21	1.211 Level 2		
7,900.0	6,811.1	14,647.8	6,878.5	81.2	221.8	-179.38	784.3	-3,447.7	87.9	5.8	82.05	1.071 Level 2		
7,968.5	6,832.0	14,711.4	6,878.5	82.9	223.6	-166.68	783.9	-3,511.3	68.9	-46.9	115.76	0.595 Level 1		
7,972.4	6,833.1	14,715.0	6,878.5	83.0	223.7	-165.77	783.9	-3,514.9	67.9	-50.6	118.58	0.573 Level 1		
8,000.0	6,840.9	14,740.9	6,878.5	83.7	224.4	-159.19	783.7	-3,540.8	62.2	-78.5	140.77	0.442 Level 1		
8,036.6	6,849.5	14,769.7	6,878.5	84.6	225.2	-151.81	783.6	-3,569.6	57.4	-109.9	167.37	0.343 Level 1, CC, ES, SF		
8,050.0	6,852.2	14,769.7	6,878.5	84.9	225.2	-151.51	783.6	-3,569.6	59.0	-108.8	167.80	0.352 Level 1		
8,070.8	6,855.9	14,769.7	6,878.5	85.4	225.2	-150.49	783.6	-3,569.6	67.2	-103.6	170.88	0.394 Level 1		
8,100.0	6,860.0	14,769.7	6,878.5	86.2	225.2	-147.87	783.6	-3,569.6	86.6	-93.7	180.29	0.480 Level 1		
8,150.0	6,864.2	14,769.7	6,878.5	87.4	225.2	-139.69	783.6	-3,569.6	129.2	-82.1	211.28	0.612 Level 1		
8,169.3	6,864.9	14,769.7	6,878.5	87.9	225.2	-135.11	783.6	-3,569.6	147.0	-80.9	227.94	0.645 Level 1		
8,183.2	6,865.0	14,769.7	6,878.5	88.2	225.2	-131.27	783.6	-3,569.6	160.1	-81.0	241.14	0.664 Level 1		
8,200.0	6,865.0	14,769.7	6,878.5	88.7	225.2	-131.27	783.6	-3,569.6	176.1	-65.4	241.47	0.729 Level 1		
8,267.7	6,865.0	14,769.7	6,878.5	90.3	225.2	-131.27	783.6	-3,569.6	241.7	-1.1	242.79	0.995 Level 1		
8,300.0	6,865.0	14,769.7	6,878.5	91.2	225.2	-131.27	783.6	-3,569.6	273.3	29.9	243.42	1.123 Level 2		
8,366.1	6,865.0	14,769.7	6,878.5	92.8	225.2	-131.27	783.6	-3,569.6	338.5	93.7	244.72	1.383 Level 3		
8,400.0	6,865.0	14,769.7	6,878.5	93.7	225.2	-131.27	783.6	-3,569.6	372.0	126.6	245.39	1.516		
8,464.5	6,865.0	14,769.7	6,878.5	95.3	225.2	-131.27	783.6	-3,569.6	436.0	189.3	246.67	1.768		
8,500.0	6,865.0	14,769.7	6,878.5	96.2	225.2	-131.27	783.6	-3,569.6	471.2	223.9	247.37	1.905		
8,563.0	6,865.0	14,769.7	6,878.5	97.8	225.2	-131.27	783.6	-3,569.6	533.9	285.2	248.62	2.147		
8,600.0	6,865.0	14,769.7	6,878.5	98.7	225.2	-131.27	783.6	-3,569.6	570.7	321.4	249.36	2.289		
8,661.4	6,865.0	14,769.7	6,878.5	100.3	225.2	-131.27	783.6	-3,569.6	631.9	381.3	250.58	2.522		
8,700.0	6,865.0	14,769.7	6,878.5	101.3	225.2	-131.27	783.6	-3,569.6	670.4	419.0	251.35	2.667		
8,759.8	6,865.0	14,769.7	6,878.5	102.8	225.2	-131.27	783.6	-3,569.6	730.0	477.5	252.55	2.891		
8,800.0	6,865.0	14,769.7	6,878.5	103.9	225.2	-131.27	783.6	-3,569.6	770.1	516.8	253.36	3.040		
8,858.2	6,865.0	14,769.7	6,878.5	105.4	225.2	-131.27	783.6	-3,569.6	828.2	573.7	254.54	3.254		
8,900.0	6,865.0	14,769.7	6,878.5	106.4	225.2	-131.27	783.6	-3,569.6	869.9	614.5	255.38	3.406		
8,956.7	6,865.0	14,769.7	6,878.5	107.9	225.2	-131.27	783.6	-3,569.6	926.5	670.0	256.52	3.612		
9,000.0	6,865.0	14,769.7	6,878.5	109.0	225.2	-131.27	783.6	-3,569.6	969.8	712.4	257.40	3.768		
9,055.1	6,865.0	14,769.7	6,878.5	110.5	225.2	-131.27	783.6	-3,569.6	1,024.8	766.3	258.52	3.964		
9,100.0	6,865.0	14,769.7	6,878.5	111.6	225.2	-131.27	783.6	-3,569.6	1,069.6	810.2	259.43	4.123		
9,153.5	6,865.0	14,769.7	6,878.5	113.0	225.2	-131.27	783.6	-3,569.6	1,123.1	862.6	260.52	4.311		
9,200.0	6,865.0	14,769.7	6,878.5	114.2	225.2	-131.27	783.6	-3,569.6	1,169.5	908.1	261.47	4.473		
9,251.9	6,865.0	14,769.7	6,878.5	115.6	225.2	-131.27	783.6	-3,569.6	1,221.4	958.9	262.53	4.652		
9,300.0	6,865.0	14,769.7	6,878.5	116.9	225.2	-131.27	783.6	-3,569.6	1,269.4	1,005.9	263.51	4.817		
9,350.4	6,865.0	14,769.7	6,878.5	118.2	225.2	-131.27	783.6	-3,569.6	1,319.8	1,055.2	264.55	4.989		
9,400.0	6,865.0	14,769.7	6,878.5	119.5	225.2	-131.27	783.6	-3,569.6	1,369.4	1,103.8	265.56	5.156		
9,448.8	6,865.0	14,769.7	6,878.5	120.8	225.2	-131.27	783.6	-3,569.6	1,418.1	1,151.6	266.57	5.320		
9,500.0	6,865.0	14,769.7	6,878.5	122.1	225.2	-131.27	783.6	-3,569.6	1,469.3	1,201.7	267.62	5.490		
9,547.2	6,865.0	14,769.7	6,878.5	123.4	225.2	-131.27	783.6	-3,569.6	1,516.5	1,247.9	268.59	5.646		
9,600.0	6,865.0	14,769.7	6,878.5	124.8	225.2	-131.27	783.6	-3,569.6	1,569.2	1,299.6	269.68	5.819		

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 2-16-18
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 2-16-18	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	
9,645.6	6,865.0	14,769.7	6,878.5	126.0	225.2	-131.27	783.6	-3,569.6	1,614.9	1,344.2	270.62	5.967	
9,700.0	6,865.0	14,769.7	6,878.5	127.4	225.2	-131.27	783.6	-3,569.6	1,669.2	1,397.4	271.75	6.142	
9,744.1	6,865.0	14,769.7	6,878.5	128.6	225.2	-131.27	783.6	-3,569.6	1,713.2	1,440.6	272.66	6.283	
9,800.0	6,865.0	14,769.7	6,878.5	130.1	225.2	-131.27	783.6	-3,569.6	1,769.1	1,495.3	273.82	6.461	
9,842.5	6,865.0	14,769.7	6,878.5	131.2	225.2	-131.27	783.6	-3,569.6	1,811.6	1,536.9	274.70	6.595	
9,900.0	6,865.0	14,769.7	6,878.5	132.8	225.2	-131.27	783.6	-3,569.6	1,869.1	1,593.2	275.89	6.775	
9,940.9	6,865.0	14,769.7	6,878.5	133.9	225.2	-131.27	783.6	-3,569.6	1,910.0	1,633.3	276.74	6.902	
10,000.0	6,865.0	14,769.7	6,878.5	135.4	225.2	-131.27	783.6	-3,569.6	1,969.1	1,691.1	277.97	7.084	
10,039.3	6,865.0	14,769.7	6,878.5	136.5	225.2	-131.27	783.6	-3,569.6	2,008.4	1,729.6	278.79	7.204	
10,100.0	6,865.0	14,769.7	6,878.5	138.1	225.2	-131.27	783.6	-3,569.6	2,069.0	1,789.0	280.05	7.388	
10,137.8	6,865.0	14,769.7	6,878.5	139.1	225.2	-131.27	783.6	-3,569.6	2,106.8	1,826.0	280.84	7.502	
10,200.0	6,865.0	14,769.7	6,878.5	140.8	225.2	-131.27	783.6	-3,569.6	2,169.0	1,886.9	282.14	7.688	
10,236.2	6,865.0	14,769.7	6,878.5	141.8	225.2	-131.27	783.6	-3,569.6	2,205.2	1,922.3	282.89	7.795	
10,300.0	6,865.0	14,769.7	6,878.5	143.5	225.2	-131.27	783.6	-3,569.6	2,269.0	1,984.8	284.22	7.983	
10,334.6	6,865.0	14,769.7	6,878.5	144.4	225.2	-131.27	783.6	-3,569.6	2,303.6	2,018.6	284.95	8.084	
10,400.0	6,865.0	14,769.7	6,878.5	146.2	225.2	-131.27	783.6	-3,569.6	2,369.0	2,082.6	286.32	8.274	
10,433.0	6,865.0	14,769.7	6,878.5	147.1	225.2	-131.27	783.6	-3,569.6	2,402.0	2,115.0	287.01	8.369	
10,500.0	6,865.0	14,769.7	6,878.5	148.9	225.2	-131.27	783.6	-3,569.6	2,468.9	2,180.5	288.41	8.560	
10,531.5	6,865.0	14,769.7	6,878.5	149.7	225.2	-131.27	783.6	-3,569.6	2,500.4	2,211.3	289.07	8.650	
10,600.0	6,865.0	14,769.7	6,878.5	151.6	225.2	-131.27	783.6	-3,569.6	2,568.9	2,278.4	290.51	8.843	
10,629.9	6,865.0	14,769.7	6,878.5	152.4	225.2	-131.27	783.6	-3,569.6	2,598.8	2,307.7	291.14	8.926	
10,700.0	6,865.0	14,769.7	6,878.5	154.3	225.2	-131.27	783.6	-3,569.6	2,668.9	2,376.3	292.61	9.121	
10,728.3	6,865.0	14,769.7	6,878.5	155.0	225.2	-131.27	783.6	-3,569.6	2,697.2	2,404.0	293.21	9.199	
10,800.0	6,865.0	14,769.7	6,878.5	157.0	225.2	-131.27	783.6	-3,569.6	2,768.9	2,474.2	294.71	9.395	
10,826.7	6,865.0	14,769.7	6,878.5	157.7	225.2	-131.27	783.6	-3,569.6	2,795.6	2,500.3	295.28	9.468	
10,900.0	6,865.0	14,769.7	6,878.5	159.7	225.2	-131.27	783.6	-3,569.6	2,868.9	2,572.0	296.82	9.665	
10,925.2	6,865.0	14,769.7	6,878.5	160.4	225.2	-131.27	783.6	-3,569.6	2,894.0	2,596.7	297.35	9.733	
11,000.0	6,865.0	14,769.7	6,878.5	162.4	225.2	-131.27	783.6	-3,569.6	2,968.8	2,669.9	298.93	9.932	
11,023.6	6,865.0	14,769.7	6,878.5	163.0	225.2	-131.27	783.6	-3,569.6	2,992.4	2,693.0	299.42	9.994	
11,100.0	6,865.0	14,769.7	6,878.5	165.1	225.2	-131.27	783.6	-3,569.6	3,068.8	2,767.8	301.04	10.194	
11,122.0	6,865.0	14,769.7	6,878.5	165.7	225.2	-131.27	783.6	-3,569.6	3,090.8	2,789.3	301.50	10.252	
11,200.0	6,865.0	14,769.7	6,878.5	167.8	225.2	-131.27	783.6	-3,569.6	3,168.8	2,865.7	303.15	10.453	
11,220.4	6,865.0	14,769.7	6,878.5	168.4	225.2	-131.27	783.6	-3,569.6	3,189.3	2,885.7	303.58	10.506	
11,300.0	6,865.0	14,769.7	6,878.5	170.6	225.2	-131.27	783.6	-3,569.6	3,268.8	2,963.5	305.26	10.708	
11,318.9	6,865.0	14,769.7	6,878.5	171.1	225.2	-131.27	783.6	-3,569.6	3,287.7	2,982.0	305.66	10.756	
11,400.0	6,865.0	14,769.7	6,878.5	173.3	225.2	-131.27	783.6	-3,569.6	3,368.8	3,061.4	307.38	10.960	
11,417.3	6,865.0	14,769.7	6,878.5	173.8	225.2	-131.27	783.6	-3,569.6	3,386.1	3,078.3	307.74	11.003	
11,500.0	6,865.0	14,769.7	6,878.5	176.0	225.2	-131.27	783.6	-3,569.6	3,468.8	3,159.3	309.49	11.208	
11,515.7	6,865.0	14,769.7	6,878.5	176.5	225.2	-131.27	783.6	-3,569.6	3,484.5	3,174.7	309.83	11.247	
11,600.0	6,865.0	14,769.7	6,878.5	178.8	225.2	-131.27	783.6	-3,569.6	3,568.8	3,257.2	311.61	11.453	
11,614.1	6,865.0	14,769.7	6,878.5	179.2	225.2	-131.27	783.6	-3,569.6	3,582.9	3,271.0	311.91	11.487	
11,700.0	6,865.0	14,769.7	6,878.5	181.5	225.2	-131.27	783.6	-3,569.6	3,668.8	3,355.0	313.73	11.694	
11,712.6	6,865.0	14,769.7	6,878.5	181.8	225.2	-131.27	783.6	-3,569.6	3,681.3	3,367.3	314.00	11.724	
11,800.0	6,865.0	14,769.7	6,878.5	184.2	225.2	-131.27	783.6	-3,569.6	3,768.7	3,452.9	315.86	11.932	
11,811.0	6,865.0	14,769.7	6,878.5	184.5	225.2	-131.27	783.6	-3,569.6	3,779.7	3,463.7	316.09	11.958	
11,900.0	6,865.0	14,769.7	6,878.5	187.0	225.2	-131.27	783.6	-3,569.6	3,868.7	3,550.8	317.98	12.167	
11,909.4	6,865.0	14,769.7	6,878.5	187.2	225.2	-131.27	783.6	-3,569.6	3,878.2	3,560.0	318.18	12.189	
12,000.0	6,865.0	14,769.7	6,878.5	189.7	225.2	-131.27	783.6	-3,569.6	3,968.7	3,648.6	320.10	12.398	
12,007.8	6,865.0	14,769.7	6,878.5	189.9	225.2	-131.27	783.6	-3,569.6	3,976.6	3,656.3	320.27	12.416	
12,100.0	6,865.0	14,769.7	6,878.5	192.5	225.2	-131.27	783.6	-3,569.6	4,068.7	3,746.5	322.23	12.627	
12,106.3	6,865.0	14,769.7	6,878.5	192.6	225.2	-131.27	783.6	-3,569.6	4,075.0	3,752.6	322.36	12.641	
12,200.0	6,865.0	14,769.7	6,878.5	195.2	225.2	-131.27	783.6	-3,569.6	4,168.7	3,844.4	324.36	12.852	

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 2-16-18
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 2-16-18	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	
12,204.7	6,865.0	14,769.7	6,878.5	195.3	225.2	-131.27	783.6	-3,569.6	4,173.4	3,849.0	324.46	12.863	
12,300.0	6,865.0	14,769.7	6,878.5	198.0	225.2	-131.27	783.6	-3,569.6	4,268.7	3,942.2	326.49	13.075	
12,303.1	6,865.0	14,769.7	6,878.5	198.0	225.2	-131.27	783.6	-3,569.6	4,271.8	3,945.3	326.55	13.082	
12,400.0	6,865.0	14,769.7	6,878.5	200.7	225.2	-131.27	783.6	-3,569.6	4,368.7	4,040.1	328.62	13.294	
12,401.5	6,865.0	14,769.7	6,878.5	200.7	225.2	-131.27	783.6	-3,569.6	4,370.2	4,041.6	328.65	13.298	
12,500.0	6,865.0	14,769.7	6,878.5	203.5	225.2	-131.27	783.6	-3,569.6	4,468.7	4,137.9	330.75	13.511	
12,598.4	6,865.0	14,769.7	6,878.5	206.2	225.2	-131.27	783.6	-3,569.6	4,567.1	4,234.2	332.85	13.721	
12,600.0	6,865.0	14,769.7	6,878.5	206.2	225.2	-131.27	783.6	-3,569.6	4,568.7	4,235.8	332.88	13.725	
12,696.8	6,865.0	14,769.7	6,878.5	208.9	225.2	-131.27	783.6	-3,569.6	4,665.5	4,330.6	334.95	13.929	
12,700.0	6,865.0	14,769.7	6,878.5	209.0	225.2	-131.27	783.6	-3,569.6	4,668.7	4,333.7	335.02	13.936	
12,795.2	6,865.0	14,769.7	6,878.5	211.6	225.2	-131.27	783.6	-3,569.6	4,763.9	4,426.9	337.05	14.134	
12,800.0	6,865.0	14,769.7	6,878.5	211.7	225.2	-131.27	783.6	-3,569.6	4,768.7	4,431.5	337.15	14.144	
12,893.7	6,865.0	14,769.7	6,878.5	214.3	225.2	-131.27	783.6	-3,569.6	4,862.3	4,523.2	339.15	14.337	
12,900.0	6,865.0	14,769.7	6,878.5	214.5	225.2	-131.27	783.6	-3,569.6	4,868.7	4,529.4	339.29	14.350	
12,992.1	6,865.0	14,769.7	6,878.5	217.0	225.2	-131.27	783.6	-3,569.6	4,960.8	4,619.5	341.25	14.537	
13,000.0	6,865.0	14,769.7	6,878.5	217.2	225.2	-131.27	783.6	-3,569.6	4,968.7	4,627.2	341.42	14.553	
13,090.5	6,865.0	14,769.7	6,878.5	219.7	225.2	-131.27	783.6	-3,569.6	5,059.2	4,715.8	343.36	14.734	
13,100.0	6,865.0	14,769.7	6,878.5	220.0	225.2	-131.27	783.6	-3,569.6	5,068.7	4,725.1	343.56	14.753	
13,188.9	6,865.0	14,769.7	6,878.5	222.5	225.2	-131.27	783.6	-3,569.6	5,157.6	4,812.1	345.46	14.930	
13,200.0	6,865.0	14,769.7	6,878.5	222.8	225.2	-131.27	783.6	-3,569.6	5,168.6	4,823.0	345.70	14.951	
13,287.4	6,865.0	14,769.7	6,878.5	225.2	225.2	-131.27	783.6	-3,569.6	5,256.0	4,908.5	347.57	15.122	
13,300.0	6,865.0	14,769.7	6,878.5	225.5	225.2	-131.27	783.6	-3,569.6	5,268.6	4,920.8	347.84	15.147	
13,385.8	6,865.0	14,769.7	6,878.5	227.9	225.2	-131.27	783.6	-3,569.6	5,354.4	5,004.8	349.67	15.313	
13,400.0	6,865.0	14,769.7	6,878.5	228.3	225.2	-131.27	783.6	-3,569.6	5,368.6	5,018.7	349.98	15.340	
13,484.2	6,865.0	14,769.7	6,878.5	230.6	225.2	-131.27	783.6	-3,569.6	5,452.9	5,101.1	351.78	15.501	
13,500.0	6,865.0	14,769.7	6,878.5	231.0	225.2	-131.27	783.6	-3,569.6	5,468.6	5,116.5	352.12	15.531	
13,582.6	6,865.0	14,769.7	6,878.5	233.3	225.2	-131.27	783.6	-3,569.6	5,551.3	5,197.4	353.89	15.687	
13,600.0	6,865.0	14,769.7	6,878.5	233.8	225.2	-131.27	783.6	-3,569.6	5,568.6	5,214.4	354.26	15.719	
13,681.1	6,865.0	14,769.7	6,878.5	236.1	225.2	-131.27	783.6	-3,569.6	5,649.7	5,293.7	355.99	15.870	
13,700.0	6,865.0	14,769.7	6,878.5	236.6	225.2	-131.27	783.6	-3,569.6	5,668.6	5,312.2	356.40	15.905	
13,779.5	6,865.0	14,769.7	6,878.5	238.8	225.2	-131.27	783.6	-3,569.6	5,748.1	5,390.0	358.10	16.052	
13,800.0	6,865.0	14,769.7	6,878.5	239.3	225.2	-131.27	783.6	-3,569.6	5,768.6	5,410.1	358.54	16.089	
13,877.9	6,865.0	14,769.7	6,878.5	241.5	225.2	-131.27	783.6	-3,569.6	5,846.5	5,486.3	360.21	16.231	
13,900.0	6,865.0	14,769.7	6,878.5	242.1	225.2	-131.27	783.6	-3,569.6	5,868.6	5,507.9	360.69	16.271	
13,976.3	6,865.0	14,769.7	6,878.5	244.2	225.2	-131.27	783.6	-3,569.6	5,945.0	5,582.6	362.32	16.408	
14,000.0	6,865.0	14,769.7	6,878.5	244.9	225.2	-131.27	783.6	-3,569.6	5,968.6	5,605.8	362.83	16.450	
14,074.8	6,865.0	14,769.7	6,878.5	247.0	225.2	-131.27	783.6	-3,569.6	6,043.4	5,679.0	364.43	16.583	
14,100.0	6,865.0	14,769.7	6,878.5	247.7	225.2	-131.27	783.6	-3,569.6	6,068.6	5,703.6	364.98	16.627	
14,173.2	6,865.0	14,769.7	6,878.5	249.7	225.2	-131.27	783.6	-3,569.6	6,141.8	5,775.3	366.55	16.756	
14,200.0	6,865.0	14,769.7	6,878.5	250.4	225.2	-131.27	783.6	-3,569.6	6,168.6	5,801.5	367.12	16.803	
14,271.6	6,865.0	14,769.7	6,878.5	252.4	225.2	-131.27	783.6	-3,569.6	6,240.2	5,871.6	368.66	16.927	
14,300.0	6,865.0	14,769.7	6,878.5	253.2	225.2	-131.27	783.6	-3,569.6	6,268.6	5,899.3	369.27	16.976	
14,370.0	6,865.0	14,769.7	6,878.5	255.1	225.2	-131.27	783.6	-3,569.6	6,338.7	5,967.9	370.77	17.096	
14,400.0	6,865.0	14,769.7	6,878.5	256.0	225.2	-131.27	783.6	-3,569.6	6,368.6	5,997.2	371.41	17.147	
14,468.5	6,865.0	14,769.7	6,878.5	257.9	225.2	-131.27	783.6	-3,569.6	6,437.1	6,064.2	372.88	17.263	
14,500.0	6,865.0	14,769.7	6,878.5	258.8	225.2	-131.27	783.6	-3,569.6	6,468.6	6,095.0	373.56	17.316	
14,566.9	6,865.0	14,769.7	6,878.5	260.6	225.2	-131.27	783.6	-3,569.6	6,535.5	6,160.5	375.00	17.428	
14,600.0	6,865.0	14,769.7	6,878.5	261.5	225.2	-131.27	783.6	-3,569.6	6,568.6	6,192.9	375.71	17.483	
14,665.3	6,865.0	14,769.7	6,878.5	263.3	225.2	-131.27	783.6	-3,569.6	6,633.9	6,256.8	377.11	17.591	
14,700.0	6,865.0	14,769.7	6,878.5	264.3	225.2	-131.27	783.6	-3,569.6	6,668.6	6,290.7	377.86	17.649	
14,763.7	6,865.0	14,769.7	6,878.5	266.1	225.2	-131.27	783.6	-3,569.6	6,732.3	6,353.1	379.23	17.753	
14,800.0	6,865.0	14,769.7	6,878.5	267.1	225.2	-131.27	783.6	-3,569.6	6,768.6	6,388.6	380.00	17.812	

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 2-16-18
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 2-16-18	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 F-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		
14,862.2	6,865.0	14,769.7	6,878.5	268.8	225.2	-131.27	783.6	-3,569.6	6,830.8	6,449.4	381.34	17.913		
14,900.0	6,865.0	14,769.7	6,878.5	269.9	225.2	-131.27	783.6	-3,569.6	6,868.6	6,486.4	382.15	17.973		
14,960.6	6,865.0	14,769.7	6,878.5	271.5	225.2	-131.27	783.6	-3,569.6	6,929.2	6,545.7	383.46	18.070		
15,000.0	6,865.0	14,769.7	6,878.5	272.6	225.2	-131.27	783.6	-3,569.6	6,968.6	6,584.3	384.30	18.133		
15,059.0	6,865.0	14,769.7	6,878.5	274.3	225.2	-131.27	783.6	-3,569.6	7,027.6	6,642.0	385.57	18.226		
15,100.0	6,865.0	14,769.7	6,878.5	275.4	225.2	-131.27	783.6	-3,569.6	7,068.6	6,682.1	386.45	18.291		
15,157.4	6,865.0	14,769.7	6,878.5	277.0	225.2	-131.27	783.6	-3,569.6	7,126.0	6,738.3	387.69	18.381		
15,200.0	6,865.0	14,769.7	6,878.5	278.2	225.2	-131.27	783.6	-3,569.6	7,168.6	6,780.0	388.60	18.447		
15,255.9	6,865.0	14,769.7	6,878.5	279.8	225.2	-131.27	783.6	-3,569.6	7,224.4	6,834.6	389.80	18.534		
15,300.0	6,865.0	14,769.7	6,878.5	281.0	225.2	-131.27	783.6	-3,569.6	7,268.6	6,877.8	390.75	18.601		
15,354.3	6,865.0	14,769.7	6,878.5	282.5	225.2	-131.27	783.6	-3,569.6	7,322.9	6,931.0	391.92	18.685		
15,400.0	6,865.0	14,769.7	6,878.5	283.8	225.2	-131.27	783.6	-3,569.6	7,368.6	6,975.7	392.90	18.754		
15,452.7	6,865.0	14,769.7	6,878.5	285.2	225.2	-131.27	783.6	-3,569.6	7,421.3	7,027.3	394.04	18.834		
15,500.0	6,865.0	14,769.7	6,878.5	286.5	225.2	-131.27	783.6	-3,569.6	7,468.6	7,073.5	395.06	18.905		
15,551.1	6,865.0	14,769.7	6,878.5	288.0	225.2	-131.27	783.6	-3,569.6	7,519.7	7,123.6	396.16	18.982		
15,600.0	6,865.0	14,769.7	6,878.5	289.3	225.2	-131.27	783.6	-3,569.6	7,568.6	7,171.4	397.21	19.054		
15,649.6	6,865.0	14,769.7	6,878.5	290.7	225.2	-131.27	783.6	-3,569.6	7,618.1	7,219.9	398.28	19.128		
15,700.0	6,865.0	14,769.7	6,878.5	292.1	225.2	-131.27	783.6	-3,569.6	7,668.6	7,269.2	399.36	19.202		
15,748.0	6,865.0	14,769.7	6,878.5	293.4	225.2	-131.27	783.6	-3,569.6	7,716.6	7,316.2	400.39	19.272		
15,800.0	6,865.0	14,769.7	6,878.5	294.9	225.2	-131.27	783.6	-3,569.6	7,768.6	7,367.0	401.51	19.348		
15,846.4	6,865.0	14,769.7	6,878.5	296.2	225.2	-131.27	783.6	-3,569.6	7,815.0	7,412.5	402.51	19.415		
15,900.0	6,865.0	14,769.7	6,878.5	297.7	225.2	-131.27	783.6	-3,569.6	7,868.6	7,464.9	403.67	19.493		
15,944.8	6,865.0	14,769.7	6,878.5	298.9	225.2	-131.27	783.6	-3,569.6	7,913.4	7,508.8	404.63	19.557		
16,000.0	6,865.0	14,769.7	6,878.5	300.5	225.2	-131.27	783.6	-3,569.6	7,968.6	7,562.7	405.82	19.636		
16,043.3	6,865.0	14,769.7	6,878.5	301.7	225.2	-131.27	783.6	-3,569.6	8,011.8	7,605.1	406.75	19.697		
16,100.0	6,865.0	14,769.7	6,878.5	303.2	225.2	-131.27	783.6	-3,569.6	8,068.6	7,660.6	407.97	19.777		
16,141.7	6,865.0	14,769.7	6,878.5	304.4	225.2	-131.27	783.6	-3,569.6	8,110.3	7,701.4	408.87	19.836		
16,200.0	6,865.0	14,769.7	6,878.5	306.0	225.2	-131.27	783.6	-3,569.6	8,168.6	7,758.4	410.13	19.917		
16,240.1	6,865.0	14,769.7	6,878.5	307.1	225.2	-131.27	783.6	-3,569.6	8,208.7	7,797.7	410.99	19.973		
16,300.0	6,865.0	14,769.7	6,878.5	308.8	225.2	-131.27	783.6	-3,569.6	8,268.6	7,856.3	412.28	20.056		
16,338.5	6,865.0	14,769.7	6,878.5	309.9	225.2	-131.27	783.6	-3,569.6	8,307.1	7,894.0	413.11	20.109		
16,400.0	6,865.0	14,769.7	6,878.5	311.6	225.2	-131.27	783.6	-3,569.6	8,368.5	7,954.1	414.44	20.193		
16,437.0	6,865.0	14,769.7	6,878.5	312.6	225.2	-131.27	783.6	-3,569.6	8,405.5	7,990.3	415.23	20.243		
16,500.0	6,865.0	14,769.7	6,878.5	314.4	225.2	-131.27	783.6	-3,569.6	8,468.5	8,052.0	416.59	20.328		
16,535.4	6,865.0	14,769.7	6,878.5	315.4	225.2	-131.27	783.6	-3,569.6	8,503.9	8,086.6	417.36	20.376		
16,600.0	6,865.0	14,769.7	6,878.5	317.2	225.2	-131.27	783.6	-3,569.6	8,568.5	8,149.8	418.75	20.462		
16,633.8	6,865.0	14,769.7	6,878.5	318.1	225.2	-131.27	783.6	-3,569.6	8,602.4	8,182.9	419.48	20.507		
16,700.0	6,865.0	14,769.7	6,878.5	320.0	225.2	-131.27	783.6	-3,569.6	8,668.5	8,247.6	420.90	20.595		
16,732.2	6,865.0	14,769.7	6,878.5	320.9	225.2	-131.27	783.6	-3,569.6	8,700.8	8,279.2	421.60	20.638		
16,800.0	6,865.0	14,769.7	6,878.5	322.8	225.2	-131.27	783.6	-3,569.6	8,768.5	8,345.5	423.06	20.727		
16,830.7	6,865.0	14,769.7	6,878.5	323.6	225.2	-131.27	783.6	-3,569.6	8,799.2	8,375.5	423.72	20.767		
16,900.0	6,865.0	14,769.7	6,878.5	325.5	225.2	-131.27	783.6	-3,569.6	8,868.5	8,443.3	425.22	20.857		
16,929.1	6,865.0	14,769.7	6,878.5	326.4	225.2	-131.27	783.6	-3,569.6	8,897.6	8,471.8	425.84	20.894		
17,000.0	6,865.0	14,769.7	6,878.5	328.3	225.2	-131.27	783.6	-3,569.6	8,968.5	8,541.2	427.37	20.985		
17,027.5	6,865.0	14,769.7	6,878.5	329.1	225.2	-131.27	783.6	-3,569.6	8,996.1	8,568.1	427.97	21.021		
17,100.0	6,865.0	14,769.7	6,878.5	331.1	225.2	-131.27	783.6	-3,569.6	9,068.5	8,639.0	429.53	21.113		
17,125.9	6,865.0	14,769.7	6,878.5	331.8	225.2	-131.27	783.6	-3,569.6	9,094.5	8,664.4	430.09	21.146		
17,200.0	6,865.0	14,769.7	6,878.5	333.9	225.2	-131.27	783.6	-3,569.6	9,168.5	8,736.8	431.69	21.239		
17,224.4	6,865.0	14,769.7	6,878.5	334.6	225.2	-131.27	783.6	-3,569.6	9,192.9	8,760.7	432.21	21.269		
17,300.0	6,865.0	14,769.7	6,878.5	336.7	225.2	-131.27	783.6	-3,569.6	9,268.5	8,834.7	433.84	21.364		
17,322.8	6,865.0	14,769.7	6,878.5	337.3	225.2	-131.27	783.6	-3,569.6	9,291.3	8,857.0	434.33	21.392		
17,400.0	6,865.0	14,769.7	6,878.5	339.5	225.2	-131.27	783.6	-3,569.6	9,368.5	8,932.5	436.00	21.487		

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 2-16-18
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 2-16-18	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 F-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
17,421.2	6,865.0	14,769.7	6,878.5	340.1	225.2	-131.27	783.6	-3,569.6	9,389.8	8,953.3	436.46	21.514	
17,500.0	6,865.0	14,769.7	6,878.5	342.3	225.2	-131.27	783.6	-3,569.6	9,468.5	9,030.4	438.16	21.610	
17,519.6	6,865.0	14,769.7	6,878.5	342.8	225.2	-131.27	783.6	-3,569.6	9,488.2	9,049.6	438.58	21.634	
17,600.0	6,865.0	14,769.7	6,878.5	345.1	225.2	-131.27	783.6	-3,569.6	9,568.5	9,128.2	440.32	21.731	
17,618.1	6,865.0	14,769.7	6,878.5	345.6	225.2	-131.27	783.6	-3,569.6	9,586.6	9,145.9	440.71	21.753	
17,700.0	6,865.0	14,769.7	6,878.5	347.9	225.2	-131.27	783.6	-3,569.6	9,668.5	9,226.1	442.47	21.851	
17,716.5	6,865.0	14,769.7	6,878.5	348.3	225.2	-131.27	783.6	-3,569.6	9,685.0	9,242.2	442.83	21.871	
17,800.0	6,865.0	14,769.7	6,878.5	350.7	225.2	-131.27	783.6	-3,569.6	9,768.5	9,323.9	444.63	21.970	
17,814.9	6,865.0	14,769.7	6,878.5	351.1	225.2	-131.27	783.6	-3,569.6	9,783.5	9,338.5	444.95	21.988	
17,900.0	6,865.0	14,769.7	6,878.5	353.4	225.2	-131.27	783.6	-3,569.6	9,868.5	9,421.7	446.79	22.088	
17,913.3	6,865.0	14,769.7	6,878.5	353.8	225.2	-131.27	783.6	-3,569.6	9,881.9	9,434.8	447.08	22.103	
18,000.0	6,865.0	14,769.7	6,878.5	356.2	225.2	-131.27	783.6	-3,569.6	9,968.5	9,519.6	448.95	22.204	
18,011.8	6,865.0	14,769.7	6,878.5	356.6	225.2	-131.27	783.6	-3,569.6	9,980.3	9,531.1	449.20	22.218	

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 2-16-18
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 2-16-18	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
0.0	0.0	0.0	0.0	0.0	0.0	174.51	-55.0	5.3	58.1				
98.4	98.4	80.3	80.3	0.1	0.0	174.31	-55.1	5.5	55.4	55.3	0.14	398.064 CC, ES	
100.0	100.0	81.8	81.8	0.1	0.0	174.30	-55.1	5.5	55.4	55.3	0.14	390.576	
196.8	196.8	178.6	178.6	0.3	0.2	173.74	-55.5	6.1	55.8	55.3	0.50	112.354	
200.0	200.0	181.8	181.8	0.3	0.2	173.72	-55.5	6.1	55.8	55.3	0.51	109.700	
295.3	295.3	277.0	277.0	0.5	0.3	173.33	-55.9	6.5	56.3	55.4	0.81	69.611	
300.0	300.0	281.7	281.7	0.5	0.3	173.32	-55.9	6.5	56.3	55.5	0.82	68.450	
393.7	393.7	375.4	375.4	0.8	0.3	173.41	-56.4	6.5	56.8	55.7	1.09	52.006	
400.0	400.0	381.7	381.7	0.8	0.4	173.43	-56.4	6.5	56.8	55.7	1.11	51.197	
492.1	492.1	473.8	473.8	1.0	0.4	173.81	-57.0	6.2	57.4	56.0	1.37	41.868	
500.0	500.0	481.7	481.7	1.0	0.4	173.85	-57.1	6.2	57.4	56.0	1.39	41.232	
590.5	590.5	572.3	572.3	1.2	0.5	174.31	-57.6	5.7	57.8	56.2	1.64	35.208	
600.0	600.0	581.8	581.8	1.2	0.5	174.36	-57.6	5.7	57.9	56.2	1.67	34.683	
689.0	689.0	670.7	670.7	1.4	0.5	174.87	-58.0	5.2	58.3	56.4	1.91	30.487	
700.0	700.0	681.7	681.7	1.4	0.5	174.93	-58.1	5.2	58.3	56.4	1.94	30.043	
787.4	787.4	769.1	769.1	1.6	0.6	-108.61	-58.6	4.7	59.2	57.0	2.19	27.036	
800.0	800.0	781.7	781.7	1.7	0.6	-108.91	-58.7	4.6	59.4	57.2	2.22	26.722	
885.8	885.7	867.5	867.5	1.8	0.6	-112.14	-59.1	4.1	61.2	58.8	2.44	25.067	
900.0	899.8	881.7	881.7	1.9	0.6	-112.87	-59.1	4.0	61.7	59.2	2.48	24.866	
984.2	983.8	965.8	965.8	2.1	0.6	-118.11	-59.4	3.5	64.9	62.2	2.70	23.994	
1,000.0	999.5	981.5	981.5	2.1	0.7	-119.23	-59.4	3.4	65.6	62.9	2.74	23.914	
1,082.7	1,081.5	1,063.8	1,063.8	2.3	0.7	-125.54	-59.5	2.7	70.8	67.8	2.98	23.782 SF	
1,100.0	1,098.7	1,081.0	1,081.0	2.4	0.7	-126.93	-59.5	2.5	72.1	69.1	3.02	23.850	
1,181.1	1,178.8	1,161.4	1,161.4	2.6	0.7	-133.46	-59.4	1.8	79.7	76.5	3.26	24.424	
1,200.0	1,197.5	1,180.1	1,180.1	2.6	0.7	-134.96	-59.4	1.6	81.9	78.5	3.32	24.661	
1,279.5	1,275.6	1,258.7	1,258.6	2.9	0.8	-141.00	-59.1	0.7	92.3	88.7	3.57	25.869	
1,300.0	1,295.6	1,278.8	1,278.8	3.0	0.8	-142.47	-58.9	0.4	95.3	91.7	3.63	26.279	
1,377.9	1,371.6	1,355.5	1,355.5	3.3	0.8	-147.76	-58.2	-0.5	108.5	104.6	3.88	27.988	
1,400.0	1,393.1	1,377.2	1,377.1	3.4	0.8	-149.17	-57.9	-0.7	112.6	108.7	3.94	28.562	
1,476.4	1,466.9	1,451.4	1,451.3	3.7	0.8	-153.71	-56.5	-1.4	128.4	124.2	4.19	30.652	
1,500.0	1,489.6	1,474.2	1,474.1	3.8	0.8	-155.01	-56.0	-1.5	133.8	129.5	4.26	31.397	
1,574.8	1,561.3	1,545.6	1,545.5	4.2	0.8	-158.79	-54.1	-1.7	152.5	148.0	4.51	33.822	
1,600.0	1,585.3	1,569.5	1,569.4	4.4	0.8	-159.92	-53.5	-1.7	159.4	154.8	4.59	34.740	
1,615.5	1,600.0	1,584.1	1,584.0	4.4	0.8	-160.59	-53.1	-1.6	163.8	159.1	4.64	35.310	
1,673.2	1,654.8	1,638.6	1,638.5	4.8	0.8	-162.93	-51.6	-1.4	180.5	175.7	4.81	37.511	
1,680.5	1,661.7	1,645.5	1,645.3	4.8	0.8	-163.20	-51.4	-1.4	182.6	177.8	4.83	37.788	
1,700.0	1,680.2	1,663.9	1,663.7	4.9	0.9	-163.87	-50.9	-1.3	188.4	183.5	4.90	38.477	
1,771.6	1,747.8	1,730.9	1,730.7	5.4	0.9	-166.10	-48.9	-0.7	211.1	206.0	5.13	41.139	
1,800.0	1,774.3	1,757.1	1,756.9	5.6	0.9	-166.89	-48.1	-0.5	220.7	215.4	5.23	42.180	
1,870.1	1,839.6	1,821.3	1,821.0	6.1	0.9	-168.62	-46.3	0.3	245.7	240.2	5.47	44.899	
1,900.0	1,867.2	1,848.3	1,848.1	6.3	0.9	-169.27	-45.5	0.8	257.0	251.4	5.57	46.101	
1,968.5	1,930.1	1,909.6	1,909.3	6.8	0.9	-170.59	-43.9	1.9	284.3	278.5	5.82	48.859	
2,000.0	1,958.8	1,937.5	1,937.3	7.1	0.9	-171.14	-43.1	2.5	297.5	291.6	5.93	50.164	
2,066.9	2,019.3	1,996.3	1,996.0	7.7	0.9	-172.21	-41.5	4.0	326.8	320.6	6.18	52.908	
2,100.0	2,048.9	2,024.7	2,024.3	7.9	0.9	-172.68	-40.7	4.8	341.9	335.6	6.30	54.291	
2,165.3	2,107.0	2,079.9	2,079.5	8.6	0.9	-173.50	-39.3	6.6	373.0	366.5	6.55	56.984	
2,200.0	2,137.4	2,109.0	2,108.5	8.9	0.9	-173.88	-38.6	7.7	390.2	383.5	6.68	58.436	
2,263.8	2,193.0	2,162.4	2,161.9	9.6	1.0	-174.51	-37.5	9.7	423.0	416.0	6.93	61.043	
2,300.0	2,224.3	2,192.3	2,191.8	9.9	1.0	-174.82	-37.0	10.8	442.2	435.1	7.07	62.535	
2,362.2	2,277.4	2,243.8	2,243.2	10.6	1.0	-175.30	-36.2	12.9	476.2	468.9	7.32	65.051	
2,365.0	2,279.8	2,246.1	2,245.5	10.6	1.0	-175.32	-36.1	13.0	477.8	470.4	7.33	65.165	
2,400.0	2,309.5	2,274.9	2,274.3	11.0	1.0	-175.59	-35.8	14.1	497.3	489.8	7.47	66.549	

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 2-16-18
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 2-16-18	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
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
2,460.6	2,360.9	2,324.3	2,323.6	11.7	1.0	-176.00	-35.2	16.1	531.1	523.4	7.72	68.806	
2,500.0	2,394.3	2,356.0	2,355.4	12.2	1.0	-176.23	-34.8	17.4	553.2	545.3	7.88	70.198	
2,559.0	2,444.4	2,403.6	2,403.0	12.9	1.0	-176.54	-34.5	19.5	586.4	578.3	8.13	72.165	
2,600.0	2,479.1	2,437.3	2,436.5	13.3	1.0	-176.73	-34.2	20.9	609.4	601.1	8.30	73.459	
2,657.5	2,527.8	2,484.4	2,483.6	14.0	1.0	-176.98	-33.9	23.0	641.8	633.3	8.54	75.167	
2,700.0	2,563.9	2,519.5	2,518.7	14.5	1.0	-177.15	-33.6	24.6	665.8	657.1	8.72	76.374	
2,755.9	2,611.3	2,565.9	2,565.1	15.2	1.0	-177.36	-33.3	26.6	697.3	688.3	8.95	77.870	
2,800.0	2,648.7	2,602.5	2,601.6	15.7	1.0	-177.51	-33.0	28.2	722.1	713.0	9.14	78.993	
2,854.3	2,694.8	2,646.4	2,645.5	16.3	1.1	-177.69	-32.6	30.2	752.8	743.4	9.38	80.293	
2,900.0	2,733.5	2,683.3	2,682.3	16.8	1.1	-177.82	-32.3	31.9	778.6	769.0	9.57	81.340	
2,952.7	2,778.3	2,727.0	2,726.0	17.5	1.1	-177.96	-32.0	33.9	808.4	798.6	9.80	82.484	
3,000.0	2,818.3	2,766.9	2,765.8	18.0	1.1	-178.09	-31.7	35.7	835.1	825.1	10.01	83.457	
3,051.2	2,861.7	2,810.2	2,809.1	18.6	1.1	-178.22	-31.4	37.6	863.9	853.7	10.23	84.454	
3,100.0	2,903.1	2,852.0	2,850.8	19.2	1.1	-178.33	-31.0	39.4	891.4	881.0	10.44	85.365	
3,149.6	2,945.2	2,894.5	2,893.3	19.8	1.1	-178.44	-30.6	41.1	919.3	908.6	10.66	86.238	
3,200.0	2,987.9	2,936.2	2,935.0	20.4	1.1	-178.54	-30.3	42.8	947.5	936.6	10.88	87.076	
3,248.0	3,028.7	2,975.7	2,974.5	21.0	1.1	-178.62	-30.0	44.4	974.4	963.3	11.09	87.834	
3,300.0	3,072.7	3,019.8	3,018.6	21.6	1.1	-178.70	-29.8	46.1	1,003.6	992.3	11.32	88.618	
3,346.4	3,112.1	3,060.9	3,059.6	22.1	1.2	-178.78	-29.6	47.6	1,029.6	1,018.0	11.53	89.275	
3,400.0	3,157.5	3,108.3	3,107.0	22.8	1.2	-178.86	-29.2	49.3	1,059.4	1,047.6	11.77	89.995	
3,444.9	3,195.6	3,147.7	3,146.3	23.3	1.2	-178.92	-28.9	50.6	1,084.3	1,072.3	11.97	90.568	
3,500.0	3,242.4	3,196.2	3,194.8	24.0	1.2	-179.00	-28.6	52.0	1,114.8	1,102.5	12.22	91.237	
3,543.3	3,279.1	3,232.9	3,231.5	24.5	1.2	-179.04	-28.4	53.1	1,138.7	1,126.2	12.41	91.725	
3,600.0	3,327.2	3,280.7	3,279.3	25.2	1.2	-179.09	-28.3	54.4	1,169.9	1,157.3	12.67	92.337	
3,641.7	3,362.5	3,316.2	3,314.8	25.6	1.2	-179.12	-28.3	55.3	1,192.9	1,180.1	12.86	92.760	
3,700.0	3,412.0	3,366.3	3,364.8	26.3	1.2	-179.15	-28.4	56.5	1,225.0	1,211.9	13.13	93.320	
3,740.1	3,446.0	3,400.8	3,399.4	26.8	1.2	-179.17	-28.5	57.3	1,247.1	1,233.8	13.31	93.687	
3,800.0	3,496.8	3,451.7	3,450.2	27.5	1.3	-179.20	-28.7	58.4	1,279.9	1,266.3	13.59	94.207	
3,838.6	3,529.5	3,484.5	3,483.1	28.0	1.3	-179.21	-28.9	59.1	1,301.1	1,287.3	13.76	94.528	
3,900.0	3,581.6	3,536.0	3,534.5	28.7	1.3	-179.23	-29.1	60.2	1,334.8	1,320.7	14.05	95.015	
3,937.0	3,612.9	3,566.8	3,565.3	29.2	1.3	-179.24	-29.3	60.9	1,355.0	1,340.8	14.22	95.295	
4,000.0	3,666.4	3,618.3	3,616.8	29.9	1.3	-179.26	-29.6	62.0	1,389.6	1,375.1	14.51	95.755	
4,035.4	3,696.4	3,646.3	3,644.8	30.4	1.3	-179.27	-29.7	62.6	1,409.1	1,394.4	14.68	96.004	
4,100.0	3,751.2	3,700.0	3,698.5	31.1	1.3	-179.28	-30.2	63.9	1,444.6	1,429.7	14.98	96.439	
4,133.8	3,779.9	3,724.4	3,722.8	31.5	1.3	-179.28	-30.4	64.5	1,463.3	1,448.2	15.14	96.669	
4,200.0	3,836.0	3,777.4	3,775.8	32.3	1.3	-179.29	-30.9	65.9	1,499.9	1,484.4	15.45	97.090	
4,232.3	3,863.4	3,803.4	3,801.8	32.7	1.3	-179.29	-31.2	66.6	1,517.8	1,502.2	15.60	97.289	
4,300.0	3,920.8	3,859.8	3,858.2	33.5	1.4	-179.30	-31.6	68.1	1,555.3	1,539.4	15.92	97.693	
4,330.7	3,946.8	3,885.4	3,883.8	33.9	1.4	-179.31	-31.8	68.8	1,572.3	1,556.2	16.07	97.870	
4,400.0	4,005.6	3,954.2	3,952.6	34.7	1.4	-179.33	-32.2	70.6	1,610.5	1,594.1	16.39	98.237	
4,429.1	4,030.3	3,984.9	3,983.2	35.1	1.4	-179.34	-32.3	71.2	1,626.4	1,609.9	16.53	98.376	
4,500.0	4,090.4	4,061.8	4,060.2	35.9	1.4	-179.38	-32.2	72.2	1,664.8	1,647.9	16.87	98.708	
4,527.5	4,113.8	4,092.2	4,090.5	36.3	1.4	-179.39	-32.0	72.4	1,679.5	1,662.5	16.99	98.824	
4,600.0	4,175.2	4,164.0	4,162.4	37.1	1.4	-179.43	-31.4	72.5	1,717.9	1,700.5	17.33	99.118	
4,626.0	4,197.2	4,189.6	4,187.9	37.4	1.4	-179.44	-31.2	72.5	1,731.5	1,714.1	17.45	99.215	
4,700.0	4,260.0	4,255.7	4,254.1	38.3	1.4	-179.47	-30.7	72.2	1,770.4	1,752.6	17.80	99.468	
4,724.4	4,280.7	4,277.2	4,275.6	38.6	1.4	-179.48	-30.5	72.1	1,783.2	1,765.2	17.91	99.547	
4,800.0	4,344.8	4,341.9	4,340.2	39.5	1.4	-179.51	-30.0	71.7	1,822.7	1,804.5	18.27	99.776	
4,822.8	4,364.2	4,361.1	4,359.4	39.8	1.4	-179.52	-29.8	71.6	1,834.7	1,816.3	18.38	99.841	
4,900.0	4,429.6	4,427.5	4,425.9	40.7	1.5	-179.55	-29.2	71.2	1,875.1	1,856.4	18.74	100.053	
4,921.2	4,447.6	4,446.4	4,444.7	41.0	1.5	-179.55	-29.0	71.1	1,886.2	1,867.4	18.84	100.106	
5,000.0	4,514.4	4,515.1	4,513.4	41.9	1.5	-179.58	-28.5	70.6	1,927.4	1,908.2	19.22	100.297	

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 2-16-18
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 2-16-18	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		
5,019.7	4,531.1	4,531.2	4,529.5	42.2	1.5	-179.58	-28.4	70.5	1,937.7	1,918.4	19.31	100.345		
5,100.0	4,599.2	4,596.9	4,595.2	43.1	1.5	-179.60	-27.9	70.1	1,979.7	1,960.0	19.69	100.537		
5,118.1	4,614.6	4,612.0	4,610.3	43.4	1.5	-179.61	-27.8	70.0	1,989.2	1,969.4	19.78	100.577		
5,200.0	4,684.0	4,680.6	4,679.0	44.3	1.5	-179.62	-27.5	69.6	2,032.1	2,012.0	20.17	100.751		
5,216.5	4,698.0	4,694.5	4,692.8	44.5	1.5	-179.63	-27.4	69.6	2,040.8	2,020.5	20.25	100.786		
5,300.0	4,768.8	4,763.8	4,762.1	45.5	1.5	-179.64	-27.2	69.2	2,084.6	2,064.0	20.65	100.954		
5,314.9	4,781.5	4,776.2	4,774.5	45.7	1.5	-179.64	-27.1	69.2	2,092.5	2,071.7	20.72	100.983		
5,400.0	4,853.6	4,845.6	4,844.0	46.8	1.5	-179.66	-26.8	68.9	2,137.2	2,116.1	21.13	101.147		
5,413.4	4,865.0	4,856.5	4,854.8	46.9	1.5	-179.66	-26.8	68.9	2,144.2	2,123.1	21.19	101.172		
5,500.0	4,938.4	4,926.1	4,924.4	48.0	1.5	-179.67	-26.5	68.7	2,189.9	2,168.3	21.61	101.333		
5,511.8	4,948.5	4,935.4	4,933.8	48.1	1.5	-179.68	-26.5	68.7	2,196.2	2,174.5	21.67	101.355		
5,600.0	5,023.3	5,005.3	5,003.6	49.2	1.5	-179.69	-26.2	68.7	2,242.9	2,220.8	22.09	101.514		
5,610.2	5,031.9	5,013.2	5,011.5	49.3	1.5	-179.69	-26.2	68.8	2,248.3	2,226.2	22.14	101.532		
5,700.0	5,108.1	5,082.2	5,080.5	50.4	1.5	-179.70	-26.1	69.0	2,296.1	2,273.5	22.58	101.693		
5,708.6	5,115.4	5,088.8	5,087.1	50.5	1.5	-179.70	-26.1	69.0	2,300.7	2,278.1	22.62	101.708		
5,800.0	5,192.9	5,163.0	5,161.3	51.6	1.6	-179.71	-26.0	69.4	2,349.5	2,326.5	23.07	101.852		
5,807.1	5,198.9	5,168.8	5,167.1	51.7	1.6	-179.71	-26.0	69.4	2,353.3	2,330.2	23.10	101.862		
5,900.0	5,277.7	5,242.5	5,240.8	52.8	1.6	-179.72	-26.1	69.9	2,403.1	2,379.5	23.56	102.006		
5,905.5	5,282.3	5,246.7	5,245.0	52.8	1.6	-179.72	-26.1	70.0	2,406.0	2,382.4	23.58	102.015		
6,000.0	5,362.5	5,322.1	5,320.5	54.0	1.6	-179.73	-26.2	70.7	2,456.8	2,432.8	24.05	102.159		
6,003.9	5,365.8	5,325.5	5,323.9	54.0	1.6	-179.73	-26.2	70.7	2,458.9	2,434.9	24.07	102.164		
6,100.0	5,447.3	5,409.1	5,407.4	55.2	1.6	-179.74	-26.1	71.5	2,510.6	2,486.1	24.55	102.284		
6,102.3	5,449.3	5,411.2	5,409.5	55.2	1.6	-179.74	-26.0	71.5	2,511.9	2,487.3	24.56	102.287		
6,200.0	5,532.1	5,498.4	5,496.7	56.4	1.6	-179.76	-25.7	72.3	2,564.3	2,539.2	25.04	102.396		
6,200.8	5,532.7	5,499.1	5,497.4	56.4	1.6	-179.76	-25.7	72.3	2,564.7	2,539.6	25.05	102.397		
6,299.2	5,616.2	5,584.2	5,582.5	57.6	1.7	-179.79	-25.1	73.0	2,617.4	2,591.8	25.53	102.502		
6,300.0	5,616.9	5,584.9	5,583.2	57.6	1.7	-179.79	-25.1	73.0	2,617.8	2,592.3	25.54	102.503		
6,397.6	5,699.7	5,651.1	5,649.4	58.8	1.7	-179.80	-24.8	73.7	2,670.2	2,644.2	26.01	102.645		
6,400.0	5,701.7	5,652.6	5,650.9	58.8	1.7	-179.80	-24.8	73.7	2,671.5	2,645.5	26.03	102.649		
6,496.0	5,783.1	5,717.7	5,716.0	59.9	1.7	-179.81	-24.7	74.7	2,723.7	2,697.2	26.50	102.799		
6,500.0	5,786.5	5,721.0	5,719.3	60.0	1.7	-179.81	-24.7	74.8	2,725.8	2,699.3	26.52	102.803		
6,594.5	5,866.6	5,800.0	5,798.3	61.1	1.7	-179.82	-24.8	76.3	2,777.3	2,750.3	26.99	102.897		
6,600.0	5,871.3	5,804.8	5,803.1	61.2	1.7	-179.82	-24.8	76.3	2,780.4	2,753.3	27.02	102.903		
6,692.9	5,950.1	5,887.5	5,885.8	62.3	1.7	-179.82	-25.2	77.7	2,830.9	2,803.4	27.49	102.984		
6,700.0	5,956.1	5,893.9	5,892.1	62.4	1.7	-179.82	-25.2	77.8	2,834.8	2,807.3	27.53	102.990		
6,791.3	6,033.6	5,975.4	5,973.7	63.5	1.8	-179.82	-25.7	79.0	2,884.4	2,856.4	27.99	103.058		
6,800.0	6,040.9	5,983.2	5,981.4	63.6	1.8	-179.82	-25.7	79.1	2,889.1	2,861.0	28.03	103.064		
6,889.7	6,117.0	6,060.6	6,058.8	64.7	1.8	-179.82	-26.2	80.1	2,937.7	2,909.2	28.49	103.127		
6,900.0	6,125.7	6,069.3	6,067.6	64.8	1.8	-179.82	-26.2	80.2	2,943.2	2,914.7	28.54	103.134		
6,988.2	6,200.5	6,147.6	6,145.8	65.9	1.8	-179.82	-26.7	81.2	2,990.9	2,962.0	28.99	103.182		
7,000.0	6,210.5	6,158.3	6,156.6	66.0	1.8	-179.82	-26.8	81.3	2,997.3	2,968.3	29.05	103.187		
7,086.6	6,284.0	6,234.5	6,232.7	67.1	1.8	-179.82	-27.2	82.1	3,044.0	3,014.6	29.49	103.227		
7,100.0	6,295.3	6,245.8	6,244.0	67.2	1.8	-179.82	-27.2	82.2	3,051.3	3,021.7	29.56	103.234		
7,185.0	6,367.4	6,317.8	6,316.1	68.3	1.8	-179.82	-27.3	83.0	3,097.1	3,067.1	29.99	103.275		
7,200.0	6,380.1	6,330.8	6,329.0	68.4	1.8	-179.82	-27.4	83.1	3,105.2	3,075.1	30.07	103.280		
7,283.4	6,450.9	6,403.0	6,401.2	69.4	1.8	-179.82	-27.5	83.8	3,150.1	3,119.6	30.49	103.309		
7,300.0	6,464.9	6,417.5	6,415.7	69.6	1.9	-179.82	-27.5	84.0	3,159.0	3,128.5	30.58	103.313		
7,381.0	6,533.6	6,488.5	6,486.7	70.6	1.9	-179.83	-27.6	84.7	3,202.6	3,171.6	30.99	103.333		
7,381.9	6,534.4	6,489.3	6,487.5	70.6	1.9	-179.83	-27.6	84.7	3,203.1	3,172.1	31.00	103.314		
7,400.0	6,549.6	6,505.1	6,503.3	70.9	1.9	-179.83	-27.6	84.8	3,213.1	3,181.9	31.20	102.987		
7,450.0	6,589.8	6,547.5	6,545.7	71.5	1.9	-179.82	-27.7	85.1	3,243.1	3,211.5	31.62	102.573		
7,480.3	6,612.9	6,571.8	6,570.0	72.0	1.9	-179.81	-27.7	85.3	3,262.9	3,231.1	31.78	102.663		

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 2-16-18
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 2-16-18	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	
7,500.0	6,627.3	6,587.0	6,585.2	72.3	1.9	-179.80	-27.8	85.4	3,276.4	3,244.6	31.85	102.875	
7,550.0	6,661.8	6,621.8	6,620.0	73.2	1.9	-179.79	-27.8	85.7	3,312.9	3,281.0	31.88	103.904	
7,578.7	6,680.1	6,639.8	6,638.0	73.8	1.9	-179.77	-27.9	85.8	3,335.1	3,303.3	31.82	104.827	
7,600.0	6,692.9	6,652.5	6,650.7	74.2	1.9	-179.76	-27.9	85.9	3,352.2	3,320.4	31.72	105.683	
7,650.0	6,720.6	6,679.7	6,677.9	75.2	1.9	-179.73	-27.9	86.1	3,394.0	3,362.6	31.35	108.252	
7,677.1	6,734.1	6,692.9	6,691.1	75.8	1.9	-179.71	-28.0	86.2	3,417.7	3,386.6	31.07	109.995	
7,700.0	6,744.5	6,700.0	6,698.2	76.3	1.9	-179.69	-28.0	86.2	3,438.1	3,407.3	30.78	111.693	
7,750.0	6,764.5	6,700.0	6,698.2	77.5	1.9	-179.62	-28.0	86.2	3,484.1	3,454.1	29.99	116.187	
7,775.6	6,773.2	6,700.0	6,698.2	78.1	1.9	-179.57	-28.0	86.2	3,508.3	3,478.8	29.51	118.888	
7,783.9	6,775.8	6,700.0	6,698.2	78.3	1.9	-179.55	-28.0	86.2	3,516.2	3,486.9	29.34	119.833	
7,800.0	6,780.7	6,700.0	6,698.2	78.7	1.9	-179.55	-28.0	86.2	3,531.6	3,502.2	29.44	119.943	
7,874.0	6,803.2	6,700.0	6,698.2	80.5	1.9	-179.55	-28.0	86.2	3,602.6	3,572.7	29.91	120.434	
7,900.0	6,811.1	6,700.0	6,698.2	81.2	1.9	-179.55	-28.0	86.2	3,627.5	3,597.5	30.08	120.603	
7,968.5	6,832.0	6,700.0	6,698.2	82.9	1.9	-179.55	-28.0	86.2	3,693.4	3,662.9	30.52	121.035	
7,972.4	6,833.1	6,700.0	6,698.2	83.0	1.9	-178.65	-28.0	86.2	3,697.2	3,666.6	30.54	121.058	
8,000.0	6,840.9	6,700.0	6,698.2	83.7	1.9	-171.25	-28.0	86.2	3,723.9	3,690.9	32.95	113.001	
8,050.0	6,852.2	6,700.0	6,698.2	84.9	1.9	-151.18	-28.0	86.2	3,772.8	3,721.7	51.11	73.821	
8,070.8	6,855.9	6,700.0	6,698.2	85.4	1.9	-139.68	-28.0	86.2	3,793.4	3,730.6	62.71	60.488	
8,100.0	6,860.0	6,700.0	6,698.2	86.2	1.9	-121.49	-28.0	86.2	3,822.1	3,744.5	77.69	49.199	
8,150.0	6,864.2	6,700.0	6,698.2	87.4	1.9	-92.91	-28.0	86.2	3,871.5	3,783.5	87.95	44.021	
8,169.3	6,864.9	6,700.0	6,698.2	87.9	1.9	-84.66	-28.0	86.2	3,890.4	3,802.5	87.88	44.270	
8,183.2	6,865.0	6,700.0	6,698.2	88.2	1.9	-79.70	-28.0	86.2	3,904.0	3,816.8	87.18	44.781	
8,200.0	6,865.0	6,700.0	6,698.2	88.7	1.9	-79.70	-28.0	86.2	3,920.4	3,832.8	87.60	44.755	
8,267.7	6,865.0	6,700.0	6,698.2	90.3	1.9	-79.70	-28.0	86.2	3,986.6	3,897.3	89.29	44.650	
8,300.0	6,865.0	6,700.0	6,698.2	91.2	1.9	-79.70	-28.0	86.2	4,018.2	3,928.1	90.09	44.601	
8,366.1	6,865.0	6,700.0	6,698.2	92.8	1.9	-79.70	-28.0	86.2	4,082.9	3,991.2	91.75	44.499	
8,400.0	6,865.0	6,700.0	6,698.2	93.7	1.9	-79.70	-28.0	86.2	4,116.1	4,023.5	92.60	44.448	
8,464.5	6,865.0	6,700.0	6,698.2	95.3	1.9	-79.70	-28.0	86.2	4,179.3	4,085.1	94.24	44.350	
8,500.0	6,865.0	6,700.0	6,698.2	96.2	1.9	-79.70	-28.0	86.2	4,214.1	4,118.9	95.13	44.298	
8,563.0	6,865.0	6,700.0	6,698.2	97.8	1.9	-79.70	-28.0	86.2	4,275.8	4,179.1	96.73	44.204	
8,600.0	6,865.0	6,700.0	6,698.2	98.7	1.9	-79.70	-28.0	86.2	4,312.2	4,214.5	97.67	44.150	
8,661.4	6,865.0	6,700.0	6,698.2	100.3	1.9	-79.70	-28.0	86.2	4,372.4	4,273.2	99.24	44.060	
8,700.0	6,865.0	6,700.0	6,698.2	101.3	1.9	-79.70	-28.0	86.2	4,410.3	4,310.1	100.22	44.005	
8,759.8	6,865.0	6,700.0	6,698.2	102.8	1.9	-79.70	-28.0	86.2	4,469.1	4,367.3	101.76	43.919	
8,800.0	6,865.0	6,700.0	6,698.2	103.9	1.9	-79.70	-28.0	86.2	4,508.6	4,405.8	102.79	43.863	
8,858.2	6,865.0	6,700.0	6,698.2	105.4	1.9	-79.70	-28.0	86.2	4,565.8	4,461.5	104.29	43.782	
8,900.0	6,865.0	6,700.0	6,698.2	106.4	1.9	-79.70	-28.0	86.2	4,606.9	4,501.5	105.36	43.725	
8,956.7	6,865.0	6,700.0	6,698.2	107.9	1.9	-79.70	-28.0	86.2	4,662.6	4,555.8	106.83	43.647	
9,000.0	6,865.0	6,700.0	6,698.2	109.0	1.9	-79.70	-28.0	86.2	4,705.3	4,597.3	107.94	43.590	
9,055.1	6,865.0	6,700.0	6,698.2	110.5	1.9	-79.70	-28.0	86.2	4,759.5	4,650.1	109.37	43.516	
9,100.0	6,865.0	6,700.0	6,698.2	111.6	1.9	-79.70	-28.0	86.2	4,803.7	4,693.2	110.54	43.458	
9,153.5	6,865.0	6,700.0	6,698.2	113.0	1.9	-79.70	-28.0	86.2	4,856.5	4,744.5	111.93	43.388	
9,200.0	6,865.0	6,700.0	6,698.2	114.2	1.9	-79.70	-28.0	86.2	4,902.3	4,789.1	113.14	43.329	
9,251.9	6,865.0	6,700.0	6,698.2	115.6	1.9	-79.70	-28.0	86.2	4,953.5	4,839.0	114.50	43.263	
9,300.0	6,865.0	6,700.0	6,698.2	116.9	1.9	-79.70	-28.0	86.2	5,000.8	4,885.1	115.75	43.204	
9,350.4	6,865.0	6,700.0	6,698.2	118.2	1.9	-79.70	-28.0	86.2	5,050.5	4,933.4	117.07	43.142	
9,400.0	6,865.0	6,700.0	6,698.2	119.5	1.9	-79.70	-28.0	86.2	5,099.5	4,981.1	118.37	43.082	
9,448.8	6,865.0	6,700.0	6,698.2	120.8	1.9	-79.70	-28.0	86.2	5,147.6	5,028.0	119.65	43.023	
9,500.0	6,865.0	6,700.0	6,698.2	122.1	1.9	-79.70	-28.0	86.2	5,198.2	5,077.2	120.99	42.963	
9,547.2	6,865.0	6,700.0	6,698.2	123.4	1.9	-79.70	-28.0	86.2	5,244.8	5,122.5	122.23	42.908	
9,600.0	6,865.0	6,700.0	6,698.2	124.8	1.9	-79.70	-28.0	86.2	5,296.9	5,173.3	123.62	42.848	
9,645.6	6,865.0	6,700.0	6,698.2	126.0	1.9	-79.70	-28.0	86.2	5,342.0	5,217.2	124.82	42.796	

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 2-16-18
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 2-16-18	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	
9,700.0	6,865.0	6,700.0	6,698.2	127.4	1.9	-79.70	-28.0	86.2	5,395.7	5,269.4	126.26	42.736	
9,744.1	6,865.0	6,700.0	6,698.2	128.6	1.9	-79.70	-28.0	86.2	5,439.2	5,311.8	127.42	42.687	
9,800.0	6,865.0	6,700.0	6,698.2	130.1	1.9	-79.70	-28.0	86.2	5,494.5	5,365.6	128.90	42.626	
9,842.5	6,865.0	6,700.0	6,698.2	131.2	1.9	-79.70	-28.0	86.2	5,536.5	5,406.5	130.02	42.581	
9,900.0	6,865.0	6,700.0	6,698.2	132.8	1.9	-79.70	-28.0	86.2	5,593.4	5,461.8	131.55	42.520	
9,940.9	6,865.0	6,700.0	6,698.2	133.9	1.9	-79.70	-28.0	86.2	5,633.8	5,501.2	132.63	42.477	
10,000.0	6,865.0	6,700.0	6,698.2	135.4	1.9	-79.70	-28.0	86.2	5,692.3	5,558.1	134.20	42.417	
10,039.3	6,865.0	6,700.0	6,698.2	136.5	1.9	-79.70	-28.0	86.2	5,731.2	5,596.0	135.24	42.377	
10,100.0	6,865.0	6,700.0	6,698.2	138.1	1.9	-79.70	-28.0	86.2	5,791.2	5,654.4	136.85	42.316	
10,137.8	6,865.0	6,700.0	6,698.2	139.1	1.9	-79.70	-28.0	86.2	5,828.6	5,690.7	137.86	42.279	
10,200.0	6,865.0	6,700.0	6,698.2	140.8	1.9	-79.70	-28.0	86.2	5,890.2	5,750.7	139.52	42.219	
10,236.2	6,865.0	6,700.0	6,698.2	141.8	1.9	-79.70	-28.0	86.2	5,926.0	5,785.6	140.48	42.184	
10,300.0	6,865.0	6,700.0	6,698.2	143.5	1.9	-79.70	-28.0	86.2	5,989.2	5,847.0	142.18	42.124	
10,334.6	6,865.0	6,700.0	6,698.2	144.4	1.9	-79.70	-28.0	86.2	6,023.5	5,880.4	143.11	42.091	
10,400.0	6,865.0	6,700.0	6,698.2	146.2	1.9	-79.70	-28.0	86.2	6,088.3	5,943.4	144.85	42.031	
10,433.0	6,865.0	6,700.0	6,698.2	147.1	1.9	-79.70	-28.0	86.2	6,121.0	5,975.3	145.73	42.001	
10,500.0	6,865.0	6,700.0	6,698.2	148.9	1.9	-79.70	-28.0	86.2	6,187.3	6,039.8	147.52	41.941	
10,531.5	6,865.0	6,700.0	6,698.2	149.7	1.9	-79.70	-28.0	86.2	6,218.5	6,070.2	148.37	41.913	
10,600.0	6,865.0	6,700.0	6,698.2	151.6	1.9	-79.70	-28.0	86.2	6,286.4	6,136.2	150.20	41.853	
10,629.9	6,865.0	6,700.0	6,698.2	152.4	1.9	-79.70	-28.0	86.2	6,316.1	6,165.1	151.00	41.828	
10,700.0	6,865.0	6,700.0	6,698.2	154.3	1.9	-79.70	-28.0	86.2	6,385.6	6,232.7	152.88	41.768	
10,728.3	6,865.0	6,700.0	6,698.2	155.0	1.9	-79.70	-28.0	86.2	6,413.7	6,260.0	153.64	41.744	
10,800.0	6,865.0	6,700.0	6,698.2	157.0	1.9	-79.70	-28.0	86.2	6,484.7	6,329.2	155.56	41.685	
10,826.7	6,865.0	6,700.0	6,698.2	157.7	1.9	-79.70	-28.0	86.2	6,511.3	6,355.0	156.28	41.663	
10,900.0	6,865.0	6,700.0	6,698.2	159.7	1.9	-79.70	-28.0	86.2	6,583.9	6,425.7	158.25	41.604	
10,925.2	6,865.0	6,700.0	6,698.2	160.4	1.9	-79.70	-28.0	86.2	6,608.9	6,450.0	158.93	41.584	
11,000.0	6,865.0	6,700.0	6,698.2	162.4	1.9	-79.70	-28.0	86.2	6,683.1	6,522.2	160.94	41.526	
11,023.6	6,865.0	6,700.0	6,698.2	163.0	1.9	-79.70	-28.0	86.2	6,706.5	6,545.0	161.57	41.507	
11,100.0	6,865.0	6,700.0	6,698.2	165.1	1.9	-79.70	-28.0	86.2	6,782.4	6,618.7	163.63	41.449	
11,122.0	6,865.0	6,700.0	6,698.2	165.7	1.9	-79.70	-28.0	86.2	6,804.2	6,640.0	164.22	41.432	
11,200.0	6,865.0	6,700.0	6,698.2	167.8	1.9	-79.70	-28.0	86.2	6,881.6	6,715.3	166.33	41.374	
11,220.4	6,865.0	6,700.0	6,698.2	168.4	1.9	-79.70	-28.0	86.2	6,901.9	6,735.0	166.88	41.359	
11,300.0	6,865.0	6,700.0	6,698.2	170.6	1.9	-79.70	-28.0	86.2	6,980.9	6,811.9	169.02	41.302	
11,318.9	6,865.0	6,700.0	6,698.2	171.1	1.9	-79.70	-28.0	86.2	6,999.6	6,830.1	169.53	41.288	
11,400.0	6,865.0	6,700.0	6,698.2	173.3	1.9	-79.70	-28.0	86.2	7,080.2	6,908.5	171.72	41.231	
11,417.3	6,865.0	6,700.0	6,698.2	173.8	1.9	-79.70	-28.0	86.2	7,097.4	6,925.2	172.19	41.219	
11,500.0	6,865.0	6,700.0	6,698.2	176.0	1.9	-79.70	-28.0	86.2	7,179.5	7,005.1	174.42	41.162	
11,515.7	6,865.0	6,700.0	6,698.2	176.5	1.9	-79.70	-28.0	86.2	7,195.1	7,020.3	174.85	41.151	
11,600.0	6,865.0	6,700.0	6,698.2	178.8	1.9	-79.70	-28.0	86.2	7,278.8	7,101.7	177.13	41.094	
11,614.1	6,865.0	6,700.0	6,698.2	179.2	1.9	-79.70	-28.0	86.2	7,292.9	7,115.4	177.51	41.085	
11,700.0	6,865.0	6,700.0	6,698.2	181.5	1.9	-79.70	-28.0	86.2	7,378.2	7,198.4	179.83	41.029	
11,712.6	6,865.0	6,700.0	6,698.2	181.8	1.9	-79.70	-28.0	86.2	7,390.7	7,210.5	180.17	41.020	
11,800.0	6,865.0	6,700.0	6,698.2	184.2	1.9	-79.70	-28.0	86.2	7,477.6	7,295.0	182.54	40.964	
11,811.0	6,865.0	6,700.0	6,698.2	184.5	1.9	-79.70	-28.0	86.2	7,488.5	7,305.7	182.84	40.957	
11,900.0	6,865.0	6,700.0	6,698.2	187.0	1.9	-79.70	-28.0	86.2	7,577.0	7,391.7	185.25	40.902	
11,909.4	6,865.0	6,700.0	6,698.2	187.2	1.9	-79.70	-28.0	86.2	7,586.3	7,400.8	185.50	40.896	
12,000.0	6,865.0	6,700.0	6,698.2	189.7	1.9	-79.70	-28.0	86.2	7,676.4	7,488.4	187.96	40.841	
12,007.8	6,865.0	6,700.0	6,698.2	189.9	1.9	-79.70	-28.0	86.2	7,684.2	7,496.0	188.17	40.836	
12,100.0	6,865.0	6,700.0	6,698.2	192.5	1.9	-79.70	-28.0	86.2	7,775.8	7,585.1	190.67	40.781	
12,106.3	6,865.0	6,700.0	6,698.2	192.6	1.9	-79.70	-28.0	86.2	7,782.0	7,591.2	190.84	40.778	
12,200.0	6,865.0	6,700.0	6,698.2	195.2	1.9	-79.70	-28.0	86.2	7,875.2	7,681.8	193.38	40.723	
12,204.7	6,865.0	6,700.0	6,698.2	195.3	1.9	-79.70	-28.0	86.2	7,879.9	7,686.4	193.51	40.720	

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 2-16-18
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 2-16-18	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	
12,300.0	6,865.0	6,700.0	6,698.2	198.0	1.9	-79.70	-28.0	86.2	7,974.7	7,778.6	196.10	40.666	
12,303.1	6,865.0	6,700.0	6,698.2	198.0	1.9	-79.70	-28.0	86.2	7,977.8	7,781.6	196.19	40.664	
12,400.0	6,865.0	6,700.0	6,698.2	200.7	1.9	-79.70	-28.0	86.2	8,074.1	7,875.3	198.82	40.611	
12,401.5	6,865.0	6,700.0	6,698.2	200.7	1.9	-79.70	-28.0	86.2	8,075.7	7,876.8	198.86	40.610	
12,500.0	6,865.0	6,700.0	6,698.2	203.5	1.9	-79.70	-28.0	86.2	8,173.6	7,972.1	201.54	40.556	
12,598.4	6,865.0	6,700.0	6,698.2	206.2	1.9	-79.70	-28.0	86.2	8,271.5	8,067.3	204.21	40.504	
12,600.0	6,865.0	6,700.0	6,698.2	206.2	1.9	-79.70	-28.0	86.2	8,273.1	8,068.8	204.26	40.503	
12,696.8	6,865.0	6,700.0	6,698.2	208.9	1.9	-79.70	-28.0	86.2	8,369.4	8,162.5	206.89	40.453	
12,700.0	6,865.0	6,700.0	6,698.2	209.0	1.9	-79.70	-28.0	86.2	8,372.6	8,165.6	206.98	40.452	
12,795.2	6,865.0	6,700.0	6,698.2	211.6	1.9	-79.70	-28.0	86.2	8,467.4	8,257.8	209.57	40.403	
12,800.0	6,865.0	6,700.0	6,698.2	211.7	1.9	-79.70	-28.0	86.2	8,472.1	8,262.4	209.70	40.401	
12,893.7	6,865.0	6,700.0	6,698.2	214.3	1.9	-79.70	-28.0	86.2	8,565.3	8,353.1	212.25	40.355	
12,900.0	6,865.0	6,700.0	6,698.2	214.5	1.9	-79.70	-28.0	86.2	8,571.6	8,359.2	212.42	40.351	
12,992.1	6,865.0	6,700.0	6,698.2	217.0	1.9	-79.70	-28.0	86.2	8,663.3	8,448.4	214.93	40.307	
13,000.0	6,865.0	6,700.0	6,698.2	217.2	1.9	-79.70	-28.0	86.2	8,671.2	8,456.0	215.15	40.303	
13,090.5	6,865.0	6,700.0	6,698.2	219.7	1.9	-79.70	-28.0	86.2	8,761.3	8,543.6	217.62	40.260	
13,100.0	6,865.0	6,700.0	6,698.2	220.0	1.9	-79.70	-28.0	86.2	8,770.7	8,552.8	217.87	40.256	
13,188.9	6,865.0	6,700.0	6,698.2	222.5	1.9	-79.70	-28.0	86.2	8,859.2	8,638.9	220.30	40.214	
13,200.0	6,865.0	6,700.0	6,698.2	222.8	1.9	-79.70	-28.0	86.2	8,870.2	8,649.6	220.60	40.209	
13,287.4	6,865.0	6,700.0	6,698.2	225.2	1.9	-79.70	-28.0	86.2	8,957.2	8,734.3	222.99	40.170	
13,300.0	6,865.0	6,700.0	6,698.2	225.5	1.9	-79.70	-28.0	86.2	8,969.8	8,746.5	223.33	40.164	
13,385.8	6,865.0	6,700.0	6,698.2	227.9	1.9	-79.70	-28.0	86.2	9,055.2	8,829.6	225.67	40.126	
13,400.0	6,865.0	6,700.0	6,698.2	228.3	1.9	-79.70	-28.0	86.2	9,069.4	8,843.3	226.06	40.120	
13,484.2	6,865.0	6,700.0	6,698.2	230.6	1.9	-79.70	-28.0	86.2	9,153.3	8,924.9	228.36	40.083	
13,500.0	6,865.0	6,700.0	6,698.2	231.0	1.9	-79.70	-28.0	86.2	9,169.0	8,940.2	228.79	40.076	
13,582.6	6,865.0	6,700.0	6,698.2	233.3	1.9	-79.70	-28.0	86.2	9,251.3	9,020.2	231.05	40.041	
13,600.0	6,865.0	6,700.0	6,698.2	233.8	1.9	-79.70	-28.0	86.2	9,268.6	9,037.0	231.52	40.033	
13,681.1	6,865.0	6,700.0	6,698.2	236.1	1.9	-79.70	-28.0	86.2	9,349.3	9,115.6	233.74	40.000	
13,700.0	6,865.0	6,700.0	6,698.2	236.6	1.9	-79.70	-28.0	86.2	9,368.2	9,133.9	234.25	39.992	
13,779.5	6,865.0	6,700.0	6,698.2	238.8	1.9	-79.70	-28.0	86.2	9,447.4	9,210.9	236.42	39.959	
13,800.0	6,865.0	6,700.0	6,698.2	239.3	1.9	-79.70	-28.0	86.2	9,467.8	9,230.8	236.99	39.951	
13,877.9	6,865.0	6,700.0	6,698.2	241.5	1.9	-79.70	-28.0	86.2	9,545.4	9,306.3	239.12	39.920	
13,900.0	6,865.0	6,700.0	6,698.2	242.1	1.9	-79.70	-28.0	86.2	9,567.4	9,327.7	239.72	39.911	
13,976.3	6,865.0	6,700.0	6,698.2	244.2	1.9	-79.70	-28.0	86.2	9,643.5	9,401.6	241.81	39.881	
14,000.0	6,865.0	6,700.0	6,698.2	244.9	1.9	-79.70	-28.0	86.2	9,667.0	9,424.6	242.45	39.872	
14,074.8	6,865.0	6,700.0	6,698.2	247.0	1.9	-79.70	-28.0	86.2	9,741.5	9,497.0	244.50	39.843	
14,100.0	6,865.0	6,700.0	6,698.2	247.7	1.9	-79.70	-28.0	86.2	9,766.6	9,521.5	245.19	39.833	
14,173.2	6,865.0	6,700.0	6,698.2	249.7	1.9	-79.70	-28.0	86.2	9,839.6	9,592.4	247.19	39.806	
14,200.0	6,865.0	6,700.0	6,698.2	250.4	1.9	-79.70	-28.0	86.2	9,866.3	9,618.4	247.92	39.796	
14,271.6	6,865.0	6,700.0	6,698.2	252.4	1.9	-79.70	-28.0	86.2	9,937.7	9,687.8	249.88	39.769	
14,300.0	6,865.0	6,700.0	6,698.2	253.2	1.9	-79.70	-28.0	86.2	9,965.9	9,715.3	250.66	39.759	

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 2-16-18
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 2-16-18	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 2-16-18

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

