

EXTRACTION OIL & GAS

**WELD COUNTY, COLORADO (NAD 83)
SW NW SEC. 15 T5N R65W 6th P.M.
VT-LDS 4-16-18**

**ORIGINAL WELLBORE
PROPOSAL #2**

Anticollision Report

10 March, 2016



Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VT-LDS 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	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	20,287.3	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	400.0	358.0	2,639.3	2,631.9	356.230	CC
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	500.0	458.0	2,640.1	2,630.5	273.412	ES
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	7,750.0	4,600.0	5,621.5	5,452.3	33.218	SF
CARLSON A-15-16HN - Wellbore #1 - Design #1	7,882.5	14,862.7	1,553.9	1,247.4	5.070	CC
CARLSON A-15-16HN - Wellbore #1 - Design #1	7,900.0	14,862.7	1,554.0	1,247.1	5.063	ES
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,070.8	14,862.7	1,566.7	1,255.6	5.035	SF
CARLSON B-15-16HC - Wellbore #1 - Design #1	7,892.6	14,905.1	1,393.8	1,088.4	4.564	CC
CARLSON B-15-16HC - Wellbore #1 - Design #1	7,900.0	14,905.1	1,393.9	1,088.3	4.561	ES
CARLSON B-15-16HC - Wellbore #1 - Design #1	8,000.0	14,905.1	1,399.2	1,091.0	4.540	SF
CARLSON C-15-16HN - Wellbore #1 - Design #1	7,877.6	14,796.3	1,224.5	918.7	4.004	CC
CARLSON C-15-16HN - Wellbore #1 - Design #1	7,900.0	14,796.3	1,224.7	918.4	3.997	ES
CARLSON C-15-16HN - Wellbore #1 - Design #1	7,996.3	14,796.3	1,231.1	922.2	3.986	SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	7,872.7	14,777.6	894.9	589.8	2.933	CC
CARLSON D-15-16HN - Wellbore #1 - Design #1	7,900.0	14,777.6	895.3	589.5	2.928	ES
CARLSON D-15-16HN - Wellbore #1 - Design #1	7,950.0	14,777.6	898.6	591.5	2.926	SF
CARLSON E-15-16HC - Wellbore #1 - Design #1	7,884.0	14,848.6	739.6	438.2	2.453	CC
CARLSON E-15-16HC - Wellbore #1 - Design #1	7,900.0	14,848.6	739.8	438.0	2.451	ES
CARLSON E-15-16HC - Wellbore #1 - Design #1	7,950.0	14,848.6	743.3	439.9	2.450	SF
CARLSON F-15-16HN - Wellbore #1 - Design #1	7,868.4	14,769.7	615.5	311.3	2.023	CC
CARLSON F-15-16HN - Wellbore #1 - Design #1	7,874.0	14,769.7	615.5	311.2	2.022	ES
CARLSON F-15-16HN - Wellbore #1 - Design #1	7,900.0	14,769.7	616.4	311.4	2.021	SF
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,861.6	14,787.6	200.1	-94.8	0.679	Level 1, CC, ES, SF
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,874.4	14,883.6	132.9	32.1	1.319	Level 3, CC, ES, SF
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,855.4	14,836.2	193.8	-100.4	0.659	Level 1, CC, ES, SF
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,849.8	14,901.4	519.3	216.7	1.716	CC
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,850.0	14,901.4	519.3	216.6	1.716	ES
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,874.0	14,901.4	519.9	216.7	1.714	SF
CARLSON K-15-16HC - Wellbore #1 - Design #1	7,864.2	15,013.6	694.3	394.9	2.319	CC
CARLSON K-15-16HC - Wellbore #1 - Design #1	7,874.0	15,013.6	694.3	394.8	2.318	ES
CARLSON K-15-16HC - Wellbore #1 - Design #1	7,900.0	15,013.6	695.4	395.2	2.316	SF
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,827.2	14,958.5	848.4	546.1	2.807	CC
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,874.0	14,977.0	848.9	545.0	2.793	ES
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,900.0	14,977.0	850.3	545.7	2.791	SF
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,077.1	7,057.0	3,067.5	2,851.2	14.178	CC
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,200.0	7,056.8	3,070.0	2,850.2	13.970	ES
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	13,287.4	7,055.0	3,297.7	3,047.9	13.202	SF
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	9,481.9	7,216.3	2,955.4	2,803.1	19.413	CC

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 @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	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	9,547.2	7,215.5	2,956.1	2,802.1	19.198	ES
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	11,023.6	7,197.6	3,333.3	3,139.4	17.195	SF
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	12,802.2	7,143.0	3,576.9	3,334.5	14.756	CC
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	12,900.0	7,143.1	3,578.3	3,333.2	14.599	ES
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	14,271.6	7,144.1	3,867.0	3,583.9	13.658	SF
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,400.0	6,881.2	3,582.0	3,394.4	19.087	CC
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,500.0	6,880.7	3,583.4	3,393.0	18.819	ES
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	13,300.0	6,872.7	4,054.7	3,814.7	16.893	SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,079.5	7,950.0	2,073.7	1,914.3	13.009	CC
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,137.8	7,950.0	2,074.5	1,913.5	12.888	ES
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,800.0	7,950.0	2,195.3	2,016.6	12.285	SF
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,401.6	7,663.6	1,646.2	1,371.1	5.982	CC
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,484.2	7,666.0	1,648.3	1,370.8	5.940	ES
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,681.1	7,671.5	1,669.8	1,386.9	5.902	SF
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,251.4	7,683.9	966.7	795.4	5.645	CC
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,300.0	7,686.6	967.9	795.3	5.609	ES
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,400.0	7,691.0	978.0	802.7	5.580	SF
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,451.8	7,701.5	1,663.0	1,510.0	10.868	CC
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,500.0	7,687.0	1,663.7	1,509.3	10.777	ES
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,940.9	7,654.8	1,732.7	1,566.4	10.420	SF
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,191.6	7,959.7	379.9	154.0	1.681	CC
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,200.0	7,959.9	380.0	153.8	1.680	ES
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,204.7	7,960.1	380.2	153.8	1.680	SF
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	12,662.4	7,191.0	2,359.4	2,119.9	9.850	CC
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	12,700.0	7,187.7	2,359.7	2,119.1	9.809	ES
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	13,300.0	7,145.0	2,443.6	2,186.8	9.513	SF
EXIST DD EHRLICH MOTORS #D8 - Wellbore #1 - Well	13,998.4	7,572.9	3,601.8	3,302.6	12.036	CC
EXIST DD EHRLICH MOTORS #D8 - Wellbore #1 - Well	14,100.0	7,593.9	3,603.2	3,301.1	11.928	ES
EXIST DD EHRLICH MOTORS #D8 - Wellbore #1 - Well	15,255.9	7,754.0	3,808.4	3,474.4	11.401	SF
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,476.7	7,684.0	2,919.7	2,646.6	10.690	CC
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,582.6	7,699.0	2,921.5	2,645.5	10.586	ES
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	14,370.0	7,699.0	3,052.2	2,754.5	10.253	SF
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	12,157.9	7,534.5	1,778.1	1,555.9	8.001	CC
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	12,204.7	7,539.1	1,778.8	1,555.3	7.959	ES
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	12,598.4	7,561.0	1,831.4	1,597.3	7.824	SF
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,058.8	6,925.0	3,673.4	3,515.5	23.262	CC
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,137.8	6,925.1	3,674.3	3,514.2	22.958	ES
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	12,401.5	6,926.6	4,356.9	4,134.9	19.630	SF
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	8,838.2	7,282.6	3,659.8	3,511.9	24.740	CC
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	8,956.7	7,281.1	3,661.7	3,510.7	24.245	ES
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	11,318.9	7,252.7	4,421.2	4,206.6	20.602	SF
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	10,692.7	6,957.1	2,996.7	2,826.8	17.643	CC
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	10,800.0	6,957.0	2,998.6	2,825.8	17.356	ES
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	12,106.3	6,955.7	3,313.4	3,104.8	15.886	SF
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	10,923.1	7,642.4	1,653.1	1,475.0	9.282	CC
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,000.0	7,642.3	1,654.9	1,474.7	9.187	ES
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,318.9	7,641.7	1,699.8	1,511.2	9.012	SF
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	10,765.4	7,836.9	435.8	252.4	2.377	CC, ES
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	10,800.0	7,837.3	437.1	252.9	2.372	SF
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,535.8	4,110.0	2,149.2	2,118.1	68.961	CC
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,543.3	4,113.1	2,149.2	2,118.0	68.812	ES
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	14,271.6	6,941.0	9,973.8	9,704.6	37.049	SF
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	1,447.5	1,671.9	2,394.0	2,385.8	292.275	CC

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Anticollision Report



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Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	1,500.0	1,714.4	2,394.3	2,385.6	275.361	ES
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	12,800.0	7,123.9	9,976.2	9,739.8	42.211	SF
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,337.7	2,937.5	2,141.4	2,119.9	99.714	CC
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,400.0	2,979.3	2,141.9	2,119.6	96.453	ES
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	13,500.0	7,086.5	9,956.2	9,706.6	39.884	SF
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,311.8	8,035.6	1,521.7	1,377.9	10.587	CC
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,366.1	8,027.2	1,522.6	1,377.5	10.489	ES
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,759.8	7,964.3	1,584.4	1,428.8	10.186	SF
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	8,088.6	7,743.7	2,893.6	2,750.4	20.209	CC
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	8,169.3	7,730.4	2,894.7	2,749.5	19.939	ES
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	9,600.0	7,404.4	3,249.6	3,068.8	17.977	SF
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	8,910.9	7,612.3	2,430.0	2,282.8	16.511	CC
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	8,956.7	7,606.8	2,430.4	2,282.1	16.380	ES
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	10,000.0	7,473.1	2,658.5	2,482.4	15.102	SF
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,124.4	7,179.0	383.8	268.3	3.324	CC, ES
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,169.3	7,179.4	386.4	269.8	3.314	SF
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	11,493.3	7,595.6	1,002.1	802.4	5.017	CC
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	11,515.7	7,596.2	1,002.4	802.0	5.003	ES
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	11,614.1	7,599.0	1,009.4	806.3	4.971	SF
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,053.6	7,814.3	2,350.5	2,044.3	7.678	CC
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,100.0	7,815.7	2,350.9	2,043.5	7.647	ES
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,500.0	7,827.4	2,392.4	2,074.0	7.512	SF
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	14,857.9	8,199.0	2,985.5	2,642.7	8.709	CC
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	14,960.6	8,199.0	2,987.3	2,641.7	8.643	ES
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,600.0	8,199.0	3,076.4	2,713.0	8.467	SF
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	12,754.3	7,735.1	1,038.0	791.0	4.202	CC
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	12,795.2	7,735.1	1,038.8	790.6	4.186	ES
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	12,893.7	7,735.1	1,047.3	796.4	4.174	SF
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	14,672.9	8,105.9	1,763.8	1,425.5	5.213	CC
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	14,700.0	8,107.2	1,764.0	1,424.9	5.202	ES
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	14,900.0	8,116.8	1,778.3	1,433.7	5.160	SF
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	406.5	392.3	1,653.6	1,652.5	1,490.152	CC, ES
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	12,700.0	6,600.0	9,989.5	9,807.0	54.721	SF
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,191.8	5,559.9	235.3	68.1	1.407	Level 3, CC
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,200.8	5,567.4	235.4	67.9	1.405	Level 3, ES, SF
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	400.0	362.0	1,248.8	1,241.4	167.606	CC
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	984.2	942.2	1,254.7	1,234.0	60.503	ES
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	7,996.3	6,826.0	3,941.9	3,721.9	17.917	SF
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	98.4	80.9	89.1	88.9	643.432	CC, ES
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	7,972.4	6,700.0	3,785.9	3,701.6	44.897	SF
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	98.6	99.6	124.0	123.8	663.706	CC, ES
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	13,200.0	15,072.1	980.4	519.8	2.128	SF
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	197.5	198.5	110.8	110.2	176.121	CC
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	200.0	200.0	110.8	110.2	173.600	ES
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	13,200.0	15,280.6	1,178.7	724.0	2.592	SF
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	296.0	297.0	102.6	101.5	95.709	CC
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	102.6	101.5	94.330	ES
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	13,200.0	15,100.4	1,326.2	865.3	2.877	SF
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	394.5	395.5	99.4	97.8	65.582	CC
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	400.0	99.4	97.8	64.627	ES
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	13,287.4	15,171.7	1,663.7	1,199.1	3.581	SF
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	104.8	103.3	68.078	CC, ES
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	13,300.0	15,409.8	1,838.5	1,375.9	3.974	SF

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 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	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	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.						
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	112.8	111.3	73.271	CC, ES
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	13,385.8	15,284.8	2,000.8	1,532.9	4.276	SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	123.6	122.1	80.277	CC, ES
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	13,484.2	15,420.3	2,343.7	1,873.0	4.979	SF
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	139.4	137.9	90.632	CC, ES
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	13,500.0	15,682.9	2,515.8	2,045.9	5.353	SF
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	155.4	153.9	100.948	CC, ES
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	13,500.0	15,616.6	2,670.6	2,198.6	5.659	SF
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	175.4	173.8	113.894	CC, ES
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	13,681.1	15,843.4	3,028.3	2,551.2	6.347	SF
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	194.0	192.4	125.987	CC, ES
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	13,700.0	16,129.6	3,199.0	2,722.3	6.710	SF
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	216.0	214.4	140.281	CC, ES
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	13,779.5	16,069.4	3,369.9	2,889.4	7.014	SF
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	401.0	237.1	235.5	153.979	CC, ES
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	13,900.0	16,281.8	3,719.5	3,235.5	7.685	SF
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	100.0	100.0	73.2	73.0	387.886	CC
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,226.0	663.1	-175.2	0.791	Level 1, ES, SF
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	400.0	400.0	143.2	141.7	93.148	CC, ES
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	20,287.9	20,690.3	1,340.6	491.4	1.579	SF
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	400.0	400.0	168.5	167.0	109.622	CC, ES
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	20,287.9	20,863.4	1,517.3	675.0	1.801	SF
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	401.0	117.9	116.3	76.564	CC, ES
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,539.9	1,009.1	161.2	1.190	Level 2, SF
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	401.0	70.0	68.5	45.471	CC
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,463.7	681.2	-164.5	0.805	Level 1, ES, SF
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	401.0	47.5	45.9	30.843	CC
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,401.4	349.7	-494.8	0.414	Level 1, ES, SF
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	296.0	297.0	25.3	24.3	23.625	CC
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,298.7	331.5	-509.2	0.394	Level 1, ES, SF
VT-LDS C2-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	95.3	93.8	62.003	CC
VT-LDS C2-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,649.8	867.4	42.3	1.051	Level 2, ES, SF
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	401.0	22.6	21.0	14.664	CC
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,510.0	253.2	-302.7	0.455	Level 1, ES, SF
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSAL	200.0	200.0	47.9	47.3	74.915	CC
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,287.9	20,473.7	532.8	-251.7	0.679	Level 1, ES, SF

Offset Design		SW NW SEC. 15 T5N R65W 6th P.M. - ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1										Offset Site Error:	0.0 usft
Survey Program: 0-INC												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +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	155.55	-2,402.6	1,092.4	2,639.6				
98.4	98.4	56.4	56.4	0.1	0.6	155.55	-2,402.6	1,092.4	2,639.3	2,638.6	0.69	3,846.862	
100.0	100.0	58.0	58.0	0.1	0.6	155.55	-2,402.6	1,092.4	2,639.3	2,638.6	0.70	3,746.733	
196.8	196.8	154.8	154.8	0.3	2.3	155.55	-2,402.6	1,092.4	2,639.3	2,636.7	2.64	1,000.431	
200.0	200.0	158.0	158.0	0.3	2.4	155.55	-2,402.6	1,092.4	2,639.3	2,636.6	2.72	970.893	
295.3	295.3	253.3	253.3	0.5	4.5	155.55	-2,402.6	1,092.4	2,639.3	2,634.3	5.02	526.098	
300.0	300.0	258.0	258.0	0.5	4.6	155.55	-2,402.6	1,092.4	2,639.3	2,634.2	5.13	514.918	
393.7	393.7	351.7	351.7	0.8	6.5	155.55	-2,402.6	1,092.4	2,639.3	2,632.0	7.27	363.233	

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 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	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	122.50	-47.7	74.9	90.4				
98.4	98.4	80.9	80.9	0.1	0.0	122.49	-47.8	75.1	89.1	88.9	0.14	643.432 CC, ES	
100.0	100.0	82.5	82.5	0.1	0.0	122.48	-47.8	75.1	89.1	88.9	0.14	631.384	
196.8	196.8	179.2	179.2	0.3	0.2	122.46	-48.2	75.7	89.7	89.2	0.50	181.068	
200.0	200.0	182.4	182.3	0.3	0.2	122.46	-48.2	75.7	89.8	89.3	0.51	176.789	
295.3	295.3	277.9	277.9	0.5	0.3	122.54	-48.6	76.2	90.3	89.5	0.81	111.957	
300.0	300.0	282.6	282.6	0.5	0.3	122.54	-48.6	76.2	90.4	89.5	0.82	110.062	
393.7	393.7	376.6	376.6	0.8	0.3	122.83	-49.1	76.1	90.6	89.5	1.09	82.849	
400.0	400.0	382.9	382.9	0.8	0.4	122.86	-49.2	76.1	90.6	89.5	1.11	81.498	
492.1	492.1	475.1	475.1	1.0	0.4	-150.22	-49.7	75.8	92.0	90.6	1.37	66.921	
500.0	500.0	483.0	483.0	1.0	0.4	-150.26	-49.8	75.8	92.2	90.8	1.40	66.038	
590.5	590.4	573.6	573.6	1.2	0.5	-151.20	-50.3	75.4	96.1	94.5	1.64	58.480	
600.0	599.8	583.0	583.0	1.2	0.5	-151.34	-50.3	75.3	96.6	95.0	1.67	57.908	
689.0	688.5	671.7	671.7	1.4	0.5	-152.96	-50.8	74.8	103.2	101.2	1.92	53.650	
700.0	699.5	682.6	682.6	1.4	0.5	-153.19	-50.8	74.8	104.2	102.2	1.95	53.301	
787.4	786.2	769.5	769.5	1.7	0.6	-155.16	-51.3	74.3	113.4	111.2	2.21	51.235	
800.0	798.7	782.0	782.0	1.7	0.6	-155.46	-51.4	74.2	115.0	112.7	2.25	51.071	
885.8	883.5	867.0	866.9	2.0	0.6	-157.57	-51.8	73.7	126.8	124.3	2.52	50.424	
900.0	897.5	880.9	880.9	2.0	0.6	-157.93	-51.9	73.6	129.0	126.5	2.56	50.433	
984.2	980.2	964.1	964.0	2.3	0.6	-160.03	-52.1	73.1	143.5	140.7	2.83	50.779	
1,000.0	995.6	979.6	979.5	2.4	0.7	-160.41	-52.1	73.0	146.4	143.6	2.87	50.944	
1,082.7	1,076.2	1,060.6	1,060.6	2.7	0.7	-162.36	-52.2	72.4	163.3	160.1	3.14	51.932	
1,100.0	1,093.1	1,077.5	1,077.5	2.8	0.7	-162.75	-52.2	72.2	167.1	163.9	3.20	52.224	
1,181.1	1,171.5	1,156.4	1,156.4	3.2	0.7	-164.48	-52.1	71.4	186.3	182.8	3.47	53.645	
1,200.0	1,189.6	1,174.8	1,174.7	3.3	0.7	-164.86	-52.1	71.2	191.1	187.5	3.54	54.051	
1,279.5	1,265.8	1,251.5	1,251.4	3.8	0.7	-166.38	-51.8	70.4	212.5	208.7	3.81	55.775	
1,300.0	1,285.3	1,271.1	1,271.1	3.9	0.8	-166.75	-51.7	70.2	218.4	214.5	3.88	56.290	
1,377.9	1,359.1	1,345.5	1,345.4	4.4	0.8	-168.10	-51.1	69.3	241.9	237.8	4.16	58.210	
1,400.0	1,379.8	1,366.4	1,366.3	4.5	0.8	-168.48	-50.8	69.1	248.9	244.7	4.23	58.833	
1,476.4	1,451.2	1,437.6	1,437.5	5.0	0.8	-169.73	-49.5	68.4	274.6	270.1	4.51	60.897	
1,500.0	1,473.2	1,459.3	1,459.2	5.2	0.8	-170.10	-49.1	68.2	283.0	278.4	4.59	61.603	
1,574.8	1,542.1	1,527.2	1,527.1	5.8	0.8	-171.23	-47.3	68.0	311.0	306.1	4.87	63.807	
1,600.0	1,565.2	1,549.9	1,549.8	6.0	0.8	-171.58	-46.7	68.0	320.9	316.0	4.97	64.550	
1,638.2	1,600.0	1,584.0	1,583.9	6.3	0.8	-172.09	-45.8	68.0	336.4	331.3	5.12	65.758	
1,673.2	1,631.8	1,615.2	1,615.1	6.6	0.8	-172.56	-45.0	68.1	350.9	345.7	5.24	66.986	
1,703.2	1,659.0	1,642.0	1,641.8	6.9	0.8	-172.95	-44.3	68.2	363.4	358.1	5.35	67.974	
1,771.6	1,720.8	1,702.5	1,702.4	7.5	0.9	-173.68	-42.5	68.6	392.8	387.2	5.62	69.949	
1,800.0	1,746.2	1,727.3	1,727.1	7.7	0.9	-173.97	-41.7	68.9	405.5	399.7	5.73	70.806	
1,870.1	1,808.4	1,787.9	1,787.7	8.4	0.9	-174.61	-39.9	69.5	438.0	432.0	6.01	72.895	
1,900.0	1,834.8	1,813.4	1,813.2	8.7	0.9	-174.85	-39.2	69.9	452.4	446.3	6.13	73.814	
1,943.0	1,872.3	1,849.4	1,849.2	9.2	0.9	-175.18	-38.2	70.4	473.7	467.4	6.31	75.117	
1,968.5	1,894.5	1,870.6	1,870.4	9.4	0.9	-175.38	-37.6	70.8	486.6	480.2	6.41	75.934	
2,000.0	1,921.9	1,896.8	1,896.5	9.8	0.9	-175.62	-36.9	71.3	502.5	496.0	6.53	76.909	
2,066.9	1,980.1	1,952.1	1,951.8	10.5	0.9	-176.08	-35.4	72.5	536.6	529.8	6.80	78.864	
2,100.0	2,008.9	1,979.4	1,979.1	10.8	0.9	-176.29	-34.7	73.2	553.5	546.6	6.94	79.778	
2,165.3	2,065.7	2,032.8	2,032.4	11.5	0.9	-176.68	-33.2	74.7	587.1	579.9	7.20	81.491	
2,200.0	2,095.9	2,060.9	2,060.5	11.9	0.9	-176.85	-32.4	75.6	605.1	597.7	7.35	82.354	
2,263.8	2,151.3	2,112.8	2,112.4	12.6	0.9	-177.15	-31.2	77.4	638.3	630.7	7.61	83.865	
2,300.0	2,182.9	2,142.8	2,142.4	13.0	1.0	-177.30	-30.6	78.5	657.2	649.5	7.76	84.685	
2,362.2	2,237.0	2,194.3	2,193.8	13.7	1.0	-177.52	-29.7	80.5	689.9	681.8	8.02	86.016	
2,400.0	2,269.8	2,226.2	2,225.6	14.1	1.0	-177.65	-29.2	81.8	709.7	701.6	8.18	86.797	
2,460.6	2,322.6	2,277.4	2,276.8	14.7	1.0	-177.82	-28.4	83.8	741.6	733.2	8.43	87.982	

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 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,500.0	2,356.8	2,310.4	2,309.8	15.2	1.0	-177.92	-28.0	85.2	762.4	753.8	8.59	88.711	
2,559.0	2,408.2	2,359.2	2,358.5	15.8	1.0	-178.06	-27.5	87.2	793.5	784.7	8.84	89.749	
2,600.0	2,443.8	2,392.9	2,392.2	16.3	1.0	-178.13	-27.2	88.6	815.2	806.2	9.01	90.438	
2,657.5	2,493.8	2,441.0	2,440.3	16.9	1.0	-178.24	-26.9	90.7	845.7	836.4	9.26	91.350	
2,700.0	2,530.8	2,476.8	2,476.0	17.4	1.0	-178.31	-26.7	92.3	868.2	858.8	9.44	91.994	
2,755.9	2,579.4	2,524.0	2,523.2	18.0	1.0	-178.40	-26.3	94.4	897.9	888.2	9.68	92.802	
2,800.0	2,617.8	2,561.6	2,560.8	18.5	1.0	-178.47	-26.0	96.0	921.3	911.4	9.86	93.413	
2,854.3	2,665.0	2,607.7	2,606.8	19.1	1.0	-178.55	-25.6	98.1	950.1	940.0	10.09	94.126	
2,900.0	2,704.8	2,645.5	2,644.5	19.6	1.1	-178.61	-25.3	99.8	974.4	964.1	10.29	94.697	
2,952.7	2,750.6	2,689.0	2,688.0	20.1	1.1	-178.68	-25.0	101.7	1,002.4	991.9	10.52	95.330	
3,000.0	2,791.7	2,729.5	2,728.5	20.7	1.1	-178.74	-24.7	103.6	1,027.6	1,016.8	10.72	95.871	
3,051.2	2,836.3	2,774.1	2,773.1	21.2	1.1	-178.80	-24.4	105.6	1,054.8	1,043.8	10.94	96.424	
3,100.0	2,878.7	2,816.9	2,815.8	21.8	1.1	-178.86	-24.0	107.5	1,080.7	1,069.5	11.15	96.929	
3,149.6	2,921.9	2,860.8	2,859.6	22.3	1.1	-178.91	-23.6	109.4	1,106.9	1,095.5	11.36	97.421	
3,200.0	2,965.7	2,905.2	2,904.0	22.9	1.1	-178.97	-23.3	111.2	1,133.5	1,121.9	11.58	97.893	
3,248.0	3,007.5	2,946.2	2,945.0	23.4	1.1	-179.02	-22.9	112.8	1,158.8	1,147.0	11.79	98.315	
3,300.0	3,052.7	2,990.5	2,989.2	24.0	1.1	-179.06	-22.7	114.6	1,186.2	1,174.2	12.01	98.753	
3,346.4	3,093.1	3,032.2	3,030.9	24.5	1.1	-179.10	-22.4	116.2	1,210.6	1,198.4	12.21	99.120	
3,400.0	3,139.7	3,081.2	3,079.9	25.1	1.2	-179.14	-22.1	118.0	1,238.7	1,226.3	12.45	99.517	
3,444.9	3,178.7	3,122.3	3,121.0	25.5	1.2	-179.18	-21.8	119.4	1,262.1	1,249.5	12.64	99.832	
3,500.0	3,226.7	3,172.8	3,171.4	26.2	1.2	-179.22	-21.4	121.0	1,290.8	1,277.9	12.88	100.198	
3,543.3	3,264.3	3,212.1	3,210.7	26.6	1.2	-179.25	-21.2	122.1	1,313.2	1,300.2	13.07	100.466	
3,600.0	3,313.6	3,262.2	3,260.8	27.3	1.2	-179.28	-21.0	123.5	1,342.5	1,329.2	13.32	100.791	
3,641.7	3,349.9	3,299.1	3,297.7	27.7	1.2	-179.30	-21.0	124.5	1,364.1	1,350.6	13.50	101.018	
3,700.0	3,400.6	3,351.2	3,349.7	28.4	1.2	-179.31	-21.1	125.8	1,394.1	1,380.3	13.76	101.306	
3,740.1	3,435.6	3,387.1	3,385.6	28.8	1.2	-179.32	-21.2	126.6	1,414.7	1,400.8	13.94	101.493	
3,800.0	3,487.6	3,439.9	3,438.4	29.5	1.2	-179.33	-21.4	127.8	1,445.4	1,431.2	14.20	101.755	
3,838.6	3,521.2	3,473.8	3,472.3	29.9	1.3	-179.33	-21.5	128.5	1,465.2	1,450.8	14.38	101.915	
3,900.0	3,574.6	3,527.1	3,525.6	30.6	1.3	-179.34	-21.8	129.7	1,496.6	1,482.0	14.65	102.155	
3,937.0	3,606.8	3,558.6	3,557.1	31.0	1.3	-179.34	-22.0	130.3	1,515.6	1,500.7	14.82	102.292	
4,000.0	3,661.6	3,611.9	3,610.4	31.7	1.3	-179.34	-22.2	131.5	1,547.8	1,532.7	15.10	102.517	
4,035.4	3,692.4	3,640.8	3,639.3	32.1	1.3	-179.34	-22.4	132.1	1,566.0	1,550.7	15.26	102.638	
4,100.0	3,748.6	3,693.5	3,692.0	32.8	1.3	-179.34	-22.8	133.4	1,599.2	1,583.6	15.55	102.855	
4,133.8	3,778.0	3,721.2	3,719.7	33.2	1.3	-179.34	-23.1	134.0	1,616.6	1,600.9	15.70	102.963	
4,200.0	3,835.6	3,775.3	3,773.7	33.9	1.3	-179.33	-23.6	135.4	1,650.7	1,634.7	16.00	103.170	
4,232.3	3,863.6	3,801.7	3,800.1	34.2	1.3	-179.33	-23.9	136.1	1,667.4	1,651.3	16.15	103.269	
4,300.0	3,922.5	3,859.4	3,857.8	35.0	1.4	-179.33	-24.4	137.7	1,702.5	1,686.0	16.45	103.467	
4,330.7	3,949.2	3,885.6	3,884.0	35.3	1.4	-179.33	-24.6	138.5	1,718.4	1,701.8	16.59	103.554	
4,400.0	4,009.5	3,956.5	3,954.8	36.1	1.4	-179.34	-25.0	140.2	1,754.1	1,737.2	16.91	103.725	
4,429.1	4,034.9	3,988.1	3,986.4	36.4	1.4	-179.34	-25.0	140.9	1,768.9	1,751.9	17.04	103.784	
4,500.0	4,096.5	4,067.4	4,065.8	37.2	1.4	-179.37	-24.8	141.9	1,804.7	1,787.3	17.36	103.932	
4,527.5	4,120.5	4,098.7	4,097.0	37.5	1.4	-179.38	-24.7	142.1	1,818.4	1,800.9	17.49	103.979	
4,600.0	4,183.5	4,172.6	4,171.0	38.3	1.4	-179.41	-24.1	142.1	1,854.2	1,836.4	17.81	104.103	
4,626.0	4,206.1	4,199.2	4,197.6	38.6	1.4	-179.43	-23.9	142.1	1,866.9	1,849.0	17.93	104.139	
4,700.0	4,270.5	4,266.0	4,264.3	39.4	1.4	-179.46	-23.3	141.7	1,903.1	1,884.9	18.26	104.232	
4,724.4	4,291.7	4,288.0	4,286.3	39.7	1.4	-179.47	-23.2	141.6	1,915.0	1,896.7	18.37	104.261	
4,800.0	4,357.5	4,353.7	4,352.0	40.5	1.4	-179.49	-22.6	141.3	1,951.9	1,933.2	18.71	104.335	
4,822.8	4,377.3	4,373.3	4,371.7	40.8	1.4	-179.50	-22.4	141.2	1,963.1	1,944.3	18.81	104.356	
4,900.0	4,444.4	4,442.4	4,440.7	41.6	1.5	-179.53	-21.8	140.8	2,000.7	1,981.6	19.16	104.418	
4,921.2	4,462.9	4,461.8	4,460.2	41.9	1.5	-179.54	-21.6	140.7	2,011.1	1,991.8	19.26	104.432	
5,000.0	4,531.4	4,531.3	4,529.6	42.7	1.5	-179.56	-21.1	140.2	2,049.4	2,029.8	19.61	104.483	
5,019.7	4,548.5	4,547.9	4,546.2	43.0	1.5	-179.57	-21.0	140.0	2,059.0	2,039.3	19.70	104.496	

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 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	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		
5,100.0	4,618.4	4,615.9	4,614.2	43.8	1.5	-179.59	-20.5	139.6	2,098.2	2,078.1	20.07	104.550		
5,118.1	4,634.2	4,631.5	4,629.8	44.0	1.5	-179.59	-20.5	139.5	2,107.0	2,086.9	20.15	104.559		
5,200.0	4,705.4	4,702.1	4,700.5	45.0	1.5	-179.61	-20.1	139.1	2,147.0	2,126.5	20.53	104.602		
5,216.5	4,719.8	4,716.2	4,714.5	45.1	1.5	-179.61	-20.1	139.1	2,155.1	2,134.5	20.60	104.610		
5,300.0	4,792.4	4,787.1	4,785.4	46.1	1.5	-179.63	-19.8	138.7	2,195.9	2,174.9	20.98	104.651		
5,314.9	4,805.4	4,800.0	4,798.3	46.2	1.5	-179.63	-19.7	138.7	2,203.2	2,182.1	21.05	104.658		
5,400.0	4,879.4	4,870.1	4,868.4	47.2	1.5	-179.65	-19.4	138.4	2,244.9	2,223.4	21.44	104.698		
5,413.4	4,891.0	4,881.1	4,879.4	47.3	1.5	-179.65	-19.4	138.4	2,251.5	2,230.0	21.50	104.705		
5,500.0	4,966.3	4,951.9	4,950.2	48.3	1.5	-179.66	-19.1	138.3	2,294.1	2,272.2	21.90	104.744		
5,511.8	4,976.6	4,961.5	4,959.8	48.4	1.5	-179.66	-19.1	138.3	2,299.9	2,277.9	21.96	104.749		
5,600.0	5,053.3	5,032.4	5,030.7	49.4	1.5	-179.68	-18.9	138.4	2,343.5	2,321.1	22.36	104.790		
5,610.2	5,062.2	5,040.5	5,038.8	49.5	1.5	-179.68	-18.8	138.4	2,348.6	2,326.2	22.41	104.795		
5,700.0	5,140.3	5,112.3	5,110.6	50.5	1.6	-179.69	-18.8	138.8	2,393.2	2,370.4	22.83	104.837		
5,708.6	5,147.8	5,119.6	5,117.9	50.6	1.6	-179.69	-18.8	138.8	2,397.5	2,374.6	22.87	104.839		
5,800.0	5,227.3	5,196.8	5,195.1	51.6	1.6	-179.69	-18.8	139.2	2,443.0	2,419.7	23.30	104.863		
5,807.1	5,233.4	5,200.0	5,198.3	51.7	1.6	-179.69	-18.8	139.3	2,446.5	2,423.2	23.33	104.874		
5,843.0	5,264.7	5,231.0	5,229.3	52.1	1.6	-179.69	-18.8	139.5	2,464.5	2,441.0	23.50	104.880		
5,850.0	5,270.8	5,236.5	5,234.8	52.2	1.6	-179.69	-18.8	139.5	2,468.0	2,444.5	23.56	104.755		
5,870.5	5,288.2	5,252.4	5,250.7	52.4	1.6	-179.68	-18.8	139.6	2,478.8	2,455.1	23.73	104.474		
5,900.0	5,313.2	5,275.1	5,273.4	52.8	1.6	-179.69	-18.8	139.8	2,494.8	2,470.9	23.87	104.508		
5,905.5	5,317.9	5,279.3	5,277.6	52.8	1.6	-179.69	-18.8	139.9	2,497.8	2,473.9	23.90	104.515		
6,000.0	5,397.7	5,357.5	5,355.8	54.0	1.6	-179.69	-18.9	140.6	2,549.1	2,524.7	24.37	104.606		
6,003.9	5,401.1	5,360.9	5,359.2	54.0	1.6	-179.69	-18.9	140.7	2,551.2	2,526.8	24.39	104.609		
6,100.0	5,482.3	5,443.9	5,442.2	55.2	1.6	-179.71	-18.6	141.5	2,603.3	2,578.4	24.87	104.687		
6,102.3	5,484.2	5,446.0	5,444.3	55.2	1.6	-179.71	-18.6	141.5	2,604.6	2,579.7	24.88	104.689		
6,200.0	5,566.8	5,531.0	5,529.3	56.4	1.7	-179.73	-18.2	142.2	2,657.4	2,632.1	25.37	104.759		
6,200.8	5,567.4	5,531.6	5,529.9	56.4	1.7	-179.73	-18.2	142.2	2,657.8	2,632.5	25.37	104.760		
6,299.2	5,650.6	5,612.3	5,610.6	57.6	1.7	-179.74	-17.7	142.9	2,711.1	2,685.2	25.86	104.834		
6,300.0	5,651.3	5,612.8	5,611.1	57.6	1.7	-179.74	-17.7	142.9	2,711.5	2,685.6	25.86	104.835		
6,397.6	5,733.8	5,675.3	5,673.5	58.8	1.7	-179.75	-17.5	143.6	2,764.7	2,738.3	26.34	104.957		
6,400.0	5,735.8	5,676.8	5,675.1	58.8	1.7	-179.75	-17.5	143.7	2,766.0	2,739.6	26.35	104.960		
6,496.0	5,817.0	5,749.9	5,748.2	60.0	1.7	-179.76	-17.5	145.0	2,818.8	2,791.9	26.83	105.048		
6,500.0	5,820.3	5,753.2	5,751.5	60.1	1.7	-179.76	-17.5	145.0	2,820.9	2,794.1	26.85	105.051		
6,594.5	5,900.2	5,835.4	5,833.6	61.2	1.7	-179.76	-17.6	146.5	2,872.9	2,845.5	27.33	105.104		
6,600.0	5,904.9	5,840.4	5,838.7	61.3	1.7	-179.76	-17.6	146.6	2,875.9	2,848.5	27.36	105.106		
6,692.9	5,983.4	5,924.6	5,922.9	62.4	1.7	-179.76	-18.1	147.9	2,926.8	2,898.9	27.84	105.144		
6,700.0	5,989.4	5,930.9	5,929.1	62.5	1.7	-179.76	-18.1	148.0	2,930.7	2,902.8	27.87	105.147		
6,791.3	6,066.6	6,011.4	6,009.7	63.6	1.8	-179.75	-18.6	149.1	2,980.5	2,952.2	28.34	105.181		
6,800.0	6,073.9	6,018.9	6,017.2	63.7	1.8	-179.75	-18.6	149.2	2,985.3	2,956.9	28.38	105.184		
6,889.7	6,149.8	6,096.3	6,094.5	64.8	1.8	-179.75	-19.1	150.2	3,034.2	3,005.4	28.84	105.213		
6,900.0	6,158.4	6,105.4	6,103.6	64.9	1.8	-179.75	-19.2	150.3	3,039.8	3,010.9	28.89	105.215		
6,988.2	6,233.0	6,184.6	6,182.9	66.0	1.8	-179.74	-19.7	151.2	3,087.8	3,058.4	29.34	105.226		
7,000.0	6,242.9	6,195.3	6,193.5	66.2	1.8	-179.74	-19.7	151.3	3,094.2	3,064.8	29.41	105.227		
7,086.6	6,316.1	6,267.0	6,265.3	67.2	1.8	-179.74	-20.0	152.0	3,141.3	3,111.4	29.85	105.247		
7,100.0	6,327.5	6,278.1	6,276.3	67.4	1.8	-179.74	-20.0	152.2	3,148.5	3,118.6	29.91	105.251		
7,185.0	6,399.3	6,350.5	6,348.7	68.4	1.8	-179.74	-20.1	152.9	3,194.8	3,164.4	30.35	105.261		
7,200.0	6,412.0	6,363.4	6,361.7	68.6	1.8	-179.74	-20.1	153.1	3,202.9	3,172.5	30.43	105.262		
7,283.4	6,482.5	6,436.0	6,434.2	69.6	1.9	-179.74	-20.2	153.8	3,248.2	3,217.3	30.86	105.262		
7,300.0	6,496.5	6,450.5	6,448.7	69.8	1.9	-179.75	-20.2	153.9	3,257.2	3,226.2	30.94	105.261		
7,381.9	6,565.7	6,522.7	6,520.9	70.8	1.9	-179.75	-20.4	154.6	3,301.6	3,270.2	31.37	105.254		
7,400.0	6,581.0	6,539.0	6,537.2	71.0	1.9	-179.75	-20.4	154.7	3,311.4	3,279.9	31.46	105.251		
7,418.9	6,597.0	6,556.0	6,554.2	71.3	1.9	-179.75	-20.4	154.8	3,321.6	3,290.1	31.56	105.247		

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 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	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		
7,450.0	6,622.8	6,583.4	6,581.6	71.7	1.9	-179.38	-20.5	155.0	3,339.1	3,307.3	31.86	104.798		
7,480.3	6,647.1	6,608.5	6,606.7	72.1	1.9	-179.03	-20.5	155.2	3,357.5	3,325.4	32.09	104.617		
7,500.0	6,662.3	6,623.5	6,621.7	72.4	1.9	-178.82	-20.5	155.3	3,370.1	3,337.9	32.20	104.650		
7,550.0	6,698.9	6,659.5	6,657.7	73.2	1.9	-178.27	-20.6	155.6	3,404.4	3,372.0	32.36	105.192		
7,578.7	6,718.5	6,678.7	6,677.0	73.7	1.9	-177.95	-20.7	155.7	3,425.5	3,393.1	32.38	105.800		
7,600.0	6,732.4	6,692.3	6,690.6	74.1	1.9	-177.69	-20.7	155.8	3,441.7	3,409.3	32.35	106.399		
7,650.0	6,762.6	6,700.0	6,698.2	75.1	1.9	-177.00	-20.7	155.9	3,481.8	3,449.7	32.14	108.322		
7,677.1	6,777.4	6,700.0	6,698.2	75.7	1.9	-176.54	-20.7	155.9	3,504.7	3,472.8	31.98	109.599		
7,700.0	6,789.1	6,700.0	6,698.2	76.2	1.9	-176.10	-20.7	155.9	3,524.6	3,492.8	31.82	110.766		
7,750.0	6,811.9	6,700.0	6,698.2	77.3	1.9	-174.86	-20.7	155.9	3,569.6	3,538.1	31.50	113.326		
7,775.6	6,822.0	6,700.0	6,698.2	77.9	1.9	-174.00	-20.7	155.9	3,593.3	3,561.9	31.42	114.379		
7,800.0	6,830.7	6,700.0	6,698.2	78.4	1.9	-172.95	-20.7	155.9	3,616.4	3,584.9	31.47	114.909		
7,850.0	6,845.4	6,700.0	6,698.2	79.7	1.9	-169.58	-20.7	155.9	3,664.6	3,632.0	32.64	112.259		
7,874.0	6,851.0	6,700.0	6,698.2	80.3	1.9	-166.82	-20.7	155.9	3,688.1	3,653.7	34.41	107.167		
7,900.0	6,855.9	6,700.0	6,698.2	80.9	1.9	-161.96	-20.7	155.9	3,713.8	3,675.2	38.54	96.362		
7,950.0	6,862.1	6,700.0	6,698.2	82.1	1.9	-133.24	-20.7	155.9	3,763.5	3,697.0	66.50	56.594		
7,972.4	6,863.5	6,700.0	6,698.2	82.7	1.9	-93.01	-20.7	155.9	3,785.9	3,701.6	84.32	44.897 SF		
7,996.3	6,864.0	6,700.0	6,698.2	83.3	1.9	-49.70	-20.7	155.9	3,809.7	3,740.8	68.96	55.247		
8,000.0	6,864.0	6,700.0	6,698.2	83.4	1.9	-49.70	-20.7	155.9	3,813.5	3,744.4	69.03	55.244		
8,070.8	6,864.0	6,700.0	6,698.2	85.2	1.9	-49.70	-20.7	155.9	3,884.2	3,813.8	70.41	55.167		
8,100.0	6,864.0	6,700.0	6,698.2	85.9	1.9	-49.70	-20.7	155.9	3,913.3	3,842.3	70.97	55.137		
8,169.3	6,864.0	6,700.0	6,698.2	87.6	1.9	-49.70	-20.7	155.9	3,982.5	3,910.1	72.33	55.058		
8,200.0	6,864.0	6,700.0	6,698.2	88.4	1.9	-49.70	-20.7	155.9	4,013.1	3,940.2	72.93	55.024		
8,267.7	6,864.0	6,700.0	6,698.2	90.1	1.9	-49.70	-20.7	155.9	4,080.7	4,006.4	74.27	54.945		
8,300.0	6,864.0	6,700.0	6,698.2	90.9	1.9	-49.70	-20.7	155.9	4,113.0	4,038.1	74.91	54.908		
8,366.1	6,864.0	6,700.0	6,698.2	92.6	1.9	-49.70	-20.7	155.9	4,179.0	4,102.8	76.22	54.828		
8,400.0	6,864.0	6,700.0	6,698.2	93.5	1.9	-49.70	-20.7	155.9	4,212.8	4,135.9	76.89	54.788		
8,464.5	6,864.0	6,700.0	6,698.2	95.1	1.9	-49.70	-20.7	155.9	4,277.3	4,199.1	78.18	54.709		
8,500.0	6,864.0	6,700.0	6,698.2	96.0	1.9	-49.70	-20.7	155.9	4,312.7	4,233.8	78.89	54.667		
8,563.0	6,864.0	6,700.0	6,698.2	97.7	1.9	-49.70	-20.7	155.9	4,375.6	4,295.4	80.16	54.589		
8,600.0	6,864.0	6,700.0	6,698.2	98.6	1.9	-49.70	-20.7	155.9	4,412.5	4,331.6	80.90	54.544		
8,661.4	6,864.0	6,700.0	6,698.2	100.2	1.9	-49.70	-20.7	155.9	4,473.8	4,391.7	82.14	54.467		
8,700.0	6,864.0	6,700.0	6,698.2	101.2	1.9	-49.70	-20.7	155.9	4,512.4	4,429.5	82.92	54.421		
8,759.8	6,864.0	6,700.0	6,698.2	102.8	1.9	-49.70	-20.7	155.9	4,572.1	4,488.0	84.13	54.346		
8,800.0	6,864.0	6,700.0	6,698.2	103.8	1.9	-49.70	-20.7	155.9	4,612.3	4,527.3	84.94	54.298		
8,858.2	6,864.0	6,700.0	6,698.2	105.3	1.9	-49.70	-20.7	155.9	4,670.4	4,584.3	86.13	54.225		
8,900.0	6,864.0	6,700.0	6,698.2	106.4	1.9	-49.70	-20.7	155.9	4,712.1	4,625.2	86.98	54.175		
8,956.7	6,864.0	6,700.0	6,698.2	107.9	1.9	-49.70	-20.7	155.9	4,768.8	4,680.6	88.14	54.105		
9,000.0	6,864.0	6,700.0	6,698.2	109.0	1.9	-49.70	-20.7	155.9	4,812.0	4,723.0	89.02	54.053		
9,055.1	6,864.0	6,700.0	6,698.2	110.5	1.9	-49.70	-20.7	155.9	4,867.1	4,776.9	90.15	53.986		
9,100.0	6,864.0	6,700.0	6,698.2	111.7	1.9	-49.70	-20.7	155.9	4,911.9	4,820.8	91.07	53.933		
9,153.5	6,864.0	6,700.0	6,698.2	113.1	1.9	-49.70	-20.7	155.9	4,965.4	4,873.2	92.18	53.868		
9,200.0	6,864.0	6,700.0	6,698.2	114.3	1.9	-49.70	-20.7	155.9	5,011.8	4,918.7	93.13	53.814		
9,251.9	6,864.0	6,700.0	6,698.2	115.7	1.9	-49.70	-20.7	155.9	5,063.7	4,969.5	94.21	53.752		
9,300.0	6,864.0	6,700.0	6,698.2	117.0	1.9	-49.70	-20.7	155.9	5,111.7	5,016.5	95.20	53.696		
9,350.4	6,864.0	6,700.0	6,698.2	118.3	1.9	-49.70	-20.7	155.9	5,162.0	5,065.8	96.24	53.637		
9,400.0	6,864.0	6,700.0	6,698.2	119.6	1.9	-49.70	-20.7	155.9	5,211.6	5,114.3	97.27	53.580		
9,448.8	6,864.0	6,700.0	6,698.2	120.9	1.9	-49.70	-20.7	155.9	5,260.4	5,162.1	98.28	53.524		
9,500.0	6,864.0	6,700.0	6,698.2	122.3	1.9	-49.70	-20.7	155.9	5,311.5	5,212.2	99.34	53.467		
9,547.2	6,864.0	6,700.0	6,698.2	123.5	1.9	-49.70	-20.7	155.9	5,358.7	5,258.4	100.33	53.413		
9,600.0	6,864.0	6,700.0	6,698.2	124.9	1.9	-49.70	-20.7	155.9	5,411.4	5,310.0	101.42	53.355		
9,645.6	6,864.0	6,700.0	6,698.2	126.2	1.9	-49.70	-20.7	155.9	5,457.0	5,354.7	102.38	53.304		

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 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	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
9,700.0	6,864.0	6,700.0	6,698.2	127.6	1.9	-49.70	-20.7	155.9	5,511.3	5,407.8	103.51	53.245	
9,744.1	6,864.0	6,700.0	6,698.2	128.8	1.9	-49.70	-20.7	155.9	5,555.4	5,450.9	104.43	53.197	
9,800.0	6,864.0	6,700.0	6,698.2	130.3	1.9	-49.70	-20.7	155.9	5,611.2	5,505.6	105.60	53.137	
9,842.5	6,864.0	6,700.0	6,698.2	131.4	1.9	-49.70	-20.7	155.9	5,653.7	5,547.2	106.49	53.092	
9,900.0	6,864.0	6,700.0	6,698.2	133.0	1.9	-49.70	-20.7	155.9	5,711.2	5,603.5	107.69	53.032	
9,940.9	6,864.0	6,700.0	6,698.2	134.1	1.9	-49.70	-20.7	155.9	5,752.1	5,643.5	108.55	52.989	
10,000.0	6,864.0	6,700.0	6,698.2	135.7	1.9	-49.70	-20.7	155.9	5,811.1	5,701.3	109.79	52.928	
10,039.3	6,864.0	6,700.0	6,698.2	136.7	1.9	-49.70	-20.7	155.9	5,850.4	5,739.8	110.62	52.888	
10,100.0	6,864.0	6,700.0	6,698.2	138.4	1.9	-49.70	-20.7	155.9	5,911.0	5,799.1	111.89	52.827	
10,137.8	6,864.0	6,700.0	6,698.2	139.4	1.9	-49.70	-20.7	155.9	5,948.8	5,836.1	112.69	52.789	
10,200.0	6,864.0	6,700.0	6,698.2	141.1	1.9	-49.70	-20.7	155.9	6,010.9	5,896.9	114.00	52.728	
10,236.2	6,864.0	6,700.0	6,698.2	142.0	1.9	-49.70	-20.7	155.9	6,047.1	5,932.3	114.76	52.692	
10,300.0	6,864.0	6,700.0	6,698.2	143.8	1.9	-49.70	-20.7	155.9	6,110.9	5,994.8	116.11	52.630	
10,334.6	6,864.0	6,700.0	6,698.2	144.7	1.9	-49.70	-20.7	155.9	6,145.5	6,028.6	116.84	52.597	
10,400.0	6,864.0	6,700.0	6,698.2	146.5	1.9	-49.70	-20.7	155.9	6,210.8	6,092.6	118.22	52.535	
10,433.0	6,864.0	6,700.0	6,698.2	147.4	1.9	-49.70	-20.7	155.9	6,243.8	6,124.9	118.92	52.504	
10,500.0	6,864.0	6,700.0	6,698.2	149.2	1.9	-49.70	-20.7	155.9	6,310.7	6,190.4	120.34	52.442	
10,531.5	6,864.0	6,700.0	6,698.2	150.0	1.9	-49.70	-20.7	155.9	6,342.2	6,221.2	121.00	52.413	
10,600.0	6,864.0	6,700.0	6,698.2	151.9	1.9	-49.70	-20.7	155.9	6,410.7	6,288.2	122.45	52.351	
10,629.9	6,864.0	6,700.0	6,698.2	152.7	1.9	-49.70	-20.7	155.9	6,440.5	6,317.4	123.09	52.324	
10,700.0	6,864.0	6,700.0	6,698.2	154.6	1.9	-49.70	-20.7	155.9	6,510.6	6,386.0	124.58	52.262	
10,728.3	6,864.0	6,700.0	6,698.2	155.4	1.9	-49.70	-20.7	155.9	6,538.9	6,413.7	125.18	52.237	
10,800.0	6,864.0	6,700.0	6,698.2	157.3	1.9	-49.70	-20.7	155.9	6,610.5	6,483.8	126.70	52.175	
10,826.7	6,864.0	6,700.0	6,698.2	158.1	1.9	-49.70	-20.7	155.9	6,637.3	6,510.0	127.27	52.152	
10,900.0	6,864.0	6,700.0	6,698.2	160.1	1.9	-49.70	-20.7	155.9	6,710.5	6,581.6	128.82	52.090	
10,925.2	6,864.0	6,700.0	6,698.2	160.8	1.9	-49.70	-20.7	155.9	6,735.6	6,606.3	129.36	52.069	
11,000.0	6,864.0	6,700.0	6,698.2	162.8	1.9	-49.70	-20.7	155.9	6,810.4	6,679.5	130.95	52.007	
11,023.6	6,864.0	6,700.0	6,698.2	163.4	1.9	-49.70	-20.7	155.9	6,834.0	6,702.5	131.46	51.987	
11,100.0	6,864.0	6,700.0	6,698.2	165.5	1.9	-49.70	-20.7	155.9	6,910.4	6,777.3	133.08	51.925	
11,122.0	6,864.0	6,700.0	6,698.2	166.1	1.9	-49.70	-20.7	155.9	6,932.4	6,798.8	133.55	51.908	
11,200.0	6,864.0	6,700.0	6,698.2	168.3	1.9	-49.70	-20.7	155.9	7,010.3	6,875.1	135.21	51.846	
11,220.4	6,864.0	6,700.0	6,698.2	168.8	1.9	-49.70	-20.7	155.9	7,030.7	6,895.1	135.65	51.830	
11,300.0	6,864.0	6,700.0	6,698.2	171.0	1.9	-49.70	-20.7	155.9	7,110.3	6,972.9	137.35	51.768	
11,318.9	6,864.0	6,700.0	6,698.2	171.5	1.9	-49.70	-20.7	155.9	7,129.1	6,991.4	137.75	51.753	
11,400.0	6,864.0	6,700.0	6,698.2	173.7	1.9	-49.70	-20.7	155.9	7,210.2	7,070.7	139.49	51.692	
11,417.3	6,864.0	6,700.0	6,698.2	174.2	1.9	-49.70	-20.7	155.9	7,227.5	7,087.6	139.85	51.678	
11,500.0	6,864.0	6,700.0	6,698.2	176.5	1.9	-49.70	-20.7	155.9	7,310.1	7,168.5	141.62	51.617	
11,515.7	6,864.0	6,700.0	6,698.2	176.9	1.9	-49.70	-20.7	155.9	7,325.9	7,183.9	141.96	51.605	
11,600.0	6,864.0	6,700.0	6,698.2	179.2	1.9	-49.70	-20.7	155.9	7,410.1	7,266.3	143.76	51.544	
11,614.1	6,864.0	6,700.0	6,698.2	179.6	1.9	-49.70	-20.7	155.9	7,424.2	7,280.2	144.07	51.534	
11,700.0	6,864.0	6,700.0	6,698.2	182.0	1.9	-49.70	-20.7	155.9	7,510.1	7,364.1	145.90	51.473	
11,712.6	6,864.0	6,700.0	6,698.2	182.3	1.9	-49.70	-20.7	155.9	7,522.6	7,376.4	146.17	51.464	
11,800.0	6,864.0	6,700.0	6,698.2	184.7	1.9	-49.70	-20.7	155.9	7,610.0	7,462.0	148.05	51.403	
11,811.0	6,864.0	6,700.0	6,698.2	185.0	1.9	-49.70	-20.7	155.9	7,621.0	7,472.7	148.28	51.395	
11,900.0	6,864.0	6,700.0	6,698.2	187.5	1.9	-49.70	-20.7	155.9	7,710.0	7,559.8	150.19	51.334	
11,909.4	6,864.0	6,700.0	6,698.2	187.7	1.9	-49.70	-20.7	155.9	7,719.4	7,569.0	150.39	51.328	
12,000.0	6,864.0	6,700.0	6,698.2	190.2	1.9	-49.70	-20.7	155.9	7,809.9	7,657.6	152.34	51.268	
12,007.8	6,864.0	6,700.0	6,698.2	190.4	1.9	-49.70	-20.7	155.9	7,817.8	7,665.3	152.50	51.262	
12,100.0	6,864.0	6,700.0	6,698.2	193.0	1.9	-49.70	-20.7	155.9	7,909.9	7,755.4	154.48	51.202	
12,106.3	6,864.0	6,700.0	6,698.2	193.1	1.9	-49.70	-20.7	155.9	7,916.1	7,761.5	154.62	51.198	
12,200.0	6,864.0	6,700.0	6,698.2	195.7	1.9	-49.70	-20.7	155.9	8,009.8	7,853.2	156.63	51.138	
12,204.7	6,864.0	6,700.0	6,698.2	195.8	1.9	-49.70	-20.7	155.9	8,014.5	7,857.8	156.73	51.135	

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 4-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	MD Reference:	KB-EST @ 4663.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	VT-LDS 4-16-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,300.0	6,864.0	6,700.0	6,698.2	198.5	1.9	-49.70	-20.7	155.9	8,109.8	7,951.0	158.78	51.075	
12,303.1	6,864.0	6,700.0	6,698.2	198.6	1.9	-49.70	-20.7	155.9	8,112.9	7,954.1	158.85	51.073	
12,400.0	6,864.0	6,700.0	6,698.2	201.2	1.9	-49.70	-20.7	155.9	8,209.8	8,048.8	160.93	51.014	
12,401.5	6,864.0	6,700.0	6,698.2	201.3	1.9	-49.70	-20.7	155.9	8,211.3	8,050.3	160.97	51.013	
12,500.0	6,864.0	6,700.0	6,698.2	204.0	1.9	-49.70	-20.7	155.9	8,309.7	8,146.6	163.08	50.954	
12,598.4	6,864.0	6,700.0	6,698.2	206.7	1.9	-49.70	-20.7	155.9	8,408.1	8,242.9	165.20	50.896	
12,600.0	6,864.0	6,700.0	6,698.2	206.8	1.9	-49.70	-20.7	155.9	8,409.7	8,244.4	165.24	50.895	
12,696.8	6,864.0	6,700.0	6,698.2	209.4	1.9	-49.70	-20.7	155.9	8,506.5	8,339.1	167.32	50.839	
12,700.0	6,864.0	6,700.0	6,698.2	209.5	1.9	-49.70	-20.7	155.9	8,509.6	8,342.2	167.39	50.837	
12,795.2	6,864.0	6,700.0	6,698.2	212.1	1.9	-49.70	-20.7	155.9	8,604.9	8,435.4	169.44	50.783	
12,800.0	6,864.0	6,700.0	6,698.2	212.3	1.9	-49.70	-20.7	155.9	8,609.6	8,440.1	169.55	50.780	
12,893.7	6,864.0	6,700.0	6,698.2	214.9	1.9	-49.70	-20.7	155.9	8,703.2	8,531.7	171.57	50.728	
12,900.0	6,864.0	6,700.0	6,698.2	215.0	1.9	-49.70	-20.7	155.9	8,709.6	8,537.9	171.70	50.725	
12,992.1	6,864.0	6,700.0	6,698.2	217.6	1.9	-49.70	-20.7	155.9	8,801.6	8,627.9	173.69	50.675	
13,000.0	6,864.0	6,700.0	6,698.2	217.8	1.9	-49.70	-20.7	155.9	8,809.5	8,635.7	173.86	50.671	
13,090.5	6,864.0	6,700.0	6,698.2	220.3	1.9	-49.70	-20.7	155.9	8,900.0	8,724.2	175.81	50.622	
13,100.0	6,864.0	6,700.0	6,698.2	220.6	1.9	-49.70	-20.7	155.9	8,909.5	8,733.5	176.02	50.617	
13,188.9	6,864.0	6,700.0	6,698.2	223.0	1.9	-49.70	-20.7	155.9	8,998.4	8,820.5	177.94	50.571	
13,200.0	6,864.0	6,700.0	6,698.2	223.3	1.9	-49.70	-20.7	155.9	9,009.5	8,831.3	178.18	50.565	
13,287.4	6,864.0	6,700.0	6,698.2	225.8	1.9	-49.70	-20.7	155.9	9,096.8	8,916.7	180.06	50.520	
13,300.0	6,864.0	6,700.0	6,698.2	226.1	1.9	-49.70	-20.7	155.9	9,109.4	8,929.1	180.34	50.514	
13,385.8	6,864.0	6,700.0	6,698.2	228.5	1.9	-49.70	-20.7	155.9	9,195.2	9,013.0	182.19	50.471	
13,400.0	6,864.0	6,700.0	6,698.2	228.9	1.9	-49.70	-20.7	155.9	9,209.4	9,026.9	182.50	50.464	
13,484.2	6,864.0	6,700.0	6,698.2	231.2	1.9	-49.70	-20.7	155.9	9,293.6	9,109.3	184.32	50.422	
13,500.0	6,864.0	6,700.0	6,698.2	231.7	1.9	-49.70	-20.7	155.9	9,309.4	9,124.7	184.66	50.414	
13,582.6	6,864.0	6,700.0	6,698.2	233.9	1.9	-49.70	-20.7	155.9	9,392.0	9,205.6	186.44	50.374	
13,600.0	6,864.0	6,700.0	6,698.2	234.4	1.9	-49.70	-20.7	155.9	9,409.3	9,222.5	186.82	50.366	
13,681.1	6,864.0	6,700.0	6,698.2	236.7	1.9	-49.70	-20.7	155.9	9,490.4	9,301.8	188.57	50.328	
13,700.0	6,864.0	6,700.0	6,698.2	237.2	1.9	-49.70	-20.7	155.9	9,509.3	9,320.3	188.98	50.319	
13,779.5	6,864.0	6,700.0	6,698.2	239.4	1.9	-49.70	-20.7	155.9	9,588.8	9,398.1	190.70	50.282	
13,800.0	6,864.0	6,700.0	6,698.2	240.0	1.9	-49.70	-20.7	155.9	9,609.3	9,418.1	191.14	50.272	
13,877.9	6,864.0	6,700.0	6,698.2	242.1	1.9	-49.70	-20.7	155.9	9,687.2	9,494.4	192.83	50.237	
13,900.0	6,864.0	6,700.0	6,698.2	242.7	1.9	-49.70	-20.7	155.9	9,709.3	9,515.9	193.31	50.227	
13,976.3	6,864.0	6,700.0	6,698.2	244.9	1.9	-49.70	-20.7	155.9	9,785.6	9,590.6	194.96	50.192	
14,000.0	6,864.0	6,700.0	6,698.2	245.5	1.9	-49.70	-20.7	155.9	9,809.2	9,613.8	195.47	50.182	
14,074.8	6,864.0	6,700.0	6,698.2	247.6	1.9	-49.70	-20.7	155.9	9,884.0	9,686.9	197.09	50.149	
14,100.0	6,864.0	6,700.0	6,698.2	248.3	1.9	-49.70	-20.7	155.9	9,909.2	9,711.6	197.64	50.138	
14,173.2	6,864.0	6,700.0	6,698.2	250.3	1.9	-49.70	-20.7	155.9	9,982.4	9,783.2	199.22	50.106	

Reference Depths are relative to KB-EST @ 4663.0usft	Coordinates are relative to: VT-LDS 4-16-18
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°

