

EXTRACTION OIL & GAS

**WELD COUNTY, COLORADO (NAD 83)
SW NW SEC. 15 T5N R65W 6th P.M.
VETTING 19**

**ORIGINAL WELLBORE
PROPOSAL #2**

Anticollision Report

10 March, 2016



Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 19
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:	VETTING 19	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	15,682.9	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
Offet Well - Wellbore - Design						
SW NW SEC. 15 T5N R65W 6th P.M.						
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	5,198.2	4,600.0	1,534.1	1,408.4	12.209	CC
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	5,216.5	4,600.0	1,534.2	1,408.3	12.193	ES
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	5,400.0	4,600.0	1,547.3	1,419.8	12.138	SF
CARLSON A-15-16HN - Wellbore #1 - Design #1	10,400.0	14,862.7	3,998.2	3,679.1	12.529	CC
CARLSON A-15-16HN - Wellbore #1 - Design #1	10,500.0	14,862.7	3,999.5	3,677.6	12.427	ES
CARLSON A-15-16HN - Wellbore #1 - Design #1	11,800.0	14,862.7	4,236.4	3,878.8	11.846	SF
CARLSON B-15-16HC - Wellbore #1 - Design #1	10,398.7	14,905.1	3,830.8	3,511.7	12.004	CC
CARLSON B-15-16HC - Wellbore #1 - Design #1	10,500.0	14,905.1	3,832.2	3,510.3	11.905	ES
CARLSON B-15-16HC - Wellbore #1 - Design #1	11,700.0	14,905.1	4,045.8	3,690.9	11.399	SF
CARLSON C-15-16HN - Wellbore #1 - Design #1	10,397.9	14,796.3	3,668.9	3,350.3	11.516	CC
CARLSON C-15-16HN - Wellbore #1 - Design #1	10,500.0	14,796.3	3,670.3	3,348.9	11.421	ES
CARLSON C-15-16HN - Wellbore #1 - Design #1	11,600.0	14,796.3	3,860.8	3,509.2	10.980	SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	10,396.5	14,777.6	3,339.1	3,021.0	10.497	CC
CARLSON D-15-16HN - Wellbore #1 - Design #1	10,500.0	14,777.6	3,340.7	3,019.8	10.409	ES
CARLSON D-15-16HN - Wellbore #1 - Design #1	11,400.0	14,777.6	3,486.6	3,141.0	10.087	SF
CARLSON E-15-16HC - Wellbore #1 - Design #1	10,395.9	14,848.6	3,171.3	2,852.8	9.956	CC
CARLSON E-15-16HC - Wellbore #1 - Design #1	10,500.0	14,848.6	3,173.0	2,851.6	9.874	ES
CARLSON E-15-16HC - Wellbore #1 - Design #1	11,300.0	14,848.6	3,297.6	2,954.3	9.605	SF
CARLSON F-15-16HN - Wellbore #1 - Design #1	10,395.4	14,769.7	3,059.4	2,741.6	9.629	CC
CARLSON F-15-16HN - Wellbore #1 - Design #1	10,500.0	14,769.7	3,061.1	2,740.6	9.548	ES
CARLSON F-15-16HN - Wellbore #1 - Design #1	11,200.0	14,769.7	3,163.4	2,823.6	9.310	SF
CARLSON G-15-16HN - Wellbore #1 - Design #1	10,393.6	14,787.6	2,639.9	2,322.8	8.323	CC
CARLSON G-15-16HN - Wellbore #1 - Design #1	10,433.0	14,787.6	2,640.2	2,322.0	8.296	ES
CARLSON G-15-16HN - Wellbore #1 - Design #1	11,000.0	14,787.6	2,708.7	2,374.9	8.115	SF
CARLSON H-15-16HC - Wellbore #1 - Design #1	10,392.9	14,883.6	2,471.3	2,153.8	7.782	CC
CARLSON H-15-16HC - Wellbore #1 - Design #1	10,433.0	14,883.6	2,471.6	2,153.0	7.756	ES
CARLSON H-15-16HC - Wellbore #1 - Design #1	10,925.2	14,883.6	2,528.0	2,195.9	7.611	SF
CARLSON I-15-16HN - Wellbore #1 - Design #1	10,392.0	14,836.2	2,260.8	1,944.1	7.139	CC
CARLSON I-15-16HN - Wellbore #1 - Design #1	10,433.0	14,836.2	2,261.2	1,943.4	7.115	ES
CARLSON I-15-16HN - Wellbore #1 - Design #1	10,826.7	14,836.2	2,302.2	1,973.7	7.007	SF
CARLSON J-15-16HN - Wellbore #1 - Design #1	10,390.6	14,901.4	1,931.7	1,615.6	6.111	CC
CARLSON J-15-16HN - Wellbore #1 - Design #1	10,433.0	14,901.4	1,932.2	1,614.9	6.091	ES
CARLSON J-15-16HN - Wellbore #1 - Design #1	10,700.0	14,901.4	1,956.3	1,631.8	6.028	SF
CARLSON K-15-16HC - Wellbore #1 - Design #1	10,390.0	15,013.6	1,761.8	1,444.9	5.560	CC
CARLSON K-15-16HC - Wellbore #1 - Design #1	10,433.0	15,013.6	1,762.4	1,444.3	5.541	ES
CARLSON K-15-16HC - Wellbore #1 - Design #1	10,629.9	15,013.6	1,778.1	1,454.6	5.497	SF
CARLSON L-15-16HN - Wellbore #1 - Design #1	10,389.2	14,977.0	1,603.0	1,287.7	5.084	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 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.						
CARLSON L-15-16HN - Wellbore #1 - Design #1	10,433.0	14,977.0	1,603.6	1,287.1	5.067	ES
CARLSON L-15-16HN - Wellbore #1 - Design #1	10,600.0	14,977.0	1,616.8	1,295.7	5.036	SF
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,643.2	7,277.6	597.8	362.5	2.541	CC
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,665.3	7,277.5	598.2	362.3	2.536	ES
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,700.0	7,277.3	600.5	363.6	2.535	SF
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	12,045.3	7,428.0	503.0	333.5	2.968	CC, ES
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	12,100.0	7,427.3	505.9	334.9	2.959	SF
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,372.3	7,352.9	1,100.2	838.6	4.205	CC
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,400.0	7,352.9	1,100.6	838.2	4.194	ES
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,500.0	7,352.8	1,107.6	842.4	4.176	SF
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	13,969.5	7,102.4	1,117.2	910.5	5.406	CC
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,000.0	7,102.2	1,117.6	910.1	5.386	ES
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,173.2	7,101.4	1,135.6	923.2	5.348	SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	12,700.0	7,546.0	183.9	44.1	1.316	Level 3, SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	12,772.5	7,523.6	170.5	42.6	1.333	Level 3, CC, ES
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	15,682.9	7,792.6	884.2	598.1	3.091	CC, ES, SF
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	12,808.0	7,768.9	1,498.8	1,310.2	7.944	CC, ES
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	13,100.0	7,785.0	1,526.9	1,330.1	7.758	SF
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	12,030.2	7,508.6	790.4	621.7	4.686	CC, ES
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	12,106.3	7,499.6	794.0	623.6	4.659	SF
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	14,743.1	8,061.0	2,098.4	1,854.3	8.598	CC
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	14,800.0	8,062.9	2,099.1	1,853.5	8.545	ES
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	15,255.9	8,078.2	2,160.0	1,901.6	8.359	SF
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	15,206.0	7,483.2	108.9	-149.0	0.422	Level 1, CC, ES, SF
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	15,682.9	7,530.4	1,425.7	1,133.3	4.876	CC, ES, SF
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	15,682.9	7,482.4	538.2	255.9	1.907	CC, ES, SF
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	14,704.6	7,435.6	700.0	460.8	2.926	CC, ES
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	14,763.7	7,442.8	702.4	461.3	2.913	SF
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	12,630.2	7,146.7	1,218.3	1,042.4	6.924	CC
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	12,696.8	7,146.7	1,220.2	1,042.3	6.862	ES
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	12,893.7	7,146.7	1,246.5	1,063.2	6.801	SF
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	11,407.1	7,489.8	1,212.3	1,047.9	7.375	CC
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	11,417.3	7,489.7	1,212.3	1,047.6	7.362	ES
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	11,614.1	7,487.6	1,229.8	1,059.7	7.230	SF
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,258.8	7,176.5	536.7	348.4	2.850	CC
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,287.4	7,176.4	537.5	348.4	2.842	ES
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,300.0	7,176.3	538.3	348.8	2.841	SF
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	13,484.2	7,203.2	775.5	583.4	4.036	CC
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	13,500.0	7,202.8	775.7	583.1	4.029	ES
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	13,582.6	7,200.6	781.7	587.1	4.017	SF
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	13,313.8	7,840.0	2,034.7	1,834.1	10.143	CC
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	13,385.8	7,841.0	2,035.9	1,833.3	10.049	ES
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	13,800.0	7,846.7	2,091.9	1,877.8	9.768	SF
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	866.4	910.1	2,444.4	2,441.3	793.255	CC
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	885.8	929.8	2,444.4	2,441.3	773.534	ES
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	15,682.9	7,155.8	9,453.8	9,195.9	36.652	SF
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	918.9	1,012.2	2,464.3	2,460.9	713.062	CC
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	1,135.4	1,416.8	2,464.4	2,459.5	505.702	ES
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	14,800.0	7,300.2	9,998.8	9,759.3	41.738	SF
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	1,957.8	2,858.0	2,261.9	2,249.9	187.755	CC
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	1,968.5	2,870.0	2,262.0	2,249.8	186.602	ES
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	15,649.6	7,250.0	9,999.5	9,742.0	38.827	SF
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	10,912.6	7,805.7	920.9	763.4	5.848	CC

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SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	10,925.2	7,802.8	920.9	763.2	5.839	ES
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	11,023.6	7,780.1	927.2	767.7	5.812	SF
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,645.2	7,790.7	442.6	284.9	2.807	CC, ES
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,700.0	7,780.5	445.8	286.5	2.798	SF
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	11,481.8	7,559.3	26.8	-136.1	0.164	Level 1, CC, ES, SF
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	10,673.7	7,321.0	2,063.2	1,933.4	15.892	CC
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	10,728.3	7,321.0	2,063.9	1,932.6	15.716	ES
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	11,600.0	7,321.0	2,261.6	2,106.2	14.560	SF
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	14,050.8	7,738.1	1,469.7	1,251.7	6.744	CC
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	14,100.0	7,740.4	1,470.5	1,251.2	6.705	ES
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	14,300.0	7,749.9	1,490.6	1,265.7	6.629	SF
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	15,682.9	7,854.4	945.1	655.8	3.267	CC, ES, SF
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,682.9	7,340.0	1,694.4	1,481.3	7.953	CC, ES, SF
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	15,307.0	7,930.1	1,438.7	1,173.2	5.419	CC
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	15,354.3	7,930.1	1,439.5	1,172.7	5.395	ES
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	15,500.0	7,930.1	1,451.6	1,180.7	5.358	SF
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,682.9	8,199.2	1,715.3	1,402.4	5.483	CC, ES, SF
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	946.5	939.4	1,533.1	1,530.5	600.790	CC
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	984.2	975.8	1,533.1	1,530.5	581.903	ES
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	15,000.0	6,600.0	9,947.3	9,729.6	45.699	SF
EXIST VERT FAY #1 - Wellbore #1 - Design #1	9,415.0	7,058.9	2,161.7	1,953.8	10.400	CC
EXIST VERT FAY #1 - Wellbore #1 - Design #1	9,448.8	7,058.9	2,161.9	1,953.2	10.356	ES
EXIST VERT FAY #1 - Wellbore #1 - Design #1	10,039.3	7,058.9	2,250.0	2,025.4	10.019	SF
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	3,953.2	3,658.2	194.5	98.2	2.019	CC, ES
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	4,000.0	3,699.5	195.7	98.3	2.009	SF
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	785.4	767.4	49.8	47.6	22.957	CC
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	800.0	782.0	49.8	47.6	22.556	ES
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	1,000.0	981.7	54.1	51.4	20.246	SF
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	100.0	100.0	168.5	168.3	897.989	CC, ES
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,065.3	1,513.6	1,040.5	3.199	SF
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	200.0	200.0	143.2	142.6	224.740	CC, ES
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,277.1	1,318.8	841.3	2.762	SF
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	120.6	119.6	111.016	CC, ES
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,096.1	1,171.2	700.5	2.488	SF
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	400.0	95.3	93.8	62.050	CC, ES
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,169.6	846.1	380.4	1.817	SF
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	500.0	500.0	73.2	71.2	36.879	CC, ES
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,407.7	659.4	180.0	1.376	Level 3, SF
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	600.0	600.0	47.9	45.5	19.671	CC
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	2,800.0	2,774.3	68.6	43.2	2.705	ES
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,282.6	532.5	85.8	1.192	Level 2, SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	25.3	22.4	8.780	CC
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	3,937.0	3,921.2	32.4	-13.4	0.708	Level 1, SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,420.3	254.0	-67.2	0.791	Level 1, ES
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	800.0	22.6	19.2	6.771	CC
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,616.4	254.8	-77.4	0.767	Level 1, ES, SF
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	800.0	47.9	44.6	14.367	CC
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	3,248.0	3,290.7	67.1	33.1	1.975	ES
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	15,843.4	532.5	79.2	1.175	Level 2, SF
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	800.0	70.5	67.1	21.138	CC
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	3,500.0	3,567.6	95.6	57.0	2.477	ES
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	15,682.9	16,129.6	659.4	178.4	1.371	Level 3, SF
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	800.0	95.8	92.5	28.733	CC

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 VETTING 19
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:	VETTING 19	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-INC												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-176.06	-1,161.1	-79.9	1,164.5				
98.4	98.4	59.4	59.4	0.1	0.6	-176.06	-1,161.1	-79.9	1,163.8	1,163.1	0.68	1,699.294	
100.0	100.0	61.0	61.0	0.1	0.6	-176.06	-1,161.1	-79.9	1,163.8	1,163.1	0.70	1,656.963	
196.8	196.8	157.8	157.8	0.3	2.3	-176.06	-1,161.1	-79.9	1,163.8	1,161.1	2.66	437.367	
200.0	200.0	161.0	161.0	0.3	2.4	-176.06	-1,161.1	-79.9	1,163.8	1,161.1	2.74	424.498	
295.3	295.3	256.3	256.3	0.5	4.5	-176.06	-1,161.1	-79.9	1,163.8	1,158.8	5.04	231.006	
300.0	300.0	261.0	261.0	0.5	4.6	-176.06	-1,161.1	-79.9	1,163.8	1,158.7	5.15	226.116	
393.7	393.7	354.7	354.7	0.8	6.5	-176.06	-1,161.1	-79.9	1,163.8	1,156.5	7.29	159.720	
400.0	400.0	361.0	361.0	0.8	6.7	-176.06	-1,161.1	-79.9	1,163.8	1,156.4	7.43	156.649	
492.1	492.1	453.1	453.1	1.0	8.5	-176.06	-1,161.1	-79.9	1,163.8	1,154.3	9.51	122.363	
500.0	500.0	461.0	461.0	1.0	8.7	-176.06	-1,161.1	-79.9	1,163.8	1,154.1	9.69	120.121	
590.5	590.5	551.5	551.5	1.2	10.5	-176.06	-1,161.1	-79.9	1,163.8	1,152.1	11.73	99.248	
600.0	600.0	561.0	561.0	1.2	10.7	-176.06	-1,161.1	-79.9	1,163.8	1,151.9	11.94	97.483	
689.0	689.0	650.0	650.0	1.4	12.5	-176.06	-1,161.1	-79.9	1,163.8	1,149.9	13.94	83.507	
700.0	700.0	661.0	661.0	1.4	12.7	-176.06	-1,161.1	-79.9	1,163.8	1,149.6	14.18	82.051	
787.4	787.4	748.4	748.4	1.6	14.5	-176.06	-1,161.1	-79.9	1,163.8	1,147.7	16.14	72.088	
800.0	800.0	761.0	761.0	1.7	14.8	-176.06	-1,161.1	-79.9	1,163.8	1,147.4	16.43	70.849	
885.8	885.8	846.8	846.8	1.8	16.5	-9.64	-1,161.1	-79.9	1,162.5	1,144.2	18.32	63.460	
900.0	900.0	861.0	861.0	1.9	16.8	-9.64	-1,161.1	-79.9	1,162.1	1,143.5	18.63	62.378	
984.2	984.1	945.1	945.1	2.0	18.5	-9.69	-1,161.1	-79.9	1,158.0	1,137.5	20.45	56.631	
1,000.0	999.8	960.8	960.8	2.0	18.8	-9.70	-1,161.1	-79.9	1,156.9	1,136.1	20.78	55.664	
1,082.7	1,082.2	1,043.2	1,043.2	2.2	20.4	-9.78	-1,161.1	-79.9	1,150.1	1,127.5	22.54	51.013	
1,100.0	1,099.5	1,060.5	1,060.5	2.2	20.8	-9.80	-1,161.1	-79.9	1,148.3	1,125.4	22.91	50.125	
1,181.1	1,180.0	1,141.0	1,141.0	2.4	22.4	-9.92	-1,161.1	-79.9	1,138.9	1,114.3	24.61	46.284	
1,200.0	1,198.7	1,159.7	1,159.7	2.5	22.8	-9.95	-1,161.1	-79.9	1,136.3	1,111.3	25.00	45.461	
1,279.5	1,277.3	1,238.3	1,238.3	2.7	24.4	-10.10	-1,161.1	-79.9	1,124.4	1,097.7	26.62	42.233	
1,300.0	1,297.5	1,258.5	1,258.5	2.7	24.8	-10.14	-1,161.1	-79.9	1,120.9	1,093.9	27.04	41.462	
1,377.9	1,374.0	1,335.0	1,335.0	3.0	26.3	-10.33	-1,161.1	-79.9	1,106.6	1,078.0	28.59	38.707	
1,400.0	1,395.6	1,356.6	1,356.6	3.0	26.8	-10.39	-1,161.1	-79.9	1,102.1	1,073.1	29.02	37.979	
1,476.4	1,470.1	1,431.1	1,431.1	3.3	28.3	-10.61	-1,161.1	-79.9	1,085.5	1,055.0	30.50	35.597	
1,500.0	1,493.1	1,454.1	1,454.1	3.4	28.7	-10.69	-1,161.1	-79.9	1,080.0	1,049.1	30.94	34.904	
1,574.8	1,565.4	1,526.4	1,526.4	3.7	30.2	-10.95	-1,161.1	-79.9	1,061.3	1,028.9	32.34	32.818	
1,600.0	1,589.6	1,550.6	1,550.6	3.8	30.7	-11.05	-1,161.1	-79.9	1,054.6	1,021.8	32.80	32.154	
1,610.8	1,600.0	1,561.0	1,561.0	3.9	30.9	-11.09	-1,161.1	-79.9	1,051.6	1,018.6	32.99	31.874	
1,673.2	1,660.0	1,621.0	1,621.0	4.2	32.1	-11.28	-1,161.1	-79.9	1,034.5	1,000.2	34.32	30.146	
1,675.8	1,662.4	1,623.4	1,623.4	4.2	32.1	-11.28	-1,161.1	-79.9	1,033.8	999.4	34.37	30.078	
1,700.0	1,685.6	1,646.6	1,646.6	4.3	32.6	-11.38	-1,161.1	-79.9	1,027.0	992.2	34.80	29.509	
1,771.6	1,754.0	1,715.0	1,715.0	4.7	34.0	-11.71	-1,161.1	-79.9	1,006.0	969.9	36.07	27.889	
1,800.0	1,780.9	1,741.9	1,741.9	4.8	34.5	-11.86	-1,161.1	-79.9	997.2	960.7	36.56	27.279	
1,870.1	1,847.0	1,808.0	1,808.0	5.2	35.8	-12.24	-1,161.1	-79.9	974.4	936.7	37.73	25.824	
1,900.0	1,875.0	1,836.0	1,836.0	5.4	36.4	-12.42	-1,161.1	-79.9	964.2	925.9	38.23	25.220	
1,968.5	1,938.8	1,899.8	1,899.8	5.9	37.7	-12.86	-1,161.1	-79.9	939.7	900.4	39.33	23.892	
2,000.0	1,968.0	1,929.0	1,929.0	6.1	38.3	-13.08	-1,161.1	-79.9	928.0	888.2	39.83	23.301	
2,066.9	2,029.4	1,990.4	1,990.4	6.5	39.5	-13.59	-1,161.1	-79.9	902.1	861.2	40.85	22.080	
2,100.0	2,059.5	2,020.5	2,020.5	6.8	40.1	-13.87	-1,161.1	-79.9	888.7	847.4	41.35	21.495	
2,165.3	2,118.6	2,079.6	2,079.6	7.3	41.3	-14.46	-1,161.1	-79.9	861.4	819.1	42.30	20.363	
2,200.0	2,149.6	2,110.6	2,110.6	7.6	41.9	-14.80	-1,161.1	-79.9	846.5	803.7	42.80	19.778	
2,263.8	2,206.3	2,167.3	2,167.3	8.1	43.1	-15.49	-1,161.1	-79.9	818.0	774.3	43.69	18.721	
2,267.7	2,209.7	2,170.7	2,170.7	8.1	43.1	-15.54	-1,161.1	-79.9	816.2	772.5	43.75	18.657	
2,300.0	2,238.2	2,199.2	2,199.2	8.4	43.7	-15.83	-1,161.1	-79.9	801.5	757.0	44.41	18.046	
2,362.2	2,293.1	2,254.1	2,254.1	8.9	44.8	-16.41	-1,161.1	-79.9	773.1	727.4	45.70	16.916	
2,400.0	2,326.5	2,287.5	2,287.5	9.3	45.5	-16.79	-1,161.1	-79.9	755.9	709.4	46.50	16.258	

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 VETTING 19
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:	VETTING 19	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-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	
2,460.6	2,380.0	2,341.0	2,341.0	9.8	46.6	-17.43	-1,161.1	-79.9	728.4	680.6	47.78	15.245	
2,500.0	2,414.7	2,375.7	2,375.7	10.1	47.3	-17.87	-1,161.1	-79.9	710.6	662.0	48.62	14.614	
2,559.0	2,466.9	2,427.9	2,427.9	10.7	48.3	-18.58	-1,161.1	-79.9	683.9	634.0	49.90	13.705	
2,600.0	2,503.0	2,464.0	2,464.0	11.0	49.0	-19.10	-1,161.1	-79.9	665.5	614.7	50.80	13.100	
2,657.5	2,553.7	2,514.7	2,514.7	11.5	50.1	-19.88	-1,161.1	-79.9	639.7	587.6	52.08	12.282	
2,700.0	2,591.2	2,552.2	2,552.2	11.9	50.8	-20.50	-1,161.1	-79.9	620.6	567.6	53.04	11.701	
2,755.9	2,640.6	2,601.6	2,601.6	12.4	51.8	-21.38	-1,161.1	-79.9	595.7	541.4	54.33	10.966	
2,800.0	2,679.5	2,640.5	2,640.5	12.8	52.6	-22.12	-1,161.1	-79.9	576.2	520.8	55.36	10.408	
2,854.3	2,727.4	2,688.4	2,688.4	13.3	53.6	-23.10	-1,161.1	-79.9	552.2	495.5	56.66	9.745	
2,900.0	2,767.7	2,728.7	2,728.7	13.7	54.4	-23.99	-1,161.1	-79.9	532.1	474.4	57.78	9.210	
2,952.7	2,814.3	2,775.3	2,775.3	14.2	55.3	-25.10	-1,161.1	-79.9	509.1	450.0	59.11	8.614	
3,000.0	2,856.0	2,817.0	2,817.0	14.6	56.1	-26.18	-1,161.1	-79.9	488.7	428.3	60.33	8.100	
3,051.2	2,901.2	2,862.2	2,862.2	15.1	57.0	-27.45	-1,161.1	-79.9	466.7	405.0	61.69	7.565	
3,100.0	2,944.2	2,905.2	2,905.2	15.5	57.9	-28.78	-1,161.1	-79.9	445.9	382.9	63.04	7.073	
3,149.6	2,988.0	2,949.0	2,949.0	16.0	58.8	-30.25	-1,161.1	-79.9	425.0	360.6	64.46	6.594	
3,200.0	3,032.5	2,993.5	2,993.5	16.4	59.7	-31.89	-1,161.1	-79.9	404.1	338.1	65.97	6.126	
3,248.0	3,074.9	3,035.9	3,035.9	16.9	60.5	-33.61	-1,161.1	-79.9	384.5	317.0	67.47	5.698	
3,300.0	3,120.7	3,081.7	3,081.7	17.3	61.5	-35.66	-1,161.1	-79.9	363.6	294.4	69.18	5.256	
3,346.4	3,161.7	3,122.7	3,122.7	17.7	62.3	-37.68	-1,161.1	-79.9	345.3	274.5	70.79	4.878	
3,400.0	3,209.0	3,170.0	3,170.0	18.2	63.2	-40.27	-1,161.1	-79.9	324.8	252.1	72.74	4.465	
3,444.9	3,248.6	3,209.6	3,209.6	18.6	64.0	-42.67	-1,161.1	-79.9	308.2	233.7	74.48	4.138	
3,500.0	3,297.2	3,258.2	3,258.2	19.1	65.0	-45.96	-1,161.1	-79.9	288.5	211.8	76.73	3.761	
3,543.3	3,335.5	3,296.5	3,296.5	19.5	65.8	-48.83	-1,161.1	-79.9	273.8	195.2	78.59	3.484	
3,600.0	3,385.5	3,346.5	3,346.5	20.1	66.8	-53.00	-1,161.1	-79.9	255.8	174.6	81.16	3.152	
3,641.7	3,422.3	3,383.3	3,383.3	20.4	67.5	-56.39	-1,161.1	-79.9	243.5	160.4	83.11	2.930	
3,700.0	3,473.7	3,434.7	3,434.7	21.0	68.6	-61.62	-1,161.1	-79.9	228.1	142.1	85.91	2.654	
3,740.1	3,509.2	3,470.2	3,470.2	21.3	69.3	-65.55	-1,161.1	-79.9	218.8	130.9	87.85	2.491	
3,800.0	3,562.0	3,523.0	3,523.0	21.9	70.3	-71.90	-1,161.1	-79.9	207.4	116.8	90.64	2.288	
3,838.6	3,596.0	3,557.0	3,557.0	22.2	71.0	-76.26	-1,161.1	-79.9	201.8	109.5	92.32	2.186	
3,900.0	3,650.2	3,611.2	3,611.2	22.8	72.1	-83.53	-1,161.1	-79.9	196.1	101.4	94.69	2.071	
3,937.0	3,682.9	3,643.9	3,643.9	23.1	72.8	-88.02	-1,161.1	-79.9	194.6	98.8	95.88	2.030	
3,953.2	3,697.2	3,658.2	3,658.2	23.3	73.1	-90.00	-1,161.1	-79.9	194.5	98.2	96.33	2.019 CC, ES	
4,000.0	3,738.5	3,699.5	3,699.5	23.7	73.9	-95.71	-1,161.1	-79.9	195.7	98.3	97.42	2.009 SF	
4,035.4	3,769.8	3,730.8	3,730.8	24.0	74.5	-99.95	-1,161.1	-79.9	198.3	100.3	98.02	2.023	
4,100.0	3,826.7	3,787.7	3,787.7	24.6	75.7	-107.40	-1,161.1	-79.9	206.4	107.7	98.68	2.092	
4,133.8	3,856.6	3,817.6	3,817.6	24.9	76.3	-111.08	-1,161.1	-79.9	212.3	113.4	98.83	2.148	
4,200.0	3,915.0	3,876.0	3,876.0	25.5	77.4	-117.78	-1,161.1	-79.9	226.5	127.6	98.88	2.291	
4,232.3	3,943.5	3,904.5	3,904.5	25.8	78.0	-120.78	-1,161.1	-79.9	234.6	135.8	98.82	2.375	
4,300.0	4,003.2	3,964.2	3,964.2	26.5	79.2	-126.51	-1,161.1	-79.9	253.8	155.2	98.63	2.574	
4,330.7	4,030.3	3,991.3	3,991.3	26.7	79.8	-128.86	-1,161.1	-79.9	263.4	164.8	98.54	2.672	
4,400.0	4,091.5	4,052.5	4,052.5	27.4	81.0	-133.64	-1,161.1	-79.9	286.3	187.9	98.40	2.910	
4,429.1	4,117.2	4,078.2	4,078.2	27.6	81.5	-135.44	-1,161.1	-79.9	296.5	198.2	98.37	3.015	
4,500.0	4,179.7	4,140.7	4,140.7	28.3	82.8	-139.40	-1,161.1	-79.9	322.4	224.0	98.40	3.277	
4,527.5	4,204.1	4,165.1	4,165.1	28.5	83.2	-140.79	-1,161.1	-79.9	332.9	234.4	98.45	3.381	
4,600.0	4,268.0	4,229.0	4,229.0	29.2	84.5	-144.08	-1,161.1	-79.9	361.1	262.4	98.69	3.659	
4,626.0	4,290.9	4,251.9	4,251.9	29.4	85.0	-145.14	-1,161.1	-79.9	371.4	272.6	98.81	3.759	
4,700.0	4,356.2	4,317.2	4,317.2	30.1	86.3	-147.89	-1,161.1	-79.9	401.5	302.2	99.27	4.045	
4,724.4	4,377.8	4,338.8	4,338.8	30.3	86.7	-148.72	-1,161.1	-79.9	411.6	312.1	99.44	4.139	
4,800.0	4,444.5	4,405.5	4,405.5	31.0	88.1	-151.04	-1,161.1	-79.9	443.2	343.1	100.09	4.428	
4,822.8	4,464.6	4,425.6	4,425.6	31.2	88.5	-151.68	-1,161.1	-79.9	452.9	352.6	100.30	4.515	
4,900.0	4,532.7	4,493.7	4,493.7	32.0	89.9	-153.67	-1,161.1	-79.9	485.9	384.8	101.11	4.806	
4,921.2	4,551.5	4,512.5	4,512.5	32.1	90.2	-154.17	-1,161.1	-79.9	495.1	393.8	101.35	4.885	

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 VETTING 19
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:	VETTING 19	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-INC												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,621.0	4,582.0	4,582.0	32.9	91.6	-155.88	-1,161.1	-79.9	529.4	427.1	102.29	5.175	
5,019.7	4,638.4	4,599.4	4,599.4	33.1	92.0	-156.28	-1,161.1	-79.9	538.0	435.4	102.54	5.246	
5,100.0	4,709.2	4,670.2	4,670.2	33.8	93.4	-157.77	-1,161.1	-79.9	573.4	469.8	103.60	5.534	
5,118.1	4,725.2	4,686.2	4,686.2	34.0	93.7	-158.09	-1,161.1	-79.9	581.4	477.5	103.85	5.598	
5,200.0	4,797.5	4,758.5	4,758.5	34.7	95.2	-159.40	-1,161.1	-79.9	617.8	512.8	105.02	5.883	
5,216.5	4,812.1	4,773.1	4,773.1	34.9	95.5	-159.65	-1,161.1	-79.9	625.2	519.9	105.27	5.939	
5,300.0	4,885.7	4,846.7	4,846.7	35.6	97.0	-160.81	-1,161.1	-79.9	662.6	556.1	106.53	6.220	
5,314.9	4,898.9	4,859.9	4,859.9	35.8	97.2	-161.01	-1,161.1	-79.9	669.3	562.6	106.76	6.270	
5,400.0	4,974.0	4,935.0	4,935.0	36.5	98.7	-162.05	-1,161.1	-79.9	707.7	599.6	108.10	6.547	
5,413.4	4,985.8	4,946.8	4,946.8	36.7	99.0	-162.21	-1,161.1	-79.9	713.8	605.4	108.31	6.590	
5,500.0	5,062.2	5,023.2	5,023.2	37.5	100.5	-163.15	-1,161.1	-79.9	753.0	643.3	109.73	6.863	
5,511.8	5,072.7	5,033.7	5,033.7	37.6	100.7	-163.27	-1,161.1	-79.9	758.4	648.5	109.92	6.899	
5,553.7	5,109.7	5,070.7	5,070.7	38.0	101.5	-163.68	-1,161.1	-79.9	777.5	666.9	110.62	7.028	
5,600.0	5,150.7	5,111.7	5,111.7	38.3	102.3	-164.24	-1,161.1	-79.9	798.2	686.2	112.05	7.124	
5,610.2	5,159.8	5,120.8	5,120.8	38.4	102.5	-164.35	-1,161.1	-79.9	802.7	690.4	112.37	7.144	
5,700.0	5,240.4	5,201.4	5,201.4	38.9	104.1	-165.29	-1,161.1	-79.9	841.0	725.8	115.17	7.302	
5,708.6	5,248.3	5,209.3	5,209.3	39.0	104.2	-165.37	-1,161.1	-79.9	844.6	729.1	115.44	7.316	
5,800.0	5,331.7	5,292.7	5,292.7	39.5	105.9	-166.17	-1,161.1	-79.9	880.8	762.5	118.33	7.444	
5,807.1	5,338.2	5,299.2	5,299.2	39.6	106.1	-166.23	-1,161.1	-79.9	883.5	765.0	118.55	7.453	
5,900.0	5,424.3	5,385.3	5,385.3	40.1	107.8	-166.91	-1,161.1	-79.9	917.6	796.1	121.48	7.554	
5,905.5	5,429.5	5,390.5	5,390.5	40.1	107.9	-166.95	-1,161.1	-79.9	919.5	797.9	121.65	7.559	
6,000.0	5,518.2	5,479.2	5,479.2	40.6	109.7	-167.53	-1,161.1	-79.9	951.3	826.7	124.60	7.635	
6,003.9	5,521.9	5,482.9	5,482.9	40.6	109.8	-167.56	-1,161.1	-79.9	952.5	827.8	124.72	7.638	
6,100.0	5,613.3	5,574.3	5,574.3	41.1	111.6	-168.06	-1,161.1	-79.9	981.8	854.1	127.66	7.690	
6,102.3	5,615.5	5,576.5	5,576.5	41.1	111.6	-168.07	-1,161.1	-79.9	982.4	854.7	127.73	7.691	
6,200.0	5,709.3	5,670.3	5,670.3	41.5	113.5	-168.50	-1,161.1	-79.9	1,009.0	878.3	130.65	7.723	
6,200.8	5,710.1	5,671.1	5,671.1	41.5	113.5	-168.50	-1,161.1	-79.9	1,009.2	878.5	130.68	7.723	
6,299.2	5,805.5	5,766.5	5,766.5	41.9	115.5	-168.86	-1,161.1	-79.9	1,032.8	899.2	133.53	7.734	
6,300.0	5,806.3	5,767.3	5,767.3	41.9	115.5	-168.86	-1,161.1	-79.9	1,033.0	899.4	133.56	7.734	
6,397.6	5,901.7	5,862.7	5,862.7	42.2	117.4	-169.16	-1,161.1	-79.9	1,053.1	916.9	136.29	7.727	
6,400.0	5,904.0	5,865.0	5,865.0	42.2	117.4	-169.16	-1,161.1	-79.9	1,053.6	917.2	136.35	7.727	
6,496.0	5,998.6	5,959.6	5,959.6	42.5	119.3	-169.40	-1,161.1	-79.9	1,070.3	931.3	138.93	7.704	
6,500.0	6,002.5	5,963.5	5,963.5	42.5	119.4	-169.40	-1,161.1	-79.9	1,070.9	931.9	139.03	7.702	
6,594.5	6,096.0	6,057.0	6,057.0	42.8	121.3	-169.58	-1,161.1	-79.9	1,084.1	942.7	141.44	7.665	
6,600.0	6,101.5	6,062.5	6,062.5	42.8	121.4	-169.59	-1,161.1	-79.9	1,084.8	943.2	141.58	7.662	
6,692.9	6,193.8	6,154.8	6,154.8	43.0	123.3	-169.72	-1,161.1	-79.9	1,094.7	950.9	143.81	7.612	
6,700.0	6,200.9	6,161.9	6,161.9	43.0	123.4	-169.73	-1,161.1	-79.9	1,095.3	951.3	143.98	7.607	
6,791.3	6,292.0	6,253.0	6,253.0	43.1	125.2	-169.82	-1,161.1	-79.9	1,101.9	955.9	146.03	7.546	
6,800.0	6,300.6	6,261.6	6,261.6	43.1	125.4	-169.82	-1,161.1	-79.9	1,102.4	956.2	146.22	7.539	
6,889.7	6,390.3	6,351.3	6,351.3	43.2	127.2	-169.87	-1,161.1	-79.9	1,105.8	957.7	148.10	7.467	
6,900.0	6,400.6	6,361.6	6,361.6	43.2	127.4	-169.87	-1,161.1	-79.9	1,106.0	957.7	148.30	7.458	
6,956.4	6,457.0	6,418.0	6,418.0	43.3	128.6	-169.87	-1,161.1	-79.9	1,106.6	957.7	148.30	7.458	
6,986.4	6,487.0	6,448.0	6,448.0	43.3	129.2	-169.87	-1,161.1	-79.9	1,106.6	957.7	148.30	7.458	
6,988.2	6,488.7	6,449.7	6,449.7	43.3	129.2	-169.87	-1,161.1	-79.9	1,106.6	957.7	148.30	7.458	
7,000.0	6,500.6	6,461.6	6,461.6	43.3	129.4	-169.87	-1,161.1	-79.9	1,106.7	957.7	148.30	7.458	
7,050.0	6,550.4	6,511.4	6,511.4	43.4	130.4	-169.87	-1,161.1	-79.9	1,108.0	958.5	151.53	7.312	
7,086.6	6,586.6	6,547.6	6,547.6	43.4	131.2	-169.87	-1,161.1	-79.9	1,110.1	957.9	152.21	7.293	
7,100.0	6,599.8	6,560.8	6,560.8	43.4	131.4	-169.87	-1,161.1	-79.9	1,111.1	958.7	152.43	7.290	
7,150.0	6,648.3	6,609.3	6,609.3	43.5	132.4	-169.87	-1,161.1	-79.9	1,116.1	963.0	153.10	7.290	
7,185.0	6,681.6	6,642.6	6,642.6	43.6	133.1	-169.87	-1,161.1	-79.9	1,120.7	967.3	153.42	7.305	
7,200.0	6,695.6	6,656.6	6,656.6	43.6	133.4	-169.87	-1,161.1	-79.9	1,123.0	969.5	153.53	7.314	
7,250.0	6,741.4	6,702.4	6,702.4	43.7	134.3	-169.87	-1,161.1	-79.9	1,131.9	978.1	153.76	7.361	

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 VETTING 19
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:	VETTING 19	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-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	
7,283.4	6,770.9	6,731.9	6,731.9	43.8	134.9	114.05	-1,161.1	-79.9	1,139.0	985.1	153.82	7.405	
7,300.0	6,785.1	6,746.1	6,746.1	43.9	135.2	114.03	-1,161.1	-79.9	1,142.8	989.0	153.82	7.429	
7,350.0	6,826.6	6,787.6	6,787.6	44.0	136.0	113.88	-1,161.1	-79.9	1,156.0	1,002.2	153.81	7.516	
7,381.9	6,851.8	6,812.8	6,812.8	44.1	136.5	113.69	-1,161.1	-79.9	1,165.5	1,011.7	153.81	7.578	
7,400.0	6,865.6	6,826.6	6,826.6	44.2	136.8	113.55	-1,161.1	-79.9	1,171.4	1,017.6	153.82	7.615	
7,450.0	6,901.6	6,862.6	6,862.6	44.4	137.5	112.99	-1,161.1	-79.9	1,189.2	1,035.2	154.01	7.721	
7,480.3	6,921.9	6,882.9	6,882.9	44.6	137.9	112.52	-1,161.1	-79.9	1,201.1	1,046.8	154.28	7.785	
7,500.0	6,934.5	6,895.5	6,895.5	44.6	138.2	112.15	-1,161.1	-79.9	1,209.3	1,054.8	154.53	7.826	
7,550.0	6,964.0	6,925.0	6,925.0	44.9	138.8	110.97	-1,161.1	-79.9	1,231.8	1,076.3	155.54	7.920	
7,578.7	6,979.3	6,940.3	6,940.3	45.1	139.1	110.11	-1,161.1	-79.9	1,245.8	1,089.4	156.39	7.966	
7,600.0	6,989.8	6,950.8	6,950.8	45.2	139.3	109.39	-1,161.1	-79.9	1,256.6	1,099.5	157.14	7.997	
7,650.0	7,011.9	6,972.9	6,972.9	45.5	139.7	107.34	-1,161.1	-79.9	1,283.7	1,124.3	159.37	8.055	
7,677.1	7,022.2	6,983.2	6,983.2	45.7	139.9	106.01	-1,161.1	-79.9	1,299.3	1,138.5	160.82	8.079	
7,700.0	7,029.9	6,990.9	6,990.9	45.8	140.1	104.77	-1,161.1	-79.9	1,312.8	1,150.7	162.12	8.098	
7,750.0	7,043.8	7,004.8	7,004.8	46.2	140.4	101.62	-1,161.1	-79.9	1,343.9	1,178.8	165.12	8.139	
7,775.6	7,049.3	7,010.3	7,010.3	46.4	140.5	99.78	-1,161.1	-79.9	1,360.4	1,193.8	166.63	8.164	
7,800.0	7,053.5	7,014.5	7,014.5	46.6	140.6	97.88	-1,161.1	-79.9	1,376.6	1,208.7	167.96	8.196	
7,850.0	7,058.8	7,019.8	7,019.8	47.0	140.7	93.53	-1,161.1	-79.9	1,410.7	1,240.7	170.06	8.296	
7,874.0	7,059.9	7,020.9	7,020.9	47.2	140.7	91.24	-1,161.1	-79.9	1,427.5	1,256.9	170.63	8.366	
7,886.6	7,060.0	7,021.0	7,021.0	47.3	140.7	90.00	-1,161.1	-79.9	1,436.4	1,265.6	170.78	8.411	
7,900.0	7,060.0	7,021.0	7,021.0	47.5	140.7	90.00	-1,161.1	-79.9	1,446.0	1,274.9	171.03	8.454	
7,972.4	7,060.0	7,021.0	7,021.0	48.2	140.7	90.00	-1,161.1	-79.9	1,498.5	1,326.1	172.45	8.690	
8,000.0	7,060.0	7,021.0	7,021.0	48.4	140.7	90.00	-1,161.1	-79.9	1,518.9	1,345.9	172.98	8.781	
8,070.8	7,060.0	7,021.0	7,021.0	49.2	140.7	90.00	-1,161.1	-79.9	1,572.4	1,398.0	174.45	9.014	
8,100.0	7,060.0	7,021.0	7,021.0	49.5	140.7	90.00	-1,161.1	-79.9	1,594.8	1,419.8	175.05	9.111	
8,169.3	7,060.0	7,021.0	7,021.0	50.3	140.7	90.00	-1,161.1	-79.9	1,648.9	1,472.4	176.55	9.340	
8,200.0	7,060.0	7,021.0	7,021.0	50.7	140.7	90.00	-1,161.1	-79.9	1,673.3	1,496.1	177.21	9.442	
8,267.7	7,060.0	7,021.0	7,021.0	51.6	140.7	90.00	-1,161.1	-79.9	1,727.6	1,548.9	178.73	9.666	
8,300.0	7,060.0	7,021.0	7,021.0	52.0	140.7	90.00	-1,161.1	-79.9	1,753.9	1,574.4	179.46	9.773	
8,366.1	7,060.0	7,021.0	7,021.0	53.0	140.7	90.00	-1,161.1	-79.9	1,808.3	1,627.3	180.99	9.991	
8,400.0	7,060.0	7,021.0	7,021.0	53.5	140.7	90.00	-1,161.1	-79.9	1,836.4	1,654.7	181.78	10.103	
8,464.5	7,060.0	7,021.0	7,021.0	54.5	140.7	89.99	-1,161.1	-79.9	1,890.6	1,707.3	183.31	10.314	
8,500.0	7,060.0	7,021.0	7,021.0	55.0	140.7	89.99	-1,161.1	-79.9	1,920.7	1,736.5	184.15	10.430	
8,563.0	7,060.0	7,021.0	7,021.0	56.1	140.7	89.99	-1,161.1	-79.9	1,974.4	1,788.8	185.68	10.634	
8,600.0	7,060.0	7,021.0	7,021.0	56.7	140.7	89.99	-1,161.1	-79.9	2,006.3	1,819.7	186.58	10.753	
8,661.4	7,060.0	7,021.0	7,021.0	57.7	140.7	89.99	-1,161.1	-79.9	2,059.5	1,871.4	188.09	10.950	
8,700.0	7,060.0	7,021.0	7,021.0	58.4	140.7	89.99	-1,161.1	-79.9	2,093.2	1,904.2	189.04	11.073	
8,759.8	7,059.9	7,020.9	7,020.9	59.5	140.7	89.99	-1,161.1	-79.9	2,145.8	1,955.2	190.54	11.262	
8,800.0	7,059.9	7,020.9	7,020.9	60.3	140.7	89.99	-1,161.1	-79.9	2,181.3	1,989.7	191.54	11.388	
8,858.2	7,059.9	7,020.9	7,020.9	61.4	140.7	89.99	-1,161.1	-79.9	2,233.0	2,040.0	193.02	11.569	
8,900.0	7,059.9	7,020.9	7,020.9	62.2	140.7	89.99	-1,161.1	-79.9	2,270.3	2,076.2	194.08	11.698	
8,956.7	7,059.9	7,020.9	7,020.9	63.4	140.7	89.99	-1,161.1	-79.9	2,321.2	2,125.6	195.53	11.871	
9,000.0	7,059.9	7,020.9	7,020.9	64.3	140.7	89.99	-1,161.1	-79.9	2,360.2	2,163.6	196.64	12.003	
9,055.1	7,059.9	7,020.9	7,020.9	65.4	140.7	89.99	-1,161.1	-79.9	2,410.1	2,212.0	198.06	12.169	
9,100.0	7,059.9	7,020.9	7,020.9	66.4	140.7	89.99	-1,161.1	-79.9	2,450.9	2,251.7	199.22	12.303	
9,153.5	7,059.9	7,020.9	7,020.9	67.5	140.7	89.99	-1,161.1	-79.9	2,499.8	2,299.1	200.61	12.461	
9,200.0	7,059.9	7,020.9	7,020.9	68.5	140.7	89.99	-1,161.1	-79.9	2,542.3	2,340.5	201.82	12.597	
9,251.9	7,059.9	7,020.9	7,020.9	69.7	140.7	89.99	-1,161.1	-79.9	2,590.0	2,386.9	203.18	12.747	
9,300.0	7,059.9	7,020.9	7,020.9	70.7	140.7	89.99	-1,161.1	-79.9	2,634.3	2,429.9	204.44	12.886	
9,350.4	7,059.9	7,020.9	7,020.9	71.9	140.7	89.99	-1,161.1	-79.9	2,680.9	2,475.1	205.77	13.029	
9,400.0	7,059.9	7,020.9	7,020.9	73.0	140.7	89.99	-1,161.1	-79.9	2,726.9	2,519.8	207.08	13.169	
9,448.8	7,059.9	7,020.9	7,020.9	74.1	140.7	89.99	-1,161.1	-79.9	2,772.3	2,563.9	208.37	13.305	

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 VETTING 19
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:	VETTING 19	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-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	
9,500.0	7,059.9	7,020.9	7,020.9	75.3	140.7	89.99	-1,161.1	-79.9	2,820.0	2,610.3	209.72	13.446	
9,547.2	7,059.9	7,020.9	7,020.9	76.4	140.7	89.99	-1,161.1	-79.9	2,864.1	2,653.1	210.98	13.575	
9,600.0	7,059.9	7,020.9	7,020.9	77.7	140.7	89.99	-1,161.1	-79.9	2,913.5	2,701.2	212.39	13.718	
9,645.6	7,059.9	7,020.9	7,020.9	78.8	140.7	89.99	-1,161.1	-79.9	2,956.4	2,742.8	213.61	13.840	
9,700.0	7,059.9	7,020.9	7,020.9	80.1	140.7	89.99	-1,161.1	-79.9	3,007.5	2,792.4	215.06	13.985	
9,744.1	7,059.9	7,020.9	7,020.9	81.1	140.7	89.99	-1,161.1	-79.9	3,049.0	2,832.8	216.24	14.100	
9,800.0	7,059.9	7,020.9	7,020.9	82.5	140.7	89.99	-1,161.1	-79.9	3,101.8	2,884.1	217.74	14.246	
9,842.5	7,059.9	7,020.9	7,020.9	83.5	140.7	89.99	-1,161.1	-79.9	3,142.0	2,923.2	218.89	14.355	
9,900.0	7,059.9	7,020.9	7,020.9	85.0	140.7	89.99	-1,161.1	-79.9	3,196.5	2,976.1	220.43	14.501	
9,940.9	7,059.9	7,020.9	7,020.9	86.0	140.7	89.99	-1,161.1	-79.9	3,235.4	3,013.8	221.54	14.604	
10,000.0	7,059.9	7,020.9	7,020.9	87.4	140.7	89.99	-1,161.1	-79.9	3,291.5	3,068.4	223.13	14.751	
10,039.3	7,059.9	7,020.9	7,020.9	88.4	140.7	89.99	-1,161.1	-79.9	3,329.0	3,104.8	224.20	14.848	
10,100.0	7,059.9	7,020.9	7,020.9	89.9	140.7	89.99	-1,161.1	-79.9	3,386.8	3,161.0	225.84	14.997	
10,137.8	7,059.9	7,020.9	7,020.9	90.9	140.7	89.99	-1,161.1	-79.9	3,422.9	3,196.0	226.86	15.088	
10,200.0	7,059.9	7,020.9	7,020.9	92.5	140.7	89.99	-1,161.1	-79.9	3,482.4	3,253.8	228.55	15.237	
10,236.2	7,059.9	7,020.9	7,020.9	93.4	140.7	89.99	-1,161.1	-79.9	3,517.0	3,287.5	229.54	15.322	
10,300.0	7,059.9	7,020.9	7,020.9	95.0	140.7	90.00	-1,161.1	-79.9	3,578.1	3,346.9	231.27	15.472	
10,334.6	7,059.9	7,020.9	7,020.9	95.9	140.7	90.00	-1,161.1	-79.9	3,611.4	3,379.2	232.21	15.552	
10,400.0	7,059.9	7,020.9	7,020.9	97.6	140.7	90.00	-1,161.1	-79.9	3,674.2	3,440.2	233.99	15.702	
10,433.0	7,059.9	7,020.9	7,020.9	98.4	140.7	90.00	-1,161.1	-79.9	3,705.9	3,471.0	234.90	15.777	
10,500.0	7,059.9	7,020.9	7,020.9	100.1	140.7	90.00	-1,161.1	-79.9	3,770.4	3,533.7	236.72	15.927	
10,531.5	7,059.9	7,020.9	7,020.9	101.0	140.7	90.00	-1,161.1	-79.9	3,800.7	3,563.1	237.58	15.997	
10,600.0	7,059.9	7,020.9	7,020.9	102.7	140.7	90.00	-1,161.1	-79.9	3,866.8	3,627.3	239.46	16.148	
10,629.9	7,059.9	7,020.9	7,020.9	103.5	140.7	90.00	-1,161.1	-79.9	3,895.7	3,655.4	240.28	16.213	
10,700.0	7,059.9	7,020.9	7,020.9	105.3	140.7	90.00	-1,161.1	-79.9	3,963.4	3,721.2	242.20	16.364	
10,728.3	7,059.9	7,020.9	7,020.9	106.1	140.7	90.00	-1,161.1	-79.9	3,990.8	3,747.8	242.97	16.425	
10,800.0	7,059.9	7,020.9	7,020.9	108.0	140.7	90.00	-1,161.1	-79.9	4,060.2	3,815.2	244.94	16.576	
10,826.7	7,059.9	7,020.9	7,020.9	108.7	140.7	90.00	-1,161.1	-79.9	4,086.1	3,840.4	245.67	16.632	
10,900.0	7,059.9	7,020.9	7,020.9	110.6	140.7	90.00	-1,161.1	-79.9	4,157.1	3,909.4	247.68	16.784	
10,925.2	7,059.9	7,020.9	7,020.9	111.3	140.7	90.00	-1,161.1	-79.9	4,181.5	3,933.1	248.38	16.835	
11,000.0	7,059.9	7,020.9	7,020.9	113.2	140.7	90.00	-1,161.1	-79.9	4,254.1	4,003.7	250.43	16.987	
11,023.6	7,059.9	7,020.9	7,020.9	113.9	140.7	90.00	-1,161.1	-79.9	4,277.0	4,026.0	251.08	17.034	
11,100.0	7,059.9	7,020.9	7,020.9	115.9	140.7	90.00	-1,161.1	-79.9	4,351.3	4,098.1	253.18	17.186	
11,122.0	7,059.9	7,020.9	7,020.9	116.5	140.7	90.00	-1,161.1	-79.9	4,372.7	4,118.9	253.79	17.230	
11,200.0	7,059.9	7,020.9	7,020.9	118.5	140.7	90.00	-1,161.1	-79.9	4,448.6	4,192.7	255.94	17.382	
11,220.4	7,059.9	7,020.9	7,020.9	119.1	140.7	90.00	-1,161.1	-79.9	4,468.5	4,212.0	256.50	17.421	
11,300.0	7,059.9	7,020.9	7,020.9	121.2	140.7	90.00	-1,161.1	-79.9	4,546.1	4,287.4	258.70	17.573	
11,318.9	7,059.9	7,020.9	7,020.9	121.7	140.7	90.00	-1,161.1	-79.9	4,564.5	4,305.2	259.22	17.609	
11,400.0	7,059.9	7,020.9	7,020.9	123.9	140.7	90.00	-1,161.1	-79.9	4,643.6	4,382.1	261.46	17.760	
11,417.3	7,059.9	7,020.9	7,020.9	124.3	140.7	90.00	-1,161.1	-79.9	4,660.5	4,398.5	261.93	17.793	
11,500.0	7,059.9	7,020.9	7,020.9	126.6	140.7	90.00	-1,161.1	-79.9	4,741.2	4,477.0	264.22	17.944	
11,515.7	7,059.9	7,020.9	7,020.9	127.0	140.7	90.00	-1,161.1	-79.9	4,756.6	4,491.9	264.65	17.973	
11,600.0	7,059.9	7,020.9	7,020.9	129.2	140.7	90.00	-1,161.1	-79.9	4,839.0	4,572.0	266.98	18.125	
11,614.1	7,059.9	7,020.9	7,020.9	129.6	140.7	90.00	-1,161.1	-79.9	4,852.8	4,585.4	267.37	18.150	
11,700.0	7,059.9	7,020.9	7,020.9	131.9	140.7	90.00	-1,161.1	-79.9	4,936.8	4,667.0	269.75	18.301	
11,712.6	7,059.9	7,020.9	7,020.9	132.3	140.7	90.00	-1,161.1	-79.9	4,949.1	4,679.0	270.10	18.323	
11,800.0	7,059.9	7,020.9	7,020.9	134.6	140.7	90.00	-1,161.1	-79.9	5,034.7	4,762.2	272.52	18.475	
11,811.0	7,059.9	7,020.9	7,020.9	134.9	140.7	90.00	-1,161.1	-79.9	5,045.5	4,772.7	272.82	18.494	
11,900.0	7,059.9	7,020.9	7,020.9	137.3	140.7	90.00	-1,161.1	-79.9	5,132.7	4,857.4	275.29	18.645	
11,909.4	7,059.9	7,020.9	7,020.9	137.6	140.7	90.00	-1,161.1	-79.9	5,141.9	4,866.4	275.55	18.661	
12,000.0	7,059.9	7,020.9	7,020.9	140.0	140.7	90.00	-1,161.1	-79.9	5,230.8	4,952.7	278.06	18.812	
12,007.8	7,059.9	7,020.9	7,020.9	140.3	140.7	90.00	-1,161.1	-79.9	5,238.5	4,960.2	278.28	18.825	

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 VETTING 19
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:	VETTING 19	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-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		
12,100.0	7,059.9	7,020.9	7,020.9	142.8	140.7	90.00	-1,161.1	-79.9	5,328.9	5,048.1	280.83	18.975		
12,106.3	7,059.9	7,020.9	7,020.9	142.9	140.7	90.00	-1,161.1	-79.9	5,335.1	5,054.1	281.01	18.986		
12,200.0	7,059.9	7,020.9	7,020.9	145.5	140.7	90.00	-1,161.1	-79.9	5,427.1	5,143.5	283.61	19.136		
12,204.7	7,059.9	7,020.9	7,020.9	145.6	140.7	90.00	-1,161.1	-79.9	5,431.7	5,148.0	283.74	19.144		
12,300.0	7,059.9	7,020.9	7,020.9	148.2	140.7	90.00	-1,161.1	-79.9	5,525.4	5,239.0	286.38	19.294		
12,303.1	7,059.9	7,020.9	7,020.9	148.3	140.7	90.00	-1,161.1	-79.9	5,528.5	5,242.0	286.47	19.299		
12,400.0	7,059.9	7,020.9	7,020.9	150.9	140.7	90.00	-1,161.1	-79.9	5,623.7	5,334.6	289.16	19.448		
12,401.5	7,059.9	7,020.9	7,020.9	151.0	140.7	90.00	-1,161.1	-79.9	5,625.3	5,336.1	289.20	19.451		
12,500.0	7,059.9	7,020.9	7,020.9	153.6	140.7	90.00	-1,161.1	-79.9	5,722.1	5,430.2	291.94	19.600		
12,598.4	7,059.9	7,020.9	7,020.9	156.3	140.7	90.00	-1,161.1	-79.9	5,819.0	5,524.3	294.67	19.747		
12,600.0	7,059.9	7,020.9	7,020.9	156.4	140.7	90.00	-1,161.1	-79.9	5,820.6	5,525.9	294.72	19.750		
12,696.8	7,059.9	7,020.9	7,020.9	159.0	140.7	90.00	-1,161.1	-79.9	5,915.9	5,618.5	297.41	19.891		
12,700.0	7,059.9	7,020.9	7,020.9	159.1	140.7	90.01	-1,161.1	-79.9	5,919.1	5,621.6	297.50	19.896		
12,795.2	7,059.9	7,020.9	7,020.9	161.7	140.7	90.01	-1,161.1	-79.9	6,012.9	5,712.8	300.15	20.033		
12,800.0	7,059.9	7,020.9	7,020.9	161.8	140.7	90.01	-1,161.1	-79.9	6,017.6	5,717.3	300.28	20.040		
12,893.7	7,059.9	7,020.9	7,020.9	164.4	140.7	90.01	-1,161.1	-79.9	6,110.0	5,807.1	302.89	20.172		
12,900.0	7,059.9	7,020.9	7,020.9	164.6	140.7	90.01	-1,161.1	-79.9	6,116.2	5,813.1	303.06	20.181		
12,992.1	7,059.9	7,020.9	7,020.9	167.1	140.7	90.01	-1,161.1	-79.9	6,207.1	5,901.4	305.63	20.309		
13,000.0	7,059.9	7,020.9	7,020.9	167.3	140.7	90.01	-1,161.1	-79.9	6,214.9	5,909.0	305.85	20.320		
13,090.5	7,059.9	7,020.9	7,020.9	169.8	140.7	90.01	-1,161.1	-79.9	6,304.2	5,995.8	308.37	20.444		
13,100.0	7,059.9	7,020.9	7,020.9	170.1	140.7	90.01	-1,161.1	-79.9	6,313.5	6,004.9	308.63	20.456		
13,188.9	7,059.9	7,020.9	7,020.9	172.5	140.7	90.01	-1,161.1	-79.9	6,401.3	6,090.2	311.11	20.576		
13,200.0	7,059.9	7,020.9	7,020.9	172.8	140.7	90.01	-1,161.1	-79.9	6,412.3	6,100.8	311.42	20.590		
13,287.4	7,059.9	7,020.9	7,020.9	175.2	140.7	90.01	-1,161.1	-79.9	6,498.6	6,184.7	313.85	20.706		
13,300.0	7,059.9	7,020.9	7,020.9	175.6	140.7	90.01	-1,161.1	-79.9	6,511.0	6,196.8	314.21	20.722		
13,385.8	7,059.9	7,020.9	7,020.9	177.9	140.7	90.01	-1,161.1	-79.9	6,595.8	6,279.2	316.60	20.833		
13,400.0	7,059.9	7,020.9	7,020.9	178.3	140.7	90.01	-1,161.1	-79.9	6,609.8	6,292.8	316.99	20.852		
13,484.2	7,059.9	7,020.9	7,020.9	180.6	140.7	90.01	-1,161.1	-79.9	6,693.1	6,373.7	319.34	20.959		
13,500.0	7,059.9	7,020.9	7,020.9	181.1	140.7	90.01	-1,161.1	-79.9	6,708.7	6,388.9	319.78	20.979		
13,582.6	7,059.9	7,020.9	7,020.9	183.3	140.7	90.01	-1,161.1	-79.9	6,790.4	6,468.3	322.09	21.082		
13,600.0	7,059.9	7,020.9	7,020.9	183.8	140.7	90.01	-1,161.1	-79.9	6,807.5	6,485.0	322.57	21.104		
13,681.1	7,059.9	7,020.9	7,020.9	186.1	140.7	90.01	-1,161.1	-79.9	6,887.7	6,562.9	324.83	21.204		
13,700.0	7,059.9	7,020.9	7,020.9	186.6	140.7	90.01	-1,161.1	-79.9	6,906.4	6,581.1	325.36	21.227		
13,779.5	7,059.9	7,020.9	7,020.9	188.8	140.7	90.01	-1,161.1	-79.9	6,985.1	6,657.5	327.58	21.323		
13,800.0	7,059.9	7,020.9	7,020.9	189.3	140.7	90.01	-1,161.1	-79.9	7,005.4	6,677.2	328.15	21.348		
13,877.9	7,059.9	7,020.9	7,020.9	191.5	140.7	90.01	-1,161.1	-79.9	7,082.5	6,752.2	330.32	21.441		
13,900.0	7,059.9	7,020.9	7,020.9	192.1	140.7	90.01	-1,161.1	-79.9	7,104.3	6,773.4	330.94	21.467		
13,976.3	7,059.9	7,020.9	7,020.9	194.2	140.7	90.01	-1,161.1	-79.9	7,179.9	6,846.8	333.07	21.557		
14,000.0	7,059.9	7,020.9	7,020.9	194.9	140.7	90.02	-1,161.1	-79.9	7,203.3	6,869.6	333.73	21.584		
14,074.8	7,059.9	7,020.9	7,020.9	196.9	140.7	90.02	-1,161.1	-79.9	7,277.4	6,941.5	335.82	21.671		
14,100.0	7,059.9	7,020.9	7,020.9	197.6	140.7	90.02	-1,161.1	-79.9	7,302.3	6,965.8	336.52	21.699		
14,173.2	7,059.9	7,020.9	7,020.9	199.6	140.7	90.02	-1,161.1	-79.9	7,374.8	7,036.3	338.57	21.783		
14,200.0	7,059.9	7,020.9	7,020.9	200.4	140.7	90.02	-1,161.1	-79.9	7,401.4	7,062.1	339.31	21.813		
14,271.6	7,059.9	7,020.9	7,020.9	202.4	140.7	90.02	-1,161.1	-79.9	7,472.3	7,131.0	341.32	21.893		
14,300.0	7,059.9	7,020.9	7,020.9	203.1	140.7	90.02	-1,161.1	-79.9	7,500.5	7,158.3	342.11	21.924		
14,370.0	7,059.9	7,020.9	7,020.9	205.1	140.7	90.02	-1,161.1	-79.9	7,569.9	7,225.8	344.06	22.001		
14,400.0	7,059.9	7,020.9	7,020.9	205.9	140.7	90.02	-1,161.1	-79.9	7,599.5	7,254.6	344.90	22.034		
14,468.5	7,059.9	7,020.9	7,020.9	207.8	140.7	90.02	-1,161.1	-79.9	7,667.4	7,320.6	346.81	22.108		
14,500.0	7,059.9	7,020.9	7,020.9	208.7	140.7	90.02	-1,161.1	-79.9	7,698.7	7,351.0	347.69	22.142		
14,566.9	7,059.9	7,020.9	7,020.9	210.5	140.7	90.02	-1,161.1	-79.9	7,765.0	7,415.4	349.56	22.213		
14,600.0	7,059.9	7,020.9	7,020.9	211.5	140.7	90.02	-1,161.1	-79.9	7,797.8	7,447.3	350.49	22.248		
14,665.3	7,059.9	7,020.9	7,020.9	213.3	140.7	90.02	-1,161.1	-79.9	7,862.6	7,510.3	352.31	22.317		

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 VETTING 19
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:	VETTING 19	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 HARRINGTON #1 - Wellbore #1 - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-INC												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,700.0	7,059.9	7,020.9	7,020.9	214.2	140.7	90.02	-1,161.1	-79.9	7,897.0	7,543.7	353.28	22.353	
14,763.7	7,059.9	7,020.9	7,020.9	216.0	140.7	90.02	-1,161.1	-79.9	7,960.2	7,605.1	355.07	22.419	
14,800.0	7,059.9	7,020.9	7,020.9	217.0	140.7	90.02	-1,161.1	-79.9	7,996.2	7,640.1	356.08	22.456	
14,862.2	7,060.0	7,021.0	7,021.0	218.7	140.7	90.02	-1,161.1	-79.9	8,057.8	7,700.0	357.82	22.519	
14,900.0	7,060.0	7,021.0	7,021.0	219.8	140.7	90.02	-1,161.1	-79.9	8,095.4	7,736.5	358.87	22.558	
14,960.6	7,060.0	7,021.0	7,021.0	221.4	140.7	90.02	-1,161.1	-79.9	8,155.5	7,794.9	360.57	22.618	
15,000.0	7,060.0	7,021.0	7,021.0	222.5	140.7	90.02	-1,161.1	-79.9	8,194.6	7,832.9	361.67	22.658	
15,059.0	7,060.0	7,021.0	7,021.0	224.2	140.7	90.03	-1,161.1	-79.9	8,253.2	7,889.8	363.32	22.716	
15,100.0	7,060.0	7,021.0	7,021.0	225.3	140.7	90.03	-1,161.1	-79.9	8,293.8	7,929.4	364.47	22.756	
15,157.4	7,060.0	7,021.0	7,021.0	226.9	140.7	90.03	-1,161.1	-79.9	8,350.8	7,984.8	366.07	22.812	
15,200.0	7,060.0	7,021.0	7,021.0	228.1	140.7	90.03	-1,161.1	-79.9	8,393.1	8,025.8	367.26	22.853	
15,255.9	7,060.0	7,021.0	7,021.0	229.6	140.7	90.03	-1,161.1	-79.9	8,448.5	8,079.7	368.83	22.907	
15,300.0	7,060.0	7,021.0	7,021.0	230.9	140.7	90.03	-1,161.1	-79.9	8,492.4	8,122.3	370.06	22.949	
15,354.3	7,060.0	7,021.0	7,021.0	232.4	140.7	90.03	-1,161.1	-79.9	8,546.3	8,174.7	371.58	23.000	
15,400.0	7,060.0	7,021.0	7,021.0	233.6	140.7	90.03	-1,161.1	-79.9	8,591.6	8,218.8	372.86	23.043	
15,452.7	7,060.0	7,021.0	7,021.0	235.1	140.7	90.03	-1,161.1	-79.9	8,644.0	8,269.7	374.33	23.092	
15,500.0	7,060.0	7,021.0	7,021.0	236.4	140.7	90.03	-1,161.1	-79.9	8,691.0	8,315.3	375.66	23.135	
15,551.1	7,060.0	7,021.0	7,021.0	237.8	140.7	90.03	-1,161.1	-79.9	8,741.8	8,364.7	377.09	23.182	
15,600.0	7,060.0	7,021.0	7,021.0	239.2	140.7	90.03	-1,161.1	-79.9	8,790.3	8,411.8	378.45	23.227	
15,649.6	7,060.0	7,021.0	7,021.0	240.6	140.7	90.03	-1,161.1	-79.9	8,839.5	8,459.7	379.84	23.272	
15,682.9	7,060.0	7,021.0	7,021.0	241.5	140.7	90.03	-1,161.1	-79.9	8,872.7	8,491.9	380.77	23.302	

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 19
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:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-40.32	39.7	-33.7	55.1				
98.4	98.4	80.7	80.7	0.1	0.0	-40.23	39.6	-33.5	51.9	51.7	0.14	372.005	
100.0	100.0	82.3	82.3	0.1	0.0	-40.22	39.6	-33.5	51.9	51.7	0.14	364.858	
196.8	196.8	179.2	179.2	0.3	0.2	-39.96	39.3	-32.9	51.2	50.7	0.50	102.744	
200.0	200.0	182.4	182.4	0.3	0.2	-39.95	39.3	-32.9	51.2	50.7	0.51	100.250	
295.3	295.3	277.5	277.5	0.5	0.3	-39.88	38.8	-32.5	50.6	49.8	0.81	62.275	
300.0	300.0	282.2	282.2	0.5	0.3	-39.89	38.8	-32.4	50.6	49.8	0.83	61.175	
393.7	393.7	375.9	375.9	0.8	0.3	-40.29	38.3	-32.5	50.2	49.1	1.10	45.678	
400.0	400.0	382.2	382.2	0.8	0.4	-40.33	38.3	-32.5	50.2	49.1	1.12	44.918	
492.1	492.1	474.2	474.2	1.0	0.4	-41.04	37.7	-32.8	50.0	48.6	1.38	36.269	
500.0	500.0	482.1	482.1	1.0	0.4	-41.10	37.6	-32.8	50.0	48.6	1.40	35.685	
590.5	590.5	572.6	572.6	1.2	0.5	-41.83	37.2	-33.3	49.9	48.2	1.65	30.257	
600.0	600.0	582.0	582.0	1.2	0.5	-41.91	37.1	-33.3	49.9	48.2	1.67	29.790	
689.0	689.0	671.0	671.0	1.4	0.5	-42.65	36.7	-33.8	49.9	47.9	1.91	26.050	
700.0	700.0	682.0	682.0	1.4	0.5	-42.75	36.6	-33.8	49.9	47.9	1.94	25.652	
785.4	785.4	767.4	767.4	1.6	0.6	-43.51	36.1	-34.3	49.8	47.6	2.17	22.957 CC	
787.4	787.4	769.4	769.4	1.6	0.6	-43.53	36.1	-34.3	49.8	47.6	2.18	22.901	
800.0	800.0	782.0	782.0	1.7	0.6	-43.65	36.0	-34.4	49.8	47.6	2.21	22.556 ES	
885.8	885.8	867.8	867.8	1.8	0.6	123.25	35.6	-34.9	50.6	48.2	2.42	20.920	
900.0	900.0	881.9	881.9	1.9	0.6	123.57	35.6	-35.0	50.8	48.4	2.45	20.742	
984.2	984.1	966.0	966.0	2.0	0.6	126.66	35.3	-35.5	53.4	50.8	2.64	20.253	
1,000.0	999.8	981.7	981.7	2.0	0.7	127.43	35.3	-35.6	54.1	51.4	2.67	20.246 SF	
1,082.7	1,082.2	1,064.0	1,063.9	2.2	0.7	132.17	35.2	-36.3	58.9	56.0	2.87	20.525	
1,100.0	1,099.5	1,081.2	1,081.1	2.2	0.7	133.26	35.2	-36.5	60.2	57.3	2.91	20.669	
1,181.1	1,180.0	1,161.6	1,161.5	2.4	0.7	138.57	35.3	-37.2	67.6	64.5	3.12	21.651	
1,200.0	1,198.7	1,180.2	1,180.2	2.5	0.7	139.80	35.4	-37.4	69.7	66.5	3.17	21.969	
1,279.5	1,277.3	1,258.6	1,258.5	2.7	0.8	144.81	35.7	-38.3	80.0	76.6	3.39	23.576	
1,300.0	1,297.5	1,278.7	1,278.6	2.7	0.8	146.03	35.8	-38.6	83.1	79.6	3.45	24.083	
1,377.9	1,374.0	1,354.6	1,354.6	3.0	0.8	150.33	36.5	-39.4	96.5	92.8	3.68	26.238	
1,400.0	1,395.6	1,375.9	1,375.9	3.0	0.8	151.46	36.8	-39.7	100.8	97.1	3.74	26.942	
1,476.4	1,470.1	1,449.5	1,449.4	3.3	0.8	155.04	38.1	-40.4	117.5	113.5	3.97	29.558	
1,500.0	1,493.1	1,472.1	1,472.0	3.4	0.8	156.07	38.7	-40.5	123.1	119.1	4.04	30.447	
1,574.8	1,565.4	1,543.7	1,543.6	3.7	0.8	159.06	40.5	-40.7	142.7	138.5	4.28	33.373	
1,600.0	1,589.6	1,567.8	1,567.7	3.8	0.8	159.97	41.2	-40.7	149.8	145.5	4.35	34.416	
1,610.8	1,600.0	1,578.1	1,578.0	3.9	0.8	160.35	41.4	-40.6	152.9	148.5	4.39	34.858	
1,673.2	1,660.0	1,637.3	1,637.2	4.2	0.8	162.42	43.1	-40.4	171.1	166.6	4.56	37.531	
1,675.8	1,662.4	1,639.7	1,639.6	4.2	0.8	162.50	43.1	-40.4	171.9	167.3	4.57	37.639	
1,700.0	1,685.6	1,662.6	1,662.5	4.3	0.9	163.17	43.8	-40.3	179.1	174.5	4.64	38.599	
1,771.6	1,754.0	1,730.1	1,730.0	4.7	0.9	164.98	45.8	-39.7	201.9	197.0	4.87	41.445	
1,800.0	1,780.9	1,756.8	1,756.6	4.8	0.9	165.65	46.6	-39.5	211.4	206.4	4.96	42.640	
1,870.1	1,847.0	1,822.5	1,822.3	5.2	0.9	167.14	48.5	-38.6	236.0	230.8	5.18	45.572	
1,900.0	1,875.0	1,850.4	1,850.1	5.4	0.9	167.74	49.3	-38.2	247.0	241.7	5.28	46.775	
1,968.5	1,938.8	1,913.5	1,913.3	5.9	0.9	168.99	51.0	-37.0	273.3	267.8	5.51	49.619	
2,000.0	1,968.0	1,942.0	1,941.7	6.1	0.9	169.53	51.7	-36.4	285.9	280.3	5.61	50.934	
2,066.9	2,029.4	2,001.9	2,001.6	6.5	0.9	170.58	53.4	-34.8	314.0	308.1	5.84	53.716	
2,100.0	2,059.5	2,032.1	2,031.8	6.8	0.9	171.08	54.3	-33.9	328.4	322.4	5.96	55.112	
2,165.3	2,118.6	2,091.5	2,091.1	7.3	0.9	172.02	55.7	-32.0	357.8	351.6	6.19	57.794	
2,200.0	2,149.6	2,122.6	2,122.2	7.6	0.9	172.48	56.4	-30.8	373.8	367.5	6.31	59.228	
2,263.8	2,206.3	2,179.5	2,179.0	8.1	1.0	173.28	57.5	-28.7	404.3	397.8	6.54	61.806	
2,267.7	2,209.7	2,183.0	2,182.5	8.1	1.0	173.32	57.6	-28.5	406.2	399.7	6.56	61.966	
2,300.0	2,238.2	2,211.7	2,211.1	8.4	1.0	173.73	58.0	-27.4	422.0	415.3	6.67	63.265	
2,362.2	2,293.1	2,266.9	2,266.3	8.9	1.0	174.44	58.9	-25.2	452.2	445.3	6.89	65.605	

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 VETTING 19
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:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,400.0	2,326.5	2,300.5	2,299.9	9.3	1.0	174.83	59.3	-23.9	470.6	463.5	7.03	66.937	
2,460.6	2,380.0	2,354.6	2,353.9	9.8	1.0	175.40	59.9	-21.6	499.9	492.7	7.25	68.928	
2,500.0	2,414.7	2,389.8	2,389.1	10.1	1.0	175.75	60.2	-20.1	518.9	511.5	7.40	70.141	
2,559.0	2,466.9	2,441.5	2,440.8	10.7	1.0	176.22	60.5	-17.9	547.4	539.8	7.62	71.829	
2,600.0	2,503.0	2,477.2	2,476.5	11.0	1.0	176.52	60.8	-16.3	567.2	559.4	7.78	72.937	
2,657.5	2,553.7	2,527.2	2,526.3	11.5	1.0	176.91	61.1	-14.1	594.9	586.9	8.00	74.387	
2,700.0	2,591.2	2,563.9	2,563.1	11.9	1.0	177.18	61.4	-12.5	615.5	607.4	8.16	75.402	
2,755.9	2,640.6	2,612.5	2,611.6	12.4	1.0	177.50	61.8	-10.3	642.6	634.2	8.38	76.660	
2,800.0	2,679.5	2,651.3	2,650.3	12.8	1.1	177.74	62.2	-8.6	664.0	655.4	8.56	77.604	
2,854.3	2,727.4	2,699.1	2,698.1	13.3	1.1	178.02	62.5	-6.4	690.3	681.6	8.77	78.697	
2,900.0	2,767.7	2,738.9	2,737.8	13.7	1.1	178.24	62.8	-4.6	712.5	703.5	8.95	79.573	
2,952.7	2,814.3	2,784.8	2,783.7	14.2	1.1	178.47	63.2	-2.5	738.0	728.9	9.16	80.529	
3,000.0	2,856.0	2,825.9	2,824.8	14.6	1.1	178.66	63.5	-0.7	761.0	751.6	9.36	81.343	
3,051.2	2,901.2	2,870.5	2,869.3	15.1	1.1	178.84	63.9	1.1	785.8	776.3	9.56	82.174	
3,100.0	2,944.2	2,913.6	2,912.4	15.5	1.1	179.01	64.3	2.9	809.5	799.8	9.76	82.935	
3,149.6	2,988.0	2,958.6	2,957.4	16.0	1.1	179.17	64.6	4.7	833.6	823.6	9.96	83.664	
3,200.0	3,032.5	3,004.3	3,003.0	16.4	1.1	179.32	64.8	6.5	857.9	847.7	10.17	84.364	
3,248.0	3,074.9	3,045.4	3,044.1	16.9	1.2	179.45	65.1	8.1	881.1	870.7	10.37	84.995	
3,300.0	3,120.7	3,089.9	3,088.6	17.3	1.2	179.57	65.4	9.7	906.2	895.6	10.58	85.655	
3,346.4	3,161.7	3,131.3	3,129.9	17.7	1.2	179.67	65.7	11.0	928.7	917.9	10.77	86.209	
3,400.0	3,209.0	3,179.6	3,178.2	18.2	1.2	179.77	66.1	12.5	954.5	943.5	11.00	86.813	
3,444.9	3,248.6	3,221.1	3,219.7	18.6	1.2	179.85	66.3	13.7	976.1	964.9	11.18	87.297	
3,500.0	3,297.2	3,273.5	3,272.0	19.1	1.2	179.95	66.5	15.2	1,002.5	991.1	11.41	87.862	
3,543.3	3,335.5	3,314.1	3,312.7	19.5	1.2	-179.99	66.4	16.2	1,023.1	1,011.5	11.59	88.275	
3,600.0	3,385.5	3,366.0	3,364.5	20.1	1.2	-179.91	66.3	17.5	1,049.9	1,038.1	11.82	88.791	
3,641.7	3,422.3	3,404.1	3,402.6	20.4	1.2	-179.86	66.2	18.4	1,069.6	1,057.6	12.00	89.145	
3,700.0	3,473.7	3,456.5	3,455.0	21.0	1.3	-179.79	66.0	19.5	1,097.1	1,084.9	12.24	89.609	
3,740.1	3,509.2	3,492.6	3,491.1	21.3	1.3	-179.75	65.8	20.3	1,116.0	1,103.6	12.41	89.912	
3,800.0	3,562.0	3,545.3	3,543.8	21.9	1.3	-179.69	65.5	21.4	1,144.2	1,131.5	12.67	90.339	
3,838.6	3,596.0	3,579.1	3,577.6	22.2	1.3	-179.65	65.4	22.2	1,162.3	1,149.5	12.83	90.602	
3,900.0	3,650.2	3,635.0	3,633.5	22.8	1.3	-179.59	65.1	23.4	1,191.2	1,178.1	13.09	91.005	
3,937.0	3,682.9	3,669.5	3,668.0	23.1	1.3	-179.56	64.8	24.2	1,208.5	1,195.3	13.25	91.227	
4,000.0	3,738.5	3,726.2	3,724.7	23.7	1.3	-179.49	64.3	25.5	1,238.0	1,224.5	13.52	91.595	
4,035.4	3,769.8	3,756.8	3,755.3	24.0	1.3	-179.45	64.0	26.3	1,254.5	1,240.9	13.67	91.795	
4,100.0	3,826.7	3,812.6	3,811.0	24.6	1.3	-179.39	63.5	27.8	1,284.8	1,270.8	13.94	92.148	
4,133.8	3,856.6	3,841.8	3,840.2	24.9	1.4	-179.35	63.2	28.6	1,300.6	1,286.6	14.09	92.320	
4,200.0	3,915.0	3,898.8	3,897.2	25.5	1.4	-179.29	62.8	30.2	1,331.7	1,317.3	14.37	92.650	
4,232.3	3,943.5	3,925.8	3,924.2	25.8	1.4	-179.26	62.6	30.9	1,346.9	1,332.4	14.51	92.803	
4,300.0	4,003.2	3,982.3	3,980.7	26.5	1.4	-179.22	62.4	32.1	1,378.9	1,364.1	14.81	93.133	
4,330.7	4,030.3	4,007.9	4,006.2	26.7	1.4	-179.21	62.4	32.6	1,393.4	1,378.5	14.94	93.274	
4,400.0	4,091.5	4,065.5	4,063.9	27.4	1.4	-179.19	62.6	33.2	1,426.4	1,411.1	15.24	93.597	
4,429.1	4,117.2	4,089.7	4,088.1	27.6	1.4	-179.20	62.7	33.4	1,440.2	1,424.9	15.37	93.729	
4,500.0	4,179.7	4,152.6	4,150.9	28.3	1.4	-179.21	63.2	33.5	1,474.1	1,458.4	15.68	94.039	
4,527.5	4,204.1	4,177.3	4,175.7	28.5	1.4	-179.22	63.4	33.5	1,487.2	1,471.4	15.80	94.153	
4,600.0	4,268.0	4,241.3	4,239.6	29.2	1.4	-179.26	63.9	33.3	1,521.7	1,505.6	16.11	94.447	
4,626.0	4,290.9	4,264.0	4,262.3	29.4	1.4	-179.27	64.1	33.1	1,534.1	1,517.8	16.22	94.550	
4,700.0	4,356.2	4,328.6	4,327.0	30.1	1.4	-179.31	64.6	32.8	1,569.3	1,552.8	16.55	94.832	
4,724.4	4,377.8	4,350.0	4,348.3	30.3	1.4	-179.32	64.8	32.7	1,581.0	1,564.3	16.66	94.920	
4,800.0	4,444.5	4,416.5	4,414.9	31.0	1.5	-179.35	65.4	32.3	1,617.0	1,600.0	16.99	95.187	
4,822.8	4,464.6	4,437.1	4,435.4	31.2	1.5	-179.36	65.6	32.2	1,627.9	1,610.8	17.09	95.263	
4,900.0	4,532.7	4,506.7	4,505.1	32.0	1.5	-179.40	66.2	31.7	1,664.6	1,647.2	17.43	95.511	
4,921.2	4,551.5	4,526.0	4,524.3	32.1	1.5	-179.41	66.3	31.6	1,674.7	1,657.2	17.52	95.576	

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 VETTING 19
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:	VETTING 19	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						
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
5,000.0	4,621.0	4,597.5	4,595.8	32.9	1.5	-179.45	66.8	31.1	1,712.1	1,694.2	17.87	95.809	
5,019.7	4,638.4	4,615.3	4,613.6	33.1	1.5	-179.45	66.9	31.0	1,721.4	1,703.4	17.96	95.864	
5,100.0	4,709.2	4,687.9	4,686.2	33.8	1.5	-179.48	67.3	30.6	1,759.4	1,741.1	18.31	96.079	
5,118.1	4,725.2	4,704.1	4,702.4	34.0	1.5	-179.49	67.3	30.5	1,768.0	1,749.6	18.39	96.125	
5,200.0	4,797.5	4,776.1	4,774.4	34.7	1.5	-179.52	67.6	30.2	1,806.7	1,787.9	18.76	96.328	
5,216.5	4,812.1	4,790.6	4,789.0	34.9	1.5	-179.52	67.7	30.1	1,814.5	1,795.7	18.83	96.368	
5,300.0	4,885.7	4,863.2	4,861.5	35.6	1.5	-179.54	68.0	29.8	1,854.0	1,834.8	19.20	96.559	
5,314.9	4,898.9	4,876.2	4,874.5	35.8	1.5	-179.54	68.0	29.8	1,861.1	1,841.8	19.27	96.592	
5,400.0	4,974.0	4,950.9	4,949.2	36.5	1.5	-179.56	68.3	29.7	1,901.3	1,881.7	19.65	96.771	
5,413.4	4,985.8	4,962.7	4,961.0	36.7	1.5	-179.56	68.4	29.7	1,907.7	1,888.0	19.71	96.797	
5,500.0	5,062.2	5,040.6	5,038.9	37.5	1.5	-179.57	68.6	29.8	1,948.7	1,928.6	20.10	96.965	
5,511.8	5,072.7	5,051.3	5,049.6	37.6	1.5	-179.57	68.6	29.9	1,954.2	1,934.1	20.15	96.987	
5,553.7	5,109.7	5,089.6	5,087.9	38.0	1.5	-179.57	68.7	30.0	1,974.0	1,953.7	20.34	97.063	
5,600.0	5,150.7	5,131.6	5,129.9	38.3	1.6	-179.57	68.7	30.2	1,995.5	1,975.0	20.50	97.343	
5,610.2	5,159.8	5,140.9	5,139.2	38.4	1.6	-179.57	68.7	30.3	2,000.2	1,979.7	20.53	97.414	
5,700.0	5,240.4	5,222.3	5,220.6	38.9	1.6	-179.57	68.6	30.8	2,039.7	2,018.8	20.81	98.017	
5,708.6	5,248.3	5,230.0	5,228.3	39.0	1.6	-179.57	68.6	30.8	2,043.3	2,022.5	20.83	98.079	
5,800.0	5,331.7	5,311.4	5,309.7	39.5	1.6	-179.56	68.6	31.6	2,080.6	2,059.6	21.08	98.718	
5,807.1	5,338.2	5,317.5	5,315.8	39.6	1.6	-179.56	68.6	31.6	2,083.4	2,062.3	21.09	98.771	
5,900.0	5,424.3	5,400.0	5,398.3	40.1	1.6	-179.55	68.6	32.4	2,118.6	2,097.3	21.30	99.447	
5,905.5	5,429.5	5,400.0	5,398.3	40.1	1.6	-179.55	68.6	32.4	2,120.6	2,099.3	21.31	99.502	
6,000.0	5,518.2	5,485.5	5,483.8	40.6	1.6	-179.54	69.0	33.2	2,153.6	2,132.1	21.49	100.213	
6,003.9	5,521.9	5,489.0	5,487.3	40.6	1.6	-179.54	69.0	33.2	2,154.9	2,133.4	21.50	100.245	
6,100.0	5,613.3	5,580.0	5,578.3	41.1	1.7	-179.54	69.6	34.0	2,185.5	2,163.8	21.64	100.994	
6,102.3	5,615.5	5,582.2	5,580.5	41.1	1.7	-179.54	69.6	34.0	2,186.2	2,164.5	21.64	101.014	
6,200.0	5,709.3	5,681.7	5,680.0	41.5	1.7	-179.52	70.0	35.1	2,213.9	2,192.1	21.75	101.802	
6,200.8	5,710.1	5,682.6	5,680.8	41.5	1.7	-179.52	70.0	35.1	2,214.1	2,192.3	21.75	101.809	
6,299.2	5,805.5	5,782.4	5,780.7	41.9	1.7	-179.49	69.9	36.9	2,238.5	2,216.7	21.81	102.629	
6,300.0	5,806.3	5,783.2	5,781.5	41.9	1.7	-179.49	69.9	37.0	2,238.7	2,216.9	21.81	102.635	
6,397.6	5,901.7	5,890.8	5,889.0	42.2	1.7	-179.45	69.5	38.8	2,259.3	2,237.4	21.84	103.458	
6,400.0	5,904.0	5,893.4	5,891.7	42.2	1.7	-179.45	69.5	38.8	2,259.7	2,237.9	21.84	103.477	
6,496.0	5,998.6	5,986.4	5,984.6	42.5	1.8	-179.42	69.0	40.2	2,276.5	2,254.6	21.83	104.305	
6,500.0	6,002.5	5,990.2	5,988.4	42.5	1.8	-179.42	69.0	40.2	2,277.1	2,255.3	21.82	104.337	
6,594.5	6,096.0	6,088.2	6,086.5	42.8	1.8	-179.39	68.4	41.5	2,290.3	2,268.5	21.78	105.142	
6,600.0	6,101.5	6,094.0	6,092.3	42.8	1.8	-179.39	68.3	41.5	2,291.0	2,269.2	21.78	105.186	
6,692.9	6,193.8	6,183.1	6,181.3	43.0	1.8	-179.36	67.8	42.5	2,300.7	2,279.0	21.71	105.965	
6,700.0	6,200.9	6,189.9	6,188.1	43.0	1.8	-179.36	67.8	42.6	2,301.3	2,279.6	21.71	106.020	
6,791.3	6,292.0	6,274.4	6,272.6	43.1	1.8	-179.34	67.4	43.5	2,308.0	2,286.3	21.62	106.749	
6,800.0	6,300.6	6,282.4	6,280.6	43.1	1.8	-179.34	67.4	43.6	2,308.5	2,286.8	21.61	106.812	
6,889.7	6,390.3	6,371.5	6,369.7	43.2	1.8	-179.32	67.3	44.5	2,312.1	2,290.6	21.51	107.465	
6,900.0	6,400.6	6,381.8	6,380.0	43.2	1.8	-179.32	67.3	44.6	2,312.3	2,290.8	21.50	107.530	
6,956.4	6,457.0	6,438.7	6,437.0	43.3	1.9	14.26	67.2	45.2	2,312.9	2,267.8	45.07	51.318	
6,986.4	6,487.0	6,468.9	6,467.2	43.3	1.9	14.26	67.2	45.5	2,312.9	2,267.8	45.10	51.288	
6,988.2	6,488.7	6,470.7	6,468.9	43.3	1.9	104.31	67.2	45.5	2,312.9	2,291.4	21.49	107.614	
7,000.0	6,500.6	6,482.6	6,480.8	43.3	1.9	104.31	67.1	45.6	2,313.0	2,291.4	21.55	107.340	
7,050.0	6,550.4	6,533.4	6,531.6	43.4	1.9	104.32	67.1	46.0	2,313.8	2,292.1	21.79	106.201	
7,086.6	6,586.6	6,570.6	6,568.8	43.4	1.9	104.33	67.0	46.3	2,315.2	2,293.2	21.97	105.394	
7,100.0	6,599.8	6,584.1	6,582.3	43.4	1.9	104.33	67.0	46.4	2,315.8	2,293.7	22.03	105.107	
7,150.0	6,648.3	6,632.4	6,630.6	43.5	1.9	104.32	66.9	46.8	2,318.8	2,296.5	22.29	104.045	
7,185.0	6,681.6	6,665.1	6,663.3	43.6	1.9	104.30	66.8	47.0	2,321.6	2,299.2	22.47	103.303	
7,200.0	6,695.6	6,678.8	6,677.1	43.6	1.9	104.28	66.8	47.1	2,323.0	2,300.5	22.56	102.991	
7,250.0	6,741.4	6,700.0	6,698.2	43.7	1.9	103.94	66.7	47.2	2,328.6	2,305.7	22.84	101.955	

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 VETTING 19
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:	VETTING 19	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		
7,283.4	6,770.9	6,700.0	6,698.2	43.8	1.9	103.46	66.7	47.2	2,333.4	2,310.4	23.05	101.233		
7,300.0	6,785.1	6,700.0	6,698.2	43.9	1.9	103.19	66.7	47.2	2,336.1	2,313.0	23.16	100.869		
7,350.0	6,826.6	6,700.0	6,698.2	44.0	1.9	102.24	66.7	47.2	2,345.7	2,322.2	23.55	99.596		
7,381.9	6,851.8	6,700.0	6,698.2	44.1	1.9	101.53	66.7	47.2	2,352.8	2,329.0	23.85	98.634		
7,400.0	6,865.6	6,700.0	6,698.2	44.2	1.9	101.08	66.7	47.2	2,357.2	2,333.2	24.04	98.070		
7,450.0	6,901.6	6,700.0	6,698.2	44.4	1.9	99.73	66.7	47.2	2,370.5	2,345.9	24.62	96.278		
7,480.3	6,921.9	6,700.0	6,698.2	44.6	1.9	98.81	66.7	47.2	2,379.4	2,354.3	25.03	95.052		
7,500.0	6,934.5	6,700.0	6,698.2	44.6	1.9	98.18	66.7	47.2	2,385.5	2,360.2	25.31	94.262		
7,550.0	6,964.0	6,700.0	6,698.2	44.9	1.9	96.44	66.7	47.2	2,402.0	2,375.9	26.08	92.114		
7,578.7	6,979.3	6,700.0	6,698.2	45.1	1.9	95.37	66.7	47.2	2,412.1	2,385.5	26.55	90.837		
7,600.0	6,989.8	6,700.0	6,698.2	45.2	1.9	94.54	66.7	47.2	2,419.9	2,393.0	26.90	89.951		
7,650.0	7,011.9	6,700.0	6,698.2	45.5	1.9	92.47	66.7	47.2	2,439.0	2,411.2	27.75	87.892		
7,677.1	7,022.2	6,700.0	6,698.2	45.7	1.9	91.30	66.7	47.2	2,449.8	2,421.6	28.21	86.832		
7,700.0	7,029.9	6,700.0	6,698.2	45.8	1.9	90.28	66.7	47.2	2,459.1	2,430.5	28.58	86.044		
7,750.0	7,043.8	6,700.0	6,698.2	46.2	1.9	87.96	66.7	47.2	2,480.1	2,450.7	29.35	84.492		
7,775.6	7,049.3	6,700.0	6,698.2	46.4	1.9	86.74	66.7	47.2	2,491.1	2,461.4	29.72	83.820		
7,800.0	7,053.5	6,700.0	6,698.2	46.6	1.9	85.56	66.7	47.2	2,501.8	2,471.7	30.03	83.312		
7,850.0	7,058.8	6,700.0	6,698.2	47.0	1.9	83.10	66.7	47.2	2,524.0	2,493.4	30.57	82.569		
7,874.0	7,059.9	6,700.0	6,698.2	47.2	1.9	81.90	66.7	47.2	2,534.7	2,504.0	30.77	82.380		
7,886.6	7,060.0	6,700.0	6,698.2	47.3	1.9	81.28	66.7	47.2	2,540.4	2,509.5	30.85	82.336		
7,900.0	7,060.0	6,700.0	6,698.2	47.5	1.9	81.28	66.7	47.2	2,546.5	2,515.4	31.11	81.863		
7,972.4	7,060.0	6,700.0	6,698.2	48.2	1.9	81.28	66.7	47.2	2,580.3	2,547.8	32.52	79.355		
8,000.0	7,060.0	6,700.0	6,698.2	48.4	1.9	81.28	66.7	47.2	2,593.6	2,560.5	33.05	78.470		
8,070.8	7,060.0	6,700.0	6,698.2	49.2	1.9	81.28	66.7	47.2	2,628.7	2,594.2	34.51	76.178		
8,100.0	7,060.0	6,700.0	6,698.2	49.5	1.9	81.28	66.7	47.2	2,643.6	2,608.5	35.11	75.302		
8,169.3	7,060.0	6,700.0	6,698.2	50.3	1.9	81.28	66.7	47.2	2,679.9	2,643.3	36.60	73.223		
8,200.0	7,060.0	6,700.0	6,698.2	50.7	1.9	81.28	66.7	47.2	2,696.4	2,659.1	37.26	72.366		
8,267.7	7,060.0	6,700.0	6,698.2	51.6	1.9	81.28	66.7	47.2	2,733.6	2,694.9	38.78	70.499		
8,300.0	7,060.0	6,700.0	6,698.2	52.0	1.9	81.28	66.7	47.2	2,751.8	2,712.3	39.50	69.670		
8,366.1	7,060.0	6,700.0	6,698.2	53.0	1.9	81.28	66.7	47.2	2,789.8	2,748.8	41.02	68.007		
8,400.0	7,060.0	6,700.0	6,698.2	53.5	1.9	81.28	66.7	47.2	2,809.7	2,767.9	41.80	67.212		
8,464.5	7,060.0	6,700.0	6,698.2	54.5	1.9	81.28	66.7	47.2	2,848.3	2,805.0	43.33	65.737		
8,500.0	7,060.0	6,700.0	6,698.2	55.0	1.9	81.28	66.7	47.2	2,869.9	2,825.7	44.17	64.979		
8,563.0	7,060.0	6,700.0	6,698.2	56.1	1.9	81.28	66.7	47.2	2,909.0	2,863.3	45.69	63.674		
8,600.0	7,060.0	6,700.0	6,698.2	56.7	1.9	81.28	66.7	47.2	2,932.3	2,885.7	46.58	62.955		
8,661.4	7,060.0	6,700.0	6,698.2	57.7	1.9	81.28	66.7	47.2	2,971.6	2,923.5	48.08	61.801		
8,700.0	7,060.0	6,700.0	6,698.2	58.4	1.9	81.28	66.7	47.2	2,996.7	2,947.7	49.03	61.120		
8,759.8	7,059.9	6,700.0	6,698.2	59.5	1.9	81.28	66.7	47.2	3,036.2	2,985.7	50.52	60.101		
8,800.0	7,059.9	6,700.0	6,698.2	60.3	1.9	81.28	66.7	47.2	3,063.1	3,011.5	51.52	59.457		
8,858.2	7,059.9	6,700.0	6,698.2	61.4	1.9	81.28	66.7	47.2	3,102.5	3,049.5	52.98	58.556		
8,900.0	7,059.9	6,700.0	6,698.2	62.2	1.9	81.28	66.7	47.2	3,131.2	3,077.1	54.03	57.948		
8,956.7	7,059.9	6,700.0	6,698.2	63.4	1.9	81.28	66.7	47.2	3,170.5	3,115.1	55.48	57.152		
9,000.0	7,059.9	6,700.0	6,698.2	64.3	1.9	81.28	66.7	47.2	3,201.0	3,144.4	56.58	56.578		
9,055.1	7,059.9	6,700.0	6,698.2	65.4	1.9	81.28	66.7	47.2	3,240.1	3,182.1	57.99	55.874		
9,100.0	7,059.9	6,700.0	6,698.2	66.4	1.9	81.28	66.7	47.2	3,272.3	3,213.2	59.14	55.331		
9,153.5	7,059.9	6,700.0	6,698.2	67.5	1.9	81.28	66.7	47.2	3,311.1	3,250.6	60.52	54.707		
9,200.0	7,059.9	6,700.0	6,698.2	68.5	1.9	81.28	66.7	47.2	3,345.2	3,283.4	61.73	54.194		
9,251.9	7,059.9	6,700.0	6,698.2	69.7	1.9	81.28	66.7	47.2	3,383.6	3,320.5	63.08	53.642		
9,300.0	7,059.9	6,700.0	6,698.2	70.7	1.9	81.28	66.7	47.2	3,419.4	3,355.1	64.33	53.156		
9,350.4	7,059.9	6,700.0	6,698.2	71.9	1.9	81.28	66.7	47.2	3,457.3	3,391.6	65.64	52.666		
9,400.0	7,059.9	6,700.0	6,698.2	73.0	1.9	81.28	66.7	47.2	3,494.9	3,427.9	66.94	52.207		
9,448.8	7,059.9	6,700.0	6,698.2	74.1	1.9	81.28	66.7	47.2	3,532.2	3,463.9	68.23	51.771		

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 VETTING 19
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:	VETTING 19	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	
9,500.0	7,059.9	6,700.0	6,698.2	75.3	1.9	81.28	66.7	47.2	3,571.6	3,502.0	69.57	51.336	
9,547.2	7,059.9	6,700.0	6,698.2	76.4	1.9	81.28	66.7	47.2	3,608.2	3,537.4	70.82	50.949	
9,600.0	7,059.9	6,700.0	6,698.2	77.7	1.9	81.28	66.7	47.2	3,649.4	3,577.2	72.21	50.536	
9,645.6	7,059.9	6,700.0	6,698.2	78.8	1.9	81.28	66.7	47.2	3,685.3	3,611.9	73.42	50.192	
9,700.0	7,059.9	6,700.0	6,698.2	80.1	1.9	81.28	66.7	47.2	3,728.3	3,653.4	74.86	49.800	
9,744.1	7,059.9	6,700.0	6,698.2	81.1	1.9	81.28	66.7	47.2	3,763.4	3,687.3	76.04	49.494	
9,800.0	7,059.9	6,700.0	6,698.2	82.5	1.9	81.28	66.7	47.2	3,808.1	3,730.6	77.53	49.121	
9,842.5	7,059.9	6,700.0	6,698.2	83.5	1.9	81.28	66.7	47.2	3,842.4	3,763.7	78.66	48.848	
9,900.0	7,059.9	6,700.0	6,698.2	85.0	1.9	81.28	66.7	47.2	3,889.0	3,808.8	80.19	48.494	
9,940.9	7,059.9	6,700.0	6,698.2	86.0	1.9	81.28	66.7	47.2	3,922.3	3,841.0	81.29	48.250	
10,000.0	7,059.9	6,700.0	6,698.2	87.4	1.9	81.28	66.7	47.2	3,970.6	3,887.8	82.87	47.913	
10,039.3	7,059.9	6,700.0	6,698.2	88.4	1.9	81.28	66.7	47.2	4,003.0	3,919.1	83.93	47.696	
10,100.0	7,059.9	6,700.0	6,698.2	89.9	1.9	81.28	66.7	47.2	4,053.1	3,967.6	85.55	47.375	
10,137.8	7,059.9	6,700.0	6,698.2	90.9	1.9	81.28	66.7	47.2	4,084.5	3,997.9	86.57	47.181	
10,200.0	7,059.9	6,700.0	6,698.2	92.5	1.9	81.28	66.7	47.2	4,136.4	4,048.2	88.24	46.874	
10,236.2	7,059.9	6,700.0	6,698.2	93.4	1.9	81.28	66.7	47.2	4,166.7	4,077.5	89.22	46.702	
10,300.0	7,059.9	6,700.0	6,698.2	95.0	1.9	81.28	66.7	47.2	4,220.4	4,129.5	90.94	46.409	
10,334.6	7,059.9	6,700.0	6,698.2	95.9	1.9	81.28	66.7	47.2	4,249.7	4,157.8	91.88	46.255	
10,400.0	7,059.9	6,700.0	6,698.2	97.6	1.9	81.28	66.7	47.2	4,305.1	4,211.4	93.64	45.975	
10,433.0	7,059.9	6,700.0	6,698.2	98.4	1.9	81.28	66.7	47.2	4,333.2	4,238.7	94.53	45.837	
10,500.0	7,059.9	6,700.0	6,698.2	100.1	1.9	81.28	66.7	47.2	4,390.4	4,294.1	96.35	45.569	
10,531.5	7,059.9	6,700.0	6,698.2	101.0	1.9	81.28	66.7	47.2	4,417.4	4,320.2	97.20	45.447	
10,600.0	7,059.9	6,700.0	6,698.2	102.7	1.9	81.28	66.7	47.2	4,476.4	4,377.3	99.06	45.190	
10,629.9	7,059.9	6,700.0	6,698.2	103.5	1.9	81.28	66.7	47.2	4,502.2	4,402.3	99.87	45.082	
10,700.0	7,059.9	6,700.0	6,698.2	105.3	1.9	81.28	66.7	47.2	4,562.9	4,461.1	101.77	44.836	
10,728.3	7,059.9	6,700.0	6,698.2	106.1	1.9	81.28	66.7	47.2	4,587.5	4,484.9	102.54	44.739	
10,800.0	7,059.9	6,700.0	6,698.2	108.0	1.9	81.28	66.7	47.2	4,649.9	4,545.4	104.49	44.503	
10,826.7	7,059.9	6,700.0	6,698.2	108.7	1.9	81.28	66.7	47.2	4,673.3	4,568.1	105.21	44.417	
10,900.0	7,059.9	6,700.0	6,698.2	110.6	1.9	81.28	66.7	47.2	4,737.5	4,630.3	107.21	44.190	
10,925.2	7,059.9	6,700.0	6,698.2	111.3	1.9	81.28	66.7	47.2	4,759.6	4,651.7	107.89	44.114	
11,000.0	7,059.9	6,700.0	6,698.2	113.2	1.9	81.28	66.7	47.2	4,825.5	4,715.6	109.93	43.896	
11,023.6	7,059.9	6,700.0	6,698.2	113.9	1.9	81.28	66.7	47.2	4,846.4	4,735.8	110.57	43.829	
11,100.0	7,059.9	6,700.0	6,698.2	115.9	1.9	81.28	66.7	47.2	4,914.0	4,801.4	112.66	43.620	
11,122.0	7,059.9	6,700.0	6,698.2	116.5	1.9	81.28	66.7	47.2	4,933.6	4,820.3	113.26	43.561	
11,200.0	7,059.9	6,700.0	6,698.2	118.5	1.9	81.28	66.7	47.2	5,002.9	4,887.6	115.39	43.359	
11,220.4	7,059.9	6,700.0	6,698.2	119.1	1.9	81.28	66.7	47.2	5,021.2	4,905.2	115.94	43.307	
11,300.0	7,059.9	6,700.0	6,698.2	121.2	1.9	81.28	66.7	47.2	5,092.3	4,974.2	118.12	43.112	
11,318.9	7,059.9	6,700.0	6,698.2	121.7	1.9	81.28	66.7	47.2	5,109.2	4,990.6	118.63	43.067	
11,400.0	7,059.9	6,700.0	6,698.2	123.9	1.9	81.28	66.7	47.2	5,182.0	5,061.2	120.85	42.879	
11,417.3	7,059.9	6,700.0	6,698.2	124.3	1.9	81.28	66.7	47.2	5,197.6	5,076.3	121.32	42.840	
11,500.0	7,059.9	6,700.0	6,698.2	126.6	1.9	81.28	66.7	47.2	5,272.1	5,148.5	123.59	42.659	
11,515.7	7,059.9	6,700.0	6,698.2	127.0	1.9	81.28	66.7	47.2	5,286.3	5,162.3	124.02	42.626	
11,600.0	7,059.9	6,700.0	6,698.2	129.2	1.9	81.28	66.7	47.2	5,362.6	5,236.3	126.33	42.451	
11,614.1	7,059.9	6,700.0	6,698.2	129.6	1.9	81.28	66.7	47.2	5,375.4	5,248.7	126.71	42.422	
11,700.0	7,059.9	6,700.0	6,698.2	131.9	1.9	81.28	66.7	47.2	5,453.4	5,324.3	129.07	42.253	
11,712.6	7,059.9	6,700.0	6,698.2	132.3	1.9	81.28	66.7	47.2	5,464.8	5,335.4	129.41	42.229	
11,800.0	7,059.9	6,700.0	6,698.2	134.6	1.9	81.28	66.7	47.2	5,544.5	5,412.7	131.81	42.065	
11,811.0	7,059.9	6,700.0	6,698.2	134.9	1.9	81.28	66.7	47.2	5,554.5	5,422.4	132.11	42.045	
11,900.0	7,059.9	6,700.0	6,698.2	137.3	1.9	81.28	66.7	47.2	5,635.9	5,501.3	134.55	41.887	
11,909.4	7,059.9	6,700.0	6,698.2	137.6	1.9	81.28	66.7	47.2	5,644.5	5,509.7	134.81	41.870	
12,000.0	7,059.9	6,700.0	6,698.2	140.0	1.9	81.28	66.7	47.2	5,727.6	5,590.3	137.30	41.717	
12,007.8	7,059.9	6,700.0	6,698.2	140.3	1.9	81.28	66.7	47.2	5,734.8	5,597.3	137.51	41.704	

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 VETTING 19
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:	VETTING 19	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	
12,100.0	7,059.9	6,700.0	6,698.2	142.8	1.9	81.28	66.7	47.2	5,819.5	5,679.5	140.04	41.556	
12,106.3	7,059.9	6,700.0	6,698.2	142.9	1.9	81.28	66.7	47.2	5,825.3	5,685.1	140.21	41.546	
12,200.0	7,059.9	6,700.0	6,698.2	145.5	1.9	81.28	66.7	47.2	5,911.8	5,769.0	142.79	41.402	
12,204.7	7,059.9	6,700.0	6,698.2	145.6	1.9	81.28	66.7	47.2	5,916.1	5,773.2	142.92	41.395	
12,300.0	7,059.9	6,700.0	6,698.2	148.2	1.9	81.28	66.7	47.2	6,004.2	5,858.7	145.54	41.255	
12,303.1	7,059.9	6,700.0	6,698.2	148.3	1.9	81.28	66.7	47.2	6,007.1	5,861.5	145.62	41.251	
12,400.0	7,059.9	6,700.0	6,698.2	150.9	1.9	81.28	66.7	47.2	6,097.0	5,948.7	148.29	41.115	
12,401.5	7,059.9	6,700.0	6,698.2	151.0	1.9	81.28	66.7	47.2	6,098.4	5,950.1	148.33	41.113	
12,500.0	7,059.9	6,700.0	6,698.2	153.6	1.9	81.28	66.7	47.2	6,189.9	6,038.9	151.04	40.982	
12,598.4	7,059.9	6,700.0	6,698.2	156.3	1.9	81.28	66.7	47.2	6,281.6	6,127.8	153.75	40.856	
12,600.0	7,059.9	6,700.0	6,698.2	156.4	1.9	81.28	66.7	47.2	6,283.1	6,129.3	153.79	40.854	
12,696.8	7,059.9	6,700.0	6,698.2	159.0	1.9	81.28	66.7	47.2	6,373.5	6,217.0	156.46	40.736	
12,700.0	7,059.9	6,700.0	6,698.2	159.1	1.9	81.28	66.7	47.2	6,376.4	6,219.9	156.55	40.732	
12,795.2	7,059.9	6,700.0	6,698.2	161.7	1.9	81.28	66.7	47.2	6,465.5	6,306.4	159.17	40.620	
12,800.0	7,059.9	6,700.0	6,698.2	161.8	1.9	81.28	66.7	47.2	6,470.0	6,310.7	159.30	40.615	
12,893.7	7,059.9	6,700.0	6,698.2	164.4	1.9	81.28	66.7	47.2	6,557.8	6,395.9	161.88	40.510	
12,900.0	7,059.9	6,700.0	6,698.2	164.6	1.9	81.28	66.7	47.2	6,563.7	6,401.7	162.06	40.503	
12,992.1	7,059.9	6,700.0	6,698.2	167.1	1.9	81.28	66.7	47.2	6,650.3	6,485.7	164.59	40.404	
13,000.0	7,059.9	6,700.0	6,698.2	167.3	1.9	81.28	66.7	47.2	6,657.7	6,492.9	164.81	40.395	
13,090.5	7,059.9	6,700.0	6,698.2	169.8	1.9	81.28	66.7	47.2	6,742.9	6,575.6	167.31	40.302	
13,100.0	7,059.9	6,700.0	6,698.2	170.1	1.9	81.28	66.7	47.2	6,751.8	6,584.2	167.57	40.292	
13,188.9	7,059.9	6,700.0	6,698.2	172.5	1.9	81.28	66.7	47.2	6,835.6	6,665.6	170.02	40.204	
13,200.0	7,059.9	6,700.0	6,698.2	172.8	1.9	81.28	66.7	47.2	6,846.1	6,675.7	170.33	40.193	
13,287.4	7,059.9	6,700.0	6,698.2	175.2	1.9	81.28	66.7	47.2	6,928.6	6,755.8	172.74	40.110	
13,300.0	7,059.9	6,700.0	6,698.2	175.6	1.9	81.29	66.7	47.2	6,940.5	6,767.4	173.09	40.098	
13,385.8	7,059.9	6,700.0	6,698.2	177.9	1.9	81.29	66.7	47.2	7,021.6	6,846.2	175.45	40.020	
13,400.0	7,059.9	6,700.0	6,698.2	178.3	1.9	81.29	66.7	47.2	7,035.1	6,859.2	175.85	40.007	
13,484.2	7,059.9	6,700.0	6,698.2	180.6	1.9	81.29	66.7	47.2	7,114.9	6,936.7	178.17	39.933	
13,500.0	7,059.9	6,700.0	6,698.2	181.1	1.9	81.29	66.7	47.2	7,129.8	6,951.2	178.61	39.919	
13,582.6	7,059.9	6,700.0	6,698.2	183.3	1.9	81.29	66.7	47.2	7,208.2	7,027.3	180.89	39.849	
13,600.0	7,059.9	6,700.0	6,698.2	183.8	1.9	81.29	66.7	47.2	7,224.7	7,043.3	181.37	39.835	
13,681.1	7,059.9	6,700.0	6,698.2	186.1	1.9	81.29	66.7	47.2	7,301.7	7,118.1	183.61	39.768	
13,700.0	7,059.9	6,700.0	6,698.2	186.6	1.9	81.29	66.7	47.2	7,319.7	7,135.6	184.13	39.753	
13,779.5	7,059.9	6,700.0	6,698.2	188.8	1.9	81.29	66.7	47.2	7,395.4	7,209.0	186.32	39.691	
13,800.0	7,059.9	6,700.0	6,698.2	189.3	1.9	81.29	66.7	47.2	7,414.9	7,228.0	186.89	39.675	
13,877.9	7,059.9	6,700.0	6,698.2	191.5	1.9	81.29	66.7	47.2	7,489.1	7,300.1	189.04	39.616	
13,900.0	7,059.9	6,700.0	6,698.2	192.1	1.9	81.29	66.7	47.2	7,510.1	7,320.5	189.65	39.599	
13,976.3	7,059.9	6,700.0	6,698.2	194.2	1.9	81.29	66.7	47.2	7,583.0	7,391.2	191.76	39.543	
14,000.0	7,059.9	6,700.0	6,698.2	194.9	1.9	81.29	66.7	47.2	7,605.5	7,413.1	192.42	39.526	
14,074.8	7,059.9	6,700.0	6,698.2	196.9	1.9	81.29	66.7	47.2	7,676.9	7,482.5	194.48	39.473	
14,100.0	7,059.9	6,700.0	6,698.2	197.6	1.9	81.29	66.7	47.2	7,701.0	7,505.9	195.18	39.456	
14,173.2	7,059.9	6,700.0	6,698.2	199.6	1.9	81.29	66.7	47.2	7,771.0	7,573.8	197.20	39.406	
14,200.0	7,059.9	6,700.0	6,698.2	200.4	1.9	81.29	66.7	47.2	7,796.7	7,598.7	197.95	39.388	
14,271.6	7,059.9	6,700.0	6,698.2	202.4	1.9	81.29	66.7	47.2	7,865.2	7,665.3	199.93	39.341	
14,300.0	7,059.9	6,700.0	6,698.2	203.1	1.9	81.29	66.7	47.2	7,892.4	7,691.7	200.71	39.322	
14,370.0	7,059.9	6,700.0	6,698.2	205.1	1.9	81.29	66.7	47.2	7,959.5	7,756.9	202.65	39.278	
14,400.0	7,059.9	6,700.0	6,698.2	205.9	1.9	81.29	66.7	47.2	7,988.2	7,784.8	203.48	39.259	
14,468.5	7,059.9	6,700.0	6,698.2	207.8	1.9	81.29	66.7	47.2	8,053.9	7,848.6	205.37	39.217	
14,500.0	7,059.9	6,700.0	6,698.2	208.7	1.9	81.29	66.7	47.2	8,084.2	7,877.9	206.24	39.198	
14,566.9	7,059.9	6,700.0	6,698.2	210.5	1.9	81.29	66.7	47.2	8,148.4	7,940.3	208.09	39.158	
14,600.0	7,059.9	6,700.0	6,698.2	211.5	1.9	81.29	66.7	47.2	8,180.2	7,971.2	209.01	39.138	
14,665.3	7,059.9	6,700.0	6,698.2	213.3	1.9	81.29	66.7	47.2	8,243.0	8,032.2	210.81	39.101	

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 VETTING 19
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:	VETTING 19	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
14,700.0	7,059.9	6,700.0	6,698.2	214.2	1.9	81.29	66.7	47.2	8,276.3	8,064.6	211.77	39.081	
14,763.7	7,059.9	6,700.0	6,698.2	216.0	1.9	81.29	66.7	47.2	8,337.7	8,124.1	213.54	39.045	
14,800.0	7,059.9	6,700.0	6,698.2	217.0	1.9	81.29	66.7	47.2	8,372.6	8,158.0	214.54	39.026	
14,862.2	7,060.0	6,700.0	6,698.2	218.7	1.9	81.29	66.7	47.2	8,432.4	8,216.2	216.26	38.992	
14,900.0	7,060.0	6,700.0	6,698.2	219.8	1.9	81.29	66.7	47.2	8,468.9	8,251.6	217.31	38.972	
14,960.6	7,060.0	6,700.0	6,698.2	221.4	1.9	81.29	66.7	47.2	8,527.3	8,308.3	218.99	38.940	
15,000.0	7,060.0	6,700.0	6,698.2	222.5	1.9	81.29	66.7	47.2	8,565.3	8,345.2	220.08	38.920	
15,059.0	7,060.0	6,700.0	6,698.2	224.2	1.9	81.29	66.7	47.2	8,622.2	8,400.5	221.71	38.890	
15,100.0	7,060.0	6,700.0	6,698.2	225.3	1.9	81.29	66.7	47.2	8,661.7	8,438.9	222.84	38.869	
15,157.4	7,060.0	6,700.0	6,698.2	226.9	1.9	81.29	66.7	47.2	8,717.2	8,492.8	224.43	38.841	
15,200.0	7,060.0	6,700.0	6,698.2	228.1	1.9	81.29	66.7	47.2	8,758.3	8,532.7	225.61	38.820	
15,255.9	7,060.0	6,700.0	6,698.2	229.6	1.9	81.29	66.7	47.2	8,812.3	8,585.1	227.16	38.793	
15,300.0	7,060.0	6,700.0	6,698.2	230.9	1.9	81.29	66.7	47.2	8,854.9	8,626.5	228.38	38.773	
15,354.3	7,060.0	6,700.0	6,698.2	232.4	1.9	81.29	66.7	47.2	8,907.4	8,677.5	229.88	38.747	
15,400.0	7,060.0	6,700.0	6,698.2	233.6	1.9	81.29	66.7	47.2	8,951.6	8,720.5	231.15	38.726	
15,452.7	7,060.0	6,700.0	6,698.2	235.1	1.9	81.29	66.7	47.2	9,002.6	8,770.0	232.61	38.703	
15,500.0	7,060.0	6,700.0	6,698.2	236.4	1.9	81.29	66.7	47.2	9,048.4	8,814.5	233.92	38.682	
15,551.1	7,060.0	6,700.0	6,698.2	237.8	1.9	81.29	66.7	47.2	9,097.9	8,862.6	235.34	38.659	
15,600.0	7,060.0	6,700.0	6,698.2	239.2	1.9	81.29	66.7	47.2	9,145.2	8,908.5	236.69	38.638	
15,649.6	7,060.0	6,700.0	6,698.2	240.6	1.9	81.29	66.7	47.2	9,193.3	8,955.2	238.06	38.617	
15,682.9	7,060.0	6,700.0	6,698.2	241.5	1.9	81.29	66.7	47.2	9,225.6	8,986.6	238.99	38.603	

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 19
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:	VETTING 19	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 Elev) Coordinates are relative to: VETTING 19

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

