

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

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

VETTING 23

ORIGINAL WELLBORE

PROPOSAL #2

Anticollision Report

09 March, 2016



Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 23
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 23	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	09/03/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	16,069.4	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	5,127.0	4,306.1	1,338.1	1,210.9	10.516	CC
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	5,200.0	4,357.1	1,339.1	1,209.9	10.362	ES
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	5,517.3	4,578.7	1,367.0	1,229.8	9.966	SF
CARLSON A-15-16HN - Wellbore #1 - Design #1	200.0	179.5	4,402.2	4,401.7	7,842.179	CC
CARLSON A-15-16HN - Wellbore #1 - Design #1	295.3	250.9	4,402.4	4,401.5	4,703.940	ES
CARLSON A-15-16HN - Wellbore #1 - Design #1	12,800.0	14,862.7	5,220.6	4,844.2	13.871	SF
CARLSON B-15-16HC - Wellbore #1 - Design #1	400.0	379.5	4,387.5	4,386.1	3,004.311	CC
CARLSON B-15-16HC - Wellbore #1 - Design #1	10,925.2	14,905.1	4,656.6	4,332.0	14.347	ES
CARLSON B-15-16HC - Wellbore #1 - Design #1	12,696.8	14,905.1	5,030.1	4,656.8	13.474	SF
CARLSON C-15-16HN - Wellbore #1 - Design #1	4,402.9	11,425.5	4,315.3	4,206.1	39.534	CC
CARLSON C-15-16HN - Wellbore #1 - Design #1	10,900.0	14,796.3	4,490.1	4,166.4	13.873	ES
CARLSON C-15-16HN - Wellbore #1 - Design #1	12,500.0	14,796.3	4,803.7	4,436.1	13.065	SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	4,639.0	11,441.4	4,082.4	3,971.0	36.643	CC
CARLSON D-15-16HN - Wellbore #1 - Design #1	10,900.0	14,777.6	4,160.2	3,836.8	12.866	ES
CARLSON D-15-16HN - Wellbore #1 - Design #1	12,300.0	14,777.6	4,425.1	4,063.3	12.230	SF
CARLSON E-15-16HC - Wellbore #1 - Design #1	10,787.1	14,848.6	3,995.1	3,674.7	12.470	CC
CARLSON E-15-16HC - Wellbore #1 - Design #1	10,900.0	14,848.6	3,996.7	3,673.3	12.356	ES
CARLSON E-15-16HC - Wellbore #1 - Design #1	12,200.0	14,848.6	4,237.6	3,878.5	11.799	SF
CARLSON F-15-16HN - Wellbore #1 - Design #1	10,786.6	14,769.7	3,878.5	3,558.5	12.119	CC
CARLSON F-15-16HN - Wellbore #1 - Design #1	10,900.0	14,769.7	3,880.2	3,557.1	12.009	ES
CARLSON F-15-16HN - Wellbore #1 - Design #1	12,100.0	14,769.7	4,094.9	3,738.8	11.500	SF
CARLSON G-15-16HN - Wellbore #1 - Design #1	10,784.7	14,787.6	3,458.4	3,138.7	10.818	CC
CARLSON G-15-16HN - Wellbore #1 - Design #1	10,900.0	14,787.6	3,460.4	3,137.5	10.718	ES
CARLSON G-15-16HN - Wellbore #1 - Design #1	11,811.0	14,787.6	3,607.5	3,259.7	10.372	SF
CARLSON H-15-16HC - Wellbore #1 - Design #1	10,784.1	14,883.6	3,295.2	2,975.6	10.311	CC
CARLSON H-15-16HC - Wellbore #1 - Design #1	10,900.0	14,883.6	3,297.3	2,974.5	10.216	ES
CARLSON H-15-16HC - Wellbore #1 - Design #1	11,712.6	14,883.6	3,423.5	3,078.6	9.924	SF
CARLSON I-15-16HN - Wellbore #1 - Design #1	10,783.1	14,836.2	3,078.5	2,759.0	9.634	CC
CARLSON I-15-16HN - Wellbore #1 - Design #1	10,900.0	14,836.2	3,080.8	2,758.0	9.546	ES
CARLSON I-15-16HN - Wellbore #1 - Design #1	11,600.0	14,836.2	3,185.1	2,843.2	9.316	SF
CARLSON J-15-16HN - Wellbore #1 - Design #1	10,781.7	14,901.4	2,748.5	2,429.1	8.607	CC
CARLSON J-15-16HN - Wellbore #1 - Design #1	10,826.7	14,901.4	2,748.8	2,428.3	8.575	ES
CARLSON J-15-16HN - Wellbore #1 - Design #1	11,417.3	14,901.4	2,821.0	2,484.3	8.378	SF
CARLSON K-15-16HC - Wellbore #1 - Design #1	10,781.1	15,013.6	2,585.7	2,266.5	8.099	CC
CARLSON K-15-16HC - Wellbore #1 - Design #1	10,826.7	15,013.6	2,586.1	2,265.7	8.069	ES
CARLSON K-15-16HC - Wellbore #1 - Design #1	11,318.9	15,013.6	2,641.1	2,307.2	7.910	SF
CARLSON L-15-16HN - Wellbore #1 - Design #1	10,780.3	14,977.0	2,418.4	2,099.1	7.576	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	10,826.7	14,977.0	2,418.8	2,098.3	7.547	ES
CARLSON L-15-16HN - Wellbore #1 - Design #1	11,300.0	14,977.0	2,473.6	2,140.2	7.419	SF
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	15,035.0	7,092.2	227.6	-8.9	0.962	Level 1, CC, ES, SF
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	12,438.9	7,238.7	321.5	150.7	1.882	CC, ES, SF
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,763.9	7,155.5	276.5	13.6	1.052	Level 2, CC, ES, SF
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,361.5	6,917.9	291.7	84.0	1.404	Level 3, CC
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,370.0	6,917.8	291.8	83.8	1.403	Level 3, ES, SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	13,300.0	6,796.0	598.0	460.8	4.359	SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	13,385.8	6,768.4	589.4	455.4	4.397	ES
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	13,407.6	6,762.6	589.0	455.6	4.414	CC
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	16,069.4	7,578.2	1,680.6	1,393.5	5.853	CC, ES, SF
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	13,185.8	7,515.2	2,311.5	2,122.0	12.198	CC
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	13,287.4	7,520.8	2,313.7	2,121.4	12.029	ES
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	13,976.3	7,560.1	2,442.6	2,231.0	11.543	SF
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	12,470.4	7,124.9	1,565.2	1,396.1	9.253	CC
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	12,500.0	7,120.1	1,565.5	1,395.6	9.217	ES
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	12,795.2	7,063.0	1,597.7	1,421.3	9.058	SF
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	15,126.7	7,838.0	2,913.9	2,669.0	11.898	CC
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	15,200.0	7,839.9	2,914.8	2,667.9	11.803	ES
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	16,069.4	7,868.6	3,062.4	2,791.2	11.288	SF
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	15,607.7	7,312.6	938.3	678.6	3.613	CC
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	15,649.6	7,309.8	939.2	678.3	3.601	ES
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	15,700.0	7,306.4	942.8	680.5	3.595	SF
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	16,069.4	7,158.9	881.1	653.8	3.875	CC, ES, SF
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	16,069.4	7,170.3	419.0	154.8	1.586	CC, ES, SF
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	15,049.8	7,112.2	1,490.7	1,253.0	6.271	CC
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	15,100.0	7,123.3	1,491.5	1,252.1	6.231	ES
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	15,354.3	7,170.9	1,520.4	1,273.0	6.145	SF
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	13,021.2	6,965.1	392.6	215.4	2.216	CC, ES, SF
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	11,800.2	7,303.7	387.4	221.6	2.336	CC
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	11,811.0	7,303.5	387.6	221.5	2.333	ES, SF
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,650.3	6,991.4	288.7	99.2	1.524	CC, ES, SF
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	13,884.6	6,760.1	1,513.4	1,322.1	7.912	CC
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	13,900.0	6,759.8	1,513.5	1,321.8	7.895	ES
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	14,200.0	6,753.8	1,545.9	1,346.4	7.749	SF
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	13,822.5	6,416.8	2,649.3	2,467.2	14.555	CC
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	13,877.9	6,415.5	2,649.8	2,466.5	14.453	ES
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	14,763.7	6,396.1	2,811.3	2,606.7	13.737	SF
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	2,249.8	3,182.0	2,346.9	2,335.4	204.646	CC, ES
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	16,069.4	7,014.1	9,781.1	9,521.9	37.742	SF
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	1,855.7	2,406.6	2,362.6	2,352.0	222.902	CC, ES
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	14,800.0	7,124.3	9,957.8	9,727.9	43.316	SF
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,180.5	2,995.0	2,087.3	2,074.6	164.146	CC
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,200.0	3,019.2	2,087.3	2,074.5	162.624	ES
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	15,700.0	7,126.0	9,957.3	9,707.9	39.919	SF
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	11,414.5	7,330.8	1,684.1	1,526.9	10.714	CC
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	11,417.3	7,329.7	1,684.1	1,526.9	10.711	ES
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	11,700.0	7,221.7	1,705.6	1,544.2	10.566	SF
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	11,089.8	7,538.9	366.2	206.9	2.298	CC
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	11,100.0	7,536.5	366.3	206.8	2.297	ES, SF
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	11,932.5	7,237.1	818.1	654.5	4.999	CC, ES
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	12,007.8	7,221.1	821.4	656.3	4.974	SF
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	2,316.1	2,050.0	2,727.5	2,717.6	275.672	CC

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Anticollision Report



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

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	2,362.2	2,050.0	2,727.8	2,717.6	267.353	ES
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	12,800.0	7,152.7	3,365.9	3,186.7	18.785	SF
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore #1	14,434.8	7,514.0	2,287.6	2,068.8	10.454	CC
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore #1	14,500.0	7,514.0	2,288.5	2,067.9	10.372	ES
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore #1	15,100.0	7,514.0	2,382.3	2,144.9	10.035	SF
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	16,069.4	7,593.1	1,330.4	1,032.0	4.459	CC, ES, SF
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	16,069.4	6,950.2	1,521.6	1,407.3	13.315	CC, ES, SF
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	15,698.0	7,735.1	2,262.0	1,995.3	8.480	CC
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	15,748.0	7,735.1	2,262.6	1,994.4	8.437	ES
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	16,069.4	7,735.1	2,292.3	2,015.2	8.271	SF
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	16,069.4	7,062.0	2,184.9	1,923.1	8.347	CC, ES, SF
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	1,425.8	1,418.4	1,437.2	1,433.4	380.144	CC
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	1,476.4	1,466.0	1,437.3	1,433.4	369.253	ES
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	15,200.0	6,600.0	9,956.5	9,738.9	45.755	SF
EXIST VERT FAY #1 - Wellbore #1 - Design #1	2,981.1	2,843.8	2,661.2	2,592.5	38.747	CC
EXIST VERT FAY #1 - Wellbore #1 - Design #1	3,149.6	2,967.0	2,663.6	2,590.4	36.381	ES
EXIST VERT FAY #1 - Wellbore #1 - Design #1	11,000.0	6,864.0	3,214.8	2,977.1	13.521	SF
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	3,845.2	3,414.9	64.6	-27.3	0.703	Level 1, CC, ES, SF
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	365.1	347.1	129.4	128.3	127.718	CC
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	492.1	473.8	129.6	128.2	94.505	ES
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	1,800.0	1,777.1	152.2	147.5	32.393	SF
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	100.0	100.0	264.3	264.1	1,400.013	CC, ES
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,060.6	2,324.3	1,845.8	4.857	SF
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	200.0	200.0	239.0	238.4	374.407	CC, ES
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,272.8	2,151.0	1,673.6	4.505	SF
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	216.4	215.3	198.947	CC, ES
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,091.5	1,978.2	1,499.3	4.130	SF
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	400.0	191.1	189.6	124.301	CC, ES
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,164.6	1,646.7	1,166.5	3.429	SF
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	500.0	500.0	169.0	167.1	85.077	CC, ES
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,403.0	1,495.5	1,017.8	3.131	SF
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	600.0	600.0	143.7	141.3	58.985	CC, ES
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,277.9	1,318.8	838.0	2.743	SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	121.1	118.3	41.974	CC
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	3,500.0	3,394.4	151.7	114.3	4.051	ES
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,416.2	987.3	506.3	2.053	SF
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	800.0	95.8	92.5	28.733	CC
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	3,444.9	3,358.1	120.1	83.9	3.319	ES
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,678.2	846.1	374.6	1.795	SF
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	73.2	69.4	19.348	CC
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	3,641.7	3,568.2	96.8	55.4	2.336	ES
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,611.8	659.4	177.7	1.369	Level 3, SF
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	1,000.0	1,000.0	47.9	43.7	11.312	CC
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	15,841.0	327.9	-154.1	0.680	Level 1, ES, SF
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	1,100.0	1,100.0	25.3	20.6	5.407	CC
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	16,127.0	254.8	-82.4	0.756	Level 1, ES, SF
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	1,200.0	1,200.0	22.3	17.1	4.340	CC
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	16,069.4	16,281.4	331.5	-151.4	0.687	Level 1, ES, SF
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	100.0	99.0	282.6	282.4	1,504.336	CC, ES
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	16,069.4	13,055.7	2,641.7	2,182.9	5.757	SF
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	1,000.0	999.0	109.8	105.5	25.939	CC, ES
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	16,069.4	13,504.2	4,626.2	4,157.4	9.868	SF
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	1,100.0	1,099.0	101.4	96.7	21.661	CC, ES

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 23
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 23	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 Tooface (")	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	-171.55	-1,175.6	-174.6	1,189.2				
98.4	98.4	59.4	59.4	0.1	0.6	-171.55	-1,175.6	-174.6	1,188.5	1,187.8	0.69	1,732.533	
100.0	100.0	61.0	61.0	0.1	0.6	-171.55	-1,175.6	-174.6	1,188.5	1,187.8	0.70	1,689.443	
196.8	196.8	157.8	157.8	0.3	2.3	-171.55	-1,175.6	-174.6	1,188.5	1,185.9	2.66	446.465	
200.0	200.0	161.0	161.0	0.3	2.4	-171.55	-1,175.6	-174.6	1,188.5	1,185.8	2.74	433.334	
295.3	295.3	256.3	256.3	0.5	4.5	-171.55	-1,175.6	-174.6	1,188.5	1,183.5	5.04	235.858	
300.0	300.0	261.0	261.0	0.5	4.6	-171.55	-1,175.6	-174.6	1,188.5	1,183.4	5.15	230.867	
393.7	393.7	354.7	354.7	0.8	6.5	-171.55	-1,175.6	-174.6	1,188.5	1,181.2	7.29	163.086	
400.0	400.0	361.0	361.0	0.8	6.7	-171.55	-1,175.6	-174.6	1,188.5	1,181.1	7.43	159.951	
492.1	492.1	453.1	453.1	1.0	8.5	-171.55	-1,175.6	-174.6	1,188.5	1,179.0	9.51	124.946	
500.0	500.0	461.0	461.0	1.0	8.7	-171.55	-1,175.6	-174.6	1,188.5	1,178.8	9.69	122.658	
590.5	590.5	551.5	551.5	1.2	10.5	-171.55	-1,175.6	-174.6	1,188.5	1,176.8	11.73	101.346	
600.0	600.0	561.0	561.0	1.2	10.7	-171.55	-1,175.6	-174.6	1,188.5	1,176.6	11.94	99.543	
689.0	689.0	650.0	650.0	1.4	12.5	-171.55	-1,175.6	-174.6	1,188.5	1,174.6	13.94	85.274	
700.0	700.0	661.0	661.0	1.4	12.7	-171.55	-1,175.6	-174.6	1,188.5	1,174.3	14.19	83.786	
787.4	787.4	748.4	748.4	1.6	14.5	-171.55	-1,175.6	-174.6	1,188.5	1,172.4	16.15	73.614	
800.0	800.0	761.0	761.0	1.7	14.8	-171.55	-1,175.6	-174.6	1,188.5	1,172.1	16.43	72.348	
885.8	885.8	846.8	846.8	1.9	16.5	-171.55	-1,175.6	-174.6	1,188.5	1,170.2	18.35	64.765	
900.0	900.0	861.0	861.0	1.9	16.8	-171.55	-1,175.6	-174.6	1,188.5	1,169.9	18.67	63.663	
984.2	984.2	945.2	945.2	2.1	18.5	-171.55	-1,175.6	-174.6	1,188.5	1,168.0	20.56	57.819	
1,000.0	1,000.0	961.0	961.0	2.1	18.8	-171.55	-1,175.6	-174.6	1,188.5	1,167.6	20.91	56.844	
1,082.7	1,082.7	1,043.7	1,043.7	2.3	20.5	-171.55	-1,175.6	-174.6	1,188.5	1,165.8	22.76	52.220	
1,100.0	1,100.0	1,061.0	1,061.0	2.3	20.8	-171.55	-1,175.6	-174.6	1,188.5	1,165.4	23.15	51.345	
1,181.1	1,181.1	1,142.1	1,142.1	2.5	22.4	-171.55	-1,175.6	-174.6	1,188.5	1,163.6	24.96	47.611	
1,200.0	1,200.0	1,161.0	1,161.0	2.6	22.8	-171.55	-1,175.6	-174.6	1,188.5	1,163.1	25.39	46.818	
1,279.5	1,279.5	1,240.5	1,240.5	2.7	24.4	-3.11	-1,175.6	-174.6	1,187.4	1,160.3	27.13	43.762	
1,300.0	1,300.0	1,261.0	1,261.0	2.8	24.8	-3.12	-1,175.6	-174.6	1,186.8	1,159.2	27.58	43.031	
1,377.9	1,377.8	1,338.8	1,338.8	2.9	26.4	-3.13	-1,175.6	-174.6	1,183.0	1,153.8	29.24	40.452	
1,400.0	1,399.8	1,360.8	1,360.8	2.9	26.8	-3.14	-1,175.6	-174.6	1,181.6	1,151.8	29.71	39.769	
1,476.4	1,475.9	1,436.9	1,436.9	3.1	28.4	-3.16	-1,175.6	-174.6	1,175.2	1,143.9	31.31	37.535	
1,500.0	1,499.5	1,460.5	1,460.5	3.1	28.8	-3.17	-1,175.6	-174.6	1,172.9	1,141.1	31.80	36.885	
1,574.8	1,573.7	1,534.7	1,534.7	3.3	30.3	-3.20	-1,175.6	-174.6	1,164.1	1,130.7	33.33	34.930	
1,601.3	1,600.0	1,561.0	1,561.0	3.3	30.9	-3.22	-1,175.6	-174.6	1,160.5	1,126.6	33.86	34.275	
1,666.3	1,664.4	1,625.4	1,625.4	3.5	32.2	-3.25	-1,175.6	-174.6	1,151.4	1,116.2	35.27	32.642	
1,673.2	1,671.2	1,632.2	1,632.2	3.5	32.3	-3.25	-1,175.6	-174.6	1,150.5	1,115.1	35.41	32.490	
1,700.0	1,697.7	1,658.7	1,658.7	3.6	32.8	-3.27	-1,175.6	-174.6	1,146.5	1,110.6	35.93	31.907	
1,771.6	1,768.3	1,729.3	1,729.3	3.8	34.3	-3.32	-1,175.6	-174.6	1,134.4	1,097.1	37.29	30.423	
1,800.0	1,796.1	1,757.1	1,757.1	3.8	34.8	-3.35	-1,175.6	-174.6	1,129.0	1,091.2	37.81	29.862	
1,870.1	1,864.6	1,825.6	1,825.6	4.1	36.2	-3.41	-1,175.6	-174.6	1,114.1	1,075.1	39.06	28.526	
1,900.0	1,893.7	1,854.7	1,854.7	4.2	36.8	-3.44	-1,175.6	-174.6	1,107.2	1,067.6	39.57	27.980	
1,968.5	1,959.9	1,920.9	1,920.9	4.4	38.1	-3.53	-1,175.6	-174.6	1,089.8	1,049.1	40.71	26.770	
2,000.0	1,990.2	1,951.2	1,951.2	4.5	38.7	-3.57	-1,175.6	-174.6	1,081.1	1,039.9	41.21	26.235	
2,066.9	2,054.2	2,015.2	2,015.2	4.8	40.0	-3.67	-1,175.6	-174.6	1,061.4	1,019.1	42.24	25.130	
2,100.0	2,085.5	2,046.5	2,046.5	5.0	40.6	-3.72	-1,175.6	-174.6	1,050.9	1,008.2	42.72	24.603	
2,165.3	2,147.1	2,108.1	2,108.1	5.3	41.9	-3.84	-1,175.6	-174.6	1,028.9	985.3	43.63	23.584	
2,200.0	2,179.4	2,140.4	2,140.4	5.5	42.5	-3.91	-1,175.6	-174.6	1,016.6	972.5	44.08	23.063	
2,263.8	2,238.5	2,199.5	2,199.5	5.9	43.7	-4.05	-1,175.6	-174.6	992.6	947.7	44.87	22.123	
2,300.0	2,271.7	2,232.7	2,232.7	6.1	44.4	-4.14	-1,175.6	-174.6	978.2	932.9	45.29	21.599	
2,362.2	2,328.3	2,289.3	2,289.3	6.5	45.5	-4.30	-1,175.6	-174.6	952.3	906.4	45.96	20.719	
2,400.0	2,362.3	2,323.3	2,323.3	6.8	46.2	-4.42	-1,175.6	-174.6	935.9	889.5	46.34	20.195	
2,460.6	2,416.2	2,377.2	2,377.2	7.3	47.3	-4.61	-1,175.6	-174.6	908.3	861.4	46.90	19.366	
2,500.0	2,450.9	2,411.9	2,411.9	7.6	48.0	-4.75	-1,175.6	-174.6	889.6	842.4	47.23	18.836	

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 23
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 23	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	
2,559.0	2,502.2	2,463.2	2,463.2	8.1	49.0	-4.98	-1,175.6	-174.6	860.5	812.8	47.68	18.049	
2,600.0	2,537.4	2,498.4	2,498.4	8.4	49.7	-5.16	-1,175.6	-174.6	839.6	791.6	47.95	17.509	
2,657.5	2,586.0	2,547.0	2,547.0	9.0	50.7	-5.44	-1,175.6	-174.6	809.1	760.9	48.29	16.756	
2,700.0	2,621.6	2,582.6	2,582.6	9.4	51.4	-5.67	-1,175.6	-174.6	785.9	737.4	48.50	16.202	
2,755.9	2,667.6	2,628.6	2,628.6	9.9	52.3	-6.01	-1,175.6	-174.6	754.3	705.5	48.74	15.474	
2,800.0	2,703.4	2,664.4	2,664.4	10.4	53.1	-6.31	-1,175.6	-174.6	728.5	679.6	48.89	14.900	
2,854.3	2,746.7	2,707.7	2,707.7	11.0	53.9	-6.72	-1,175.6	-174.6	695.9	646.9	49.04	14.190	
2,900.0	2,782.6	2,743.6	2,743.6	11.4	54.7	-7.11	-1,175.6	-174.6	667.8	618.6	49.13	13.591	
2,952.7	2,823.3	2,784.3	2,784.3	12.1	55.5	-7.63	-1,175.6	-174.6	634.4	585.2	49.21	12.891	
3,000.0	2,859.0	2,820.0	2,820.0	12.6	56.2	-8.16	-1,175.6	-174.6	603.7	554.4	49.25	12.258	
3,051.2	2,897.1	2,858.1	2,858.1	13.2	57.0	-8.82	-1,175.6	-174.6	569.6	520.4	49.28	11.560	
3,100.0	2,932.6	2,893.6	2,893.6	13.8	57.7	-9.55	-1,175.6	-174.6	536.4	487.1	49.29	10.882	
3,149.6	2,968.0	2,929.0	2,929.0	14.5	58.4	-10.42	-1,175.6	-174.6	501.9	452.6	49.32	10.178	
3,173.3	2,984.7	2,945.7	2,945.7	14.8	58.7	-10.89	-1,175.6	-174.6	485.2	435.8	49.33	9.834	
3,200.0	3,003.3	2,964.3	2,964.3	15.1	59.1	-11.32	-1,175.6	-174.6	466.3	416.4	49.84	9.356	
3,248.0	3,036.8	2,997.8	2,997.8	15.7	59.8	-12.21	-1,175.6	-174.6	432.2	381.5	50.78	8.512	
3,300.0	3,073.1	3,034.1	3,034.1	16.4	60.5	-13.33	-1,175.6	-174.6	395.5	343.6	51.87	7.624	
3,346.4	3,105.6	3,066.6	3,066.6	17.0	61.2	-14.52	-1,175.6	-174.6	362.7	309.8	52.94	6.852	
3,400.0	3,143.0	3,104.0	3,104.0	17.7	61.9	-16.19	-1,175.6	-174.6	325.1	270.8	54.32	5.985	
3,444.9	3,174.3	3,135.3	3,135.3	18.3	62.5	-17.89	-1,175.6	-174.6	293.7	238.0	55.64	5.279	
3,500.0	3,212.8	3,173.8	3,173.8	19.1	63.3	-20.52	-1,175.6	-174.6	255.3	197.8	57.57	4.435	
3,543.3	3,243.0	3,204.0	3,204.0	19.7	63.9	-23.17	-1,175.6	-174.6	225.5	166.0	59.45	3.793	
3,600.0	3,282.6	3,243.6	3,243.6	20.4	64.7	-27.79	-1,175.6	-174.6	187.0	124.3	62.66	2.984	
3,641.7	3,311.8	3,272.8	3,272.8	21.0	65.3	-32.42	-1,175.6	-174.6	159.3	93.4	65.84	2.419	
3,700.0	3,352.5	3,313.5	3,313.5	21.7	66.1	-41.67	-1,175.6	-174.6	122.3	50.3	72.08	1.697	
3,740.1	3,380.5	3,341.5	3,341.5	22.3	66.7	-50.90	-1,175.6	-174.6	99.1	21.2	77.92	1.272 Level 3	
3,800.0	3,422.3	3,383.3	3,383.3	23.1	67.5	-70.73	-1,175.6	-174.6	72.2	-15.5	87.68	0.824 Level 1	
3,838.6	3,449.3	3,410.3	3,410.3	23.6	68.1	-87.08	-1,175.6	-174.6	64.8	-26.9	91.61	0.707 Level 1	
3,845.2	3,453.9	3,414.9	3,414.9	23.7	68.2	-90.00	-1,175.6	-174.6	64.6	-27.3	91.86	0.703 Level 1, CC, ES, SF	
3,900.0	3,492.2	3,453.2	3,453.2	24.4	68.9	-112.99	-1,175.6	-174.6	75.6	-13.5	89.08	0.848 Level 1	
3,937.0	3,518.0	3,479.0	3,479.0	24.9	69.5	-125.40	-1,175.6	-174.6	92.1	7.6	84.51	1.090 Level 2	
4,000.0	3,562.0	3,523.0	3,523.0	25.8	70.3	-140.15	-1,175.6	-174.6	128.3	50.8	77.45	1.656	
4,035.4	3,586.7	3,547.7	3,547.7	26.3	70.8	-145.82	-1,175.6	-174.6	150.7	76.1	74.66	2.019	
4,100.0	3,631.8	3,592.8	3,592.8	27.1	71.7	-153.11	-1,175.6	-174.6	193.5	122.1	71.43	2.709	
4,133.8	3,655.5	3,616.5	3,616.5	27.6	72.2	-155.89	-1,175.6	-174.6	216.5	146.0	70.43	3.074	
4,200.0	3,701.7	3,662.7	3,662.7	28.5	73.1	-159.99	-1,175.6	-174.6	262.0	192.7	69.32	3.780	
4,232.3	3,724.2	3,685.2	3,685.2	28.9	73.6	-161.54	-1,175.6	-174.6	284.5	215.4	69.07	4.119	
4,300.0	3,771.5	3,732.5	3,732.5	29.9	74.6	-164.14	-1,175.6	-174.6	331.9	262.9	68.93	4.814	
4,330.7	3,793.0	3,754.0	3,754.0	30.3	75.0	-165.10	-1,175.6	-174.6	353.5	284.5	69.00	5.122	
4,400.0	3,841.4	3,802.4	3,802.4	31.2	76.0	-166.89	-1,175.6	-174.6	402.3	333.0	69.35	5.801	
4,429.1	3,861.7	3,822.7	3,822.7	31.6	76.4	-167.52	-1,175.6	-174.6	422.9	353.3	69.56	6.080	
4,500.0	3,911.2	3,872.2	3,872.2	32.6	77.4	-168.84	-1,175.6	-174.6	473.1	402.9	70.18	6.742	
4,527.5	3,930.4	3,891.4	3,891.4	32.9	77.7	-169.28	-1,175.6	-174.6	492.6	422.2	70.45	6.993	
4,600.0	3,981.0	3,942.0	3,942.0	33.9	78.8	-170.29	-1,175.6	-174.6	544.1	472.9	71.24	7.638	
4,626.0	3,999.2	3,960.2	3,960.2	34.3	79.1	-170.60	-1,175.6	-174.6	562.6	491.0	71.54	7.864	
4,700.0	4,050.9	4,011.9	4,011.9	35.3	80.2	-171.40	-1,175.6	-174.6	615.2	542.8	72.43	8.494	
4,724.4	4,067.9	4,028.9	4,028.9	35.6	80.5	-171.64	-1,175.6	-174.6	632.6	559.8	72.74	8.697	
4,800.0	4,120.7	4,081.7	4,081.7	36.7	81.6	-172.29	-1,175.6	-174.6	686.4	612.7	73.72	9.312	
4,822.8	4,136.6	4,097.6	4,097.6	37.0	81.9	-172.47	-1,175.6	-174.6	702.7	628.7	74.02	9.493	
4,900.0	4,190.5	4,151.5	4,151.5	38.0	83.0	-173.02	-1,175.6	-174.6	757.7	682.7	75.06	10.095	
4,921.2	4,205.4	4,166.4	4,166.4	38.3	83.3	-173.15	-1,175.6	-174.6	772.9	697.5	75.35	10.257	
5,000.0	4,260.4	4,221.4	4,221.4	39.4	84.4	-173.62	-1,175.6	-174.6	829.1	752.6	76.45	10.845	

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 23
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 23	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
5,019.7	4,274.1	4,235.1	4,235.1	39.6	84.7	-173.72	-1,175.6	-174.6	843.1	766.4	76.72	10.989	
5,100.0	4,330.2	4,291.2	4,291.2	40.7	85.8	-174.12	-1,175.6	-174.6	900.4	822.6	77.86	11.564	
5,118.1	4,342.9	4,303.9	4,303.9	41.0	86.0	-174.20	-1,175.6	-174.6	913.3	835.2	78.12	11.692	
5,200.0	4,400.1	4,361.1	4,361.1	42.1	87.2	-174.55	-1,175.6	-174.6	971.8	892.5	79.30	12.255	
5,216.5	4,411.6	4,372.6	4,372.6	42.3	87.4	-174.62	-1,175.6	-174.6	983.6	904.1	79.54	12.367	
5,300.0	4,469.9	4,430.9	4,430.9	43.5	88.6	-174.92	-1,175.6	-174.6	1,043.2	962.5	80.75	12.919	
5,314.9	4,480.3	4,441.3	4,441.3	43.7	88.8	-174.98	-1,175.6	-174.6	1,053.9	973.0	80.97	13.016	
5,400.0	4,539.7	4,500.7	4,500.7	44.8	90.0	-175.25	-1,175.6	-174.6	1,114.7	1,032.5	82.22	13.558	
5,413.4	4,549.1	4,510.1	4,510.1	45.0	90.2	-175.29	-1,175.6	-174.6	1,124.2	1,041.8	82.41	13.642	
5,500.0	4,609.6	4,570.6	4,570.6	46.2	91.4	-175.54	-1,175.6	-174.6	1,186.2	1,102.5	83.69	14.173	
5,511.8	4,617.8	4,578.8	4,578.8	46.4	91.6	-175.57	-1,175.6	-174.6	1,194.6	1,110.7	83.87	14.244	
5,517.3	4,621.7	4,582.7	4,582.7	46.4	91.6	-175.58	-1,175.6	-174.6	1,198.5	1,114.6	83.95	14.277	
5,600.0	4,680.5	4,641.5	4,641.5	47.4	92.8	-175.93	-1,175.6	-174.6	1,256.6	1,169.0	87.55	14.352	
5,610.2	4,687.9	4,648.9	4,648.9	47.5	93.0	-175.97	-1,175.6	-174.6	1,263.6	1,175.6	88.00	14.360	
5,700.0	4,754.3	4,715.3	4,715.3	48.3	94.3	-176.29	-1,175.6	-174.6	1,323.9	1,232.0	91.89	14.408	
5,708.6	4,760.9	4,721.9	4,721.9	48.4	94.4	-176.32	-1,175.6	-174.6	1,329.6	1,237.3	92.26	14.411	
5,800.0	4,831.1	4,792.1	4,792.1	49.3	95.9	-176.59	-1,175.6	-174.6	1,387.9	1,291.8	96.18	14.430	
5,807.1	4,836.6	4,797.6	4,797.6	49.3	96.0	-176.61	-1,175.6	-174.6	1,392.3	1,295.9	96.48	14.431	
5,900.0	4,910.5	4,871.5	4,871.5	50.1	97.5	-176.84	-1,175.6	-174.6	1,448.6	1,348.2	100.42	14.425	
5,905.5	4,915.0	4,876.0	4,876.0	50.2	97.5	-176.85	-1,175.6	-174.6	1,451.8	1,351.2	100.65	14.424	
6,000.0	4,992.5	4,953.5	4,953.5	51.0	99.1	-177.05	-1,175.6	-174.6	1,505.7	1,401.1	104.59	14.397	
6,003.9	4,995.8	4,956.8	4,956.8	51.0	99.2	-177.06	-1,175.6	-174.6	1,507.9	1,403.1	104.75	14.395	
6,100.0	5,077.0	5,038.0	5,038.0	51.8	100.8	-177.23	-1,175.6	-174.6	1,559.2	1,450.6	108.66	14.349	
6,102.3	5,079.0	5,040.0	5,040.0	51.8	100.8	-177.23	-1,175.6	-174.6	1,560.4	1,451.7	108.76	14.348	
6,200.0	5,163.7	5,124.7	5,124.7	52.5	102.5	-177.38	-1,175.6	-174.6	1,609.0	1,496.4	112.64	14.285	
6,200.8	5,164.3	5,125.3	5,125.3	52.5	102.6	-177.38	-1,175.6	-174.6	1,609.4	1,496.7	112.67	14.284	
6,299.2	5,251.7	5,212.7	5,212.7	53.2	104.3	-177.51	-1,175.6	-174.6	1,654.6	1,538.2	116.46	14.208	
6,300.0	5,252.5	5,213.5	5,213.5	53.2	104.3	-177.51	-1,175.6	-174.6	1,655.0	1,538.5	116.49	14.207	
6,397.6	5,341.0	5,302.0	5,302.0	53.9	106.1	-177.62	-1,175.6	-174.6	1,696.1	1,575.9	120.12	14.119	
6,400.0	5,343.2	5,304.2	5,304.2	53.9	106.2	-177.62	-1,175.6	-174.6	1,697.0	1,576.8	120.21	14.117	
6,496.0	5,431.9	5,392.9	5,392.9	54.4	107.9	-177.71	-1,175.6	-174.6	1,733.6	1,610.0	123.64	14.021	
6,500.0	5,435.6	5,396.6	5,396.6	54.5	108.0	-177.71	-1,175.6	-174.6	1,735.1	1,611.3	123.78	14.017	
6,594.5	5,524.4	5,485.4	5,485.4	55.0	109.8	-177.79	-1,175.6	-174.6	1,767.3	1,640.3	127.00	13.915	
6,600.0	5,529.6	5,490.6	5,490.6	55.0	109.9	-177.79	-1,175.6	-174.6	1,769.1	1,641.9	127.19	13.909	
6,692.9	5,618.3	5,579.3	5,579.3	55.5	111.7	-177.85	-1,175.6	-174.6	1,796.9	1,666.8	130.19	13.803	
6,700.0	5,625.1	5,586.1	5,586.1	55.5	111.8	-177.86	-1,175.6	-174.6	1,798.9	1,668.5	130.41	13.794	
6,791.3	5,713.3	5,674.3	5,674.3	55.9	113.6	-177.91	-1,175.6	-174.6	1,822.5	1,689.4	133.18	13.685	
6,800.0	5,721.7	5,682.7	5,682.7	55.9	113.8	-177.91	-1,175.6	-174.6	1,824.6	1,691.2	133.44	13.674	
6,889.7	5,809.3	5,770.3	5,770.3	56.2	115.5	-177.95	-1,175.6	-174.6	1,844.0	1,708.1	135.97	13.562	
6,900.0	5,819.4	5,780.4	5,780.4	56.3	115.7	-177.96	-1,175.6	-174.6	1,846.0	1,709.8	136.25	13.549	
6,988.2	5,906.2	5,867.2	5,867.2	56.5	117.5	-177.99	-1,175.6	-174.6	1,861.4	1,722.8	138.54	13.435	
7,000.0	5,917.9	5,878.9	5,878.9	56.6	117.7	-177.99	-1,175.6	-174.6	1,863.2	1,724.3	138.84	13.420	
7,086.6	6,003.7	5,964.7	5,964.7	56.8	119.4	-178.01	-1,175.6	-174.6	1,874.6	1,733.7	140.88	13.306	
7,100.0	6,017.0	5,978.0	5,978.0	56.8	119.7	-178.02	-1,175.6	-174.6	1,876.0	1,734.8	141.18	13.288	
7,185.0	6,101.7	6,062.7	6,062.7	57.0	121.4	-178.03	-1,175.6	-174.6	1,883.5	1,740.6	142.97	13.174	
7,200.0	6,116.7	6,077.7	6,077.7	57.0	121.7	-178.03	-1,175.6	-174.6	1,884.5	1,741.3	143.27	13.154	
7,283.4	6,200.0	6,161.0	6,161.0	57.1	123.4	-178.04	-1,175.6	-174.6	1,888.3	1,743.5	144.80	13.041	
7,300.0	6,216.6	6,177.6	6,177.6	57.1	123.7	-178.04	-1,175.6	-174.6	1,888.7	1,743.6	145.09	13.018	
7,345.4	6,262.0	6,223.0	6,223.0	57.1	124.6	13.52	-1,175.6	-174.6	1,889.1	1,707.4	181.72	10.396	
7,375.4	6,292.0	6,253.0	6,253.0	57.1	125.2	13.52	-1,175.6	-174.6	1,889.1	1,706.8	182.34	10.361	
7,381.9	6,298.4	6,259.4	6,259.4	57.1	125.4	103.57	-1,175.6	-174.6	1,889.2	1,742.5	146.63	12.884	
7,400.0	6,316.6	6,277.6	6,277.6	57.1	125.7	103.57	-1,175.6	-174.6	1,889.3	1,742.2	147.10	12.843	

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 23
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 23	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	
7,450.0	6,366.4	6,327.4	6,327.4	57.2	126.7	103.60	-1,175.6	-174.6	1,890.3	1,741.9	148.36	12.741	
7,480.3	6,396.3	6,357.3	6,357.3	57.2	127.3	103.62	-1,175.6	-174.6	1,891.4	1,742.3	149.09	12.686	
7,500.0	6,415.6	6,376.6	6,376.6	57.2	127.7	103.65	-1,175.6	-174.6	1,892.4	1,742.8	149.55	12.654	
7,550.0	6,463.9	6,424.9	6,424.9	57.3	128.7	103.71	-1,175.6	-174.6	1,895.5	1,744.9	150.66	12.582	
7,578.7	6,491.1	6,452.1	6,452.1	57.4	129.2	103.74	-1,175.6	-174.6	1,897.8	1,746.6	151.26	12.547	
7,600.0	6,510.9	6,471.9	6,471.9	57.4	129.6	103.76	-1,175.6	-174.6	1,899.8	1,748.1	151.68	12.525	
7,650.0	6,556.2	6,517.2	6,517.2	57.5	130.6	103.78	-1,175.6	-174.6	1,905.3	1,752.7	152.64	12.482	
7,677.1	6,580.0	6,541.0	6,541.0	57.6	131.0	103.77	-1,175.6	-174.6	1,908.8	1,755.7	153.15	12.464	
7,700.0	6,599.5	6,560.5	6,560.5	57.6	131.4	103.75	-1,175.6	-174.6	1,912.1	1,758.6	153.56	12.452	
7,750.0	6,640.5	6,601.5	6,601.5	57.8	132.2	103.64	-1,175.6	-174.6	1,920.3	1,765.8	154.47	12.432	
7,775.6	6,660.4	6,621.4	6,621.4	57.8	132.6	103.54	-1,175.6	-174.6	1,925.0	1,770.1	154.95	12.424	
7,800.0	6,678.8	6,639.8	6,639.8	57.9	133.0	103.41	-1,175.6	-174.6	1,929.9	1,774.5	155.41	12.418	
7,850.0	6,714.1	6,675.1	6,675.1	58.1	133.7	103.03	-1,175.6	-174.6	1,941.1	1,784.6	156.45	12.407	
7,874.0	6,730.0	6,691.0	6,691.0	58.2	134.0	102.79	-1,175.6	-174.6	1,947.0	1,790.0	157.00	12.401	
7,900.0	6,746.3	6,707.3	6,707.3	58.3	134.4	102.48	-1,175.6	-174.6	1,953.8	1,796.2	157.63	12.395	
7,950.0	6,775.0	6,736.0	6,736.0	58.5	135.0	101.72	-1,175.6	-174.6	1,968.1	1,809.2	158.99	12.379	
7,972.4	6,786.7	6,747.7	6,747.7	58.6	135.2	101.30	-1,175.6	-174.6	1,975.1	1,815.4	159.67	12.370	
8,000.0	6,800.0	6,761.0	6,761.0	58.7	135.5	100.71	-1,175.6	-174.6	1,984.1	1,823.6	160.55	12.358	
8,050.0	6,821.2	6,782.2	6,782.2	59.0	135.9	99.44	-1,175.6	-174.6	2,001.7	1,839.4	162.27	12.335	
8,070.8	6,828.8	6,789.8	6,789.8	59.1	136.0	98.83	-1,175.6	-174.6	2,009.5	1,846.5	163.03	12.326	
8,100.0	6,838.3	6,799.3	6,799.3	59.3	136.2	97.88	-1,175.6	-174.6	2,020.8	1,856.8	164.08	12.316	
8,150.0	6,851.3	6,812.3	6,812.3	59.6	136.5	96.02	-1,175.6	-174.6	2,041.5	1,875.6	165.85	12.309	
8,169.3	6,855.2	6,816.2	6,816.2	59.7	136.6	95.22	-1,175.6	-174.6	2,049.8	1,883.3	166.48	12.312	
8,200.0	6,860.0	6,821.0	6,821.0	59.9	136.7	93.85	-1,175.6	-174.6	2,063.4	1,896.0	167.38	12.328	
8,250.0	6,864.4	6,825.4	6,825.4	60.3	136.8	91.37	-1,175.6	-174.6	2,086.6	1,918.1	168.46	12.386	
8,267.7	6,864.9	6,825.9	6,825.9	60.4	136.8	90.43	-1,175.6	-174.6	2,095.1	1,926.4	168.70	12.419	
8,275.5	6,865.0	6,826.0	6,826.0	60.4	136.8	90.00	-1,175.6	-174.6	2,098.8	1,930.0	168.78	12.436	
8,300.0	6,865.0	6,826.0	6,826.0	60.6	136.8	90.00	-1,175.6	-174.6	2,110.8	1,941.6	169.23	12.473	
8,366.1	6,865.0	6,826.0	6,826.0	61.1	136.8	90.00	-1,175.6	-174.6	2,144.2	1,973.6	170.53	12.574	
8,400.0	6,865.0	6,826.0	6,826.0	61.4	136.8	90.00	-1,175.6	-174.6	2,161.8	1,990.7	171.19	12.629	
8,464.5	6,865.0	6,826.0	6,826.0	62.0	136.8	90.00	-1,175.6	-174.6	2,196.6	2,024.1	172.52	12.732	
8,500.0	6,865.0	6,826.0	6,826.0	62.3	136.8	90.00	-1,175.6	-174.6	2,216.2	2,043.0	173.25	12.792	
8,563.0	6,865.0	6,826.0	6,826.0	62.9	136.8	90.00	-1,175.6	-174.6	2,252.1	2,077.5	174.61	12.898	
8,600.0	6,865.0	6,826.0	6,826.0	63.2	136.8	90.00	-1,175.6	-174.6	2,273.7	2,098.3	175.41	12.962	
8,661.4	6,865.0	6,826.0	6,826.0	63.9	136.8	90.00	-1,175.6	-174.6	2,310.5	2,133.7	176.78	13.069	
8,700.0	6,865.0	6,826.0	6,826.0	64.3	136.8	90.00	-1,175.6	-174.6	2,334.1	2,156.4	177.65	13.139	
8,759.8	6,865.0	6,826.0	6,826.0	64.9	136.8	90.00	-1,175.6	-174.6	2,371.5	2,192.4	179.03	13.246	
8,800.0	6,865.0	6,826.0	6,826.0	65.4	136.8	90.00	-1,175.6	-174.6	2,397.1	2,217.1	179.95	13.321	
8,858.2	6,865.0	6,826.0	6,826.0	66.1	136.8	90.00	-1,175.6	-174.6	2,434.9	2,253.6	181.33	13.428	
8,900.0	6,865.0	6,826.0	6,826.0	66.6	136.8	90.00	-1,175.6	-174.6	2,462.6	2,280.2	182.31	13.507	
8,956.7	6,865.0	6,826.0	6,826.0	67.4	136.8	90.00	-1,175.6	-174.6	2,500.7	2,317.0	183.68	13.614	
9,000.0	6,865.0	6,826.0	6,826.0	67.9	136.8	90.00	-1,175.6	-174.6	2,530.3	2,345.5	184.73	13.698	
9,055.1	6,865.0	6,826.0	6,826.0	68.7	136.8	90.00	-1,175.6	-174.6	2,568.5	2,382.4	186.08	13.803	
9,100.0	6,865.0	6,826.0	6,826.0	69.4	136.8	90.00	-1,175.6	-174.6	2,600.1	2,412.9	187.18	13.891	
9,153.5	6,865.0	6,826.0	6,826.0	70.1	136.8	90.00	-1,175.6	-174.6	2,638.2	2,449.7	188.51	13.995	
9,200.0	6,865.0	6,826.0	6,826.0	70.9	136.8	90.00	-1,175.6	-174.6	2,671.8	2,482.1	189.66	14.087	
9,251.9	6,865.0	6,826.0	6,826.0	71.7	136.8	90.00	-1,175.6	-174.6	2,709.8	2,518.8	190.97	14.189	
9,300.0	6,865.0	6,826.0	6,826.0	72.4	136.8	90.00	-1,175.6	-174.6	2,745.3	2,553.1	192.18	14.285	
9,350.4	6,865.0	6,826.0	6,826.0	73.3	136.8	90.00	-1,175.6	-174.6	2,782.9	2,589.5	193.46	14.385	
9,400.0	6,865.0	6,826.0	6,826.0	74.1	136.8	90.00	-1,175.6	-174.6	2,820.4	2,625.7	194.73	14.484	
9,448.8	6,865.0	6,826.0	6,826.0	74.9	136.8	90.00	-1,175.6	-174.6	2,857.6	2,661.7	195.98	14.581	
9,500.0	6,865.0	6,826.0	6,826.0	75.8	136.8	90.00	-1,175.6	-174.6	2,897.0	2,699.8	197.30	14.684	

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 23
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 23	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	
9,547.2	6,865.0	6,826.0	6,826.0	76.7	136.8	90.00	-1,175.6	-174.6	2,933.7	2,735.2	198.52	14.778	
9,600.0	6,865.0	6,826.0	6,826.0	77.7	136.8	90.00	-1,175.6	-174.6	2,975.1	2,775.2	199.88	14.884	
9,645.6	6,865.0	6,826.0	6,826.0	78.5	136.8	90.00	-1,175.6	-174.6	3,011.1	2,810.0	201.07	14.975	
9,700.0	6,865.0	6,826.0	6,826.0	79.6	136.8	90.00	-1,175.6	-174.6	3,054.4	2,851.9	202.49	15.084	
9,744.1	6,865.0	6,826.0	6,826.0	80.4	136.8	90.00	-1,175.6	-174.6	3,089.7	2,886.0	203.65	15.172	
9,800.0	6,865.0	6,826.0	6,826.0	81.5	136.8	90.00	-1,175.6	-174.6	3,134.8	2,929.7	205.11	15.283	
9,842.5	6,865.0	6,826.0	6,826.0	82.4	136.8	90.00	-1,175.6	-174.6	3,169.4	2,963.2	206.24	15.368	
9,900.0	6,865.0	6,826.0	6,826.0	83.5	136.8	90.00	-1,175.6	-174.6	3,216.4	3,008.7	207.75	15.482	
9,940.9	6,865.0	6,826.0	6,826.0	84.4	136.8	90.00	-1,175.6	-174.6	3,250.1	3,041.3	208.84	15.563	
10,000.0	6,865.0	6,826.0	6,826.0	85.6	136.8	90.00	-1,175.6	-174.6	3,299.0	3,088.6	210.40	15.680	
10,039.3	6,865.0	6,826.0	6,826.0	86.4	136.8	90.00	-1,175.6	-174.6	3,331.8	3,120.3	211.45	15.757	
10,100.0	6,865.0	6,826.0	6,826.0	87.7	136.8	90.00	-1,175.6	-174.6	3,382.5	3,169.5	213.06	15.876	
10,137.8	6,865.0	6,826.0	6,826.0	88.6	136.8	90.00	-1,175.6	-174.6	3,414.3	3,200.3	214.07	15.949	
10,200.0	6,865.0	6,826.0	6,826.0	89.9	136.8	90.00	-1,175.6	-174.6	3,467.0	3,251.2	215.74	16.070	
10,236.2	6,865.0	6,826.0	6,826.0	90.7	136.8	90.00	-1,175.6	-174.6	3,497.7	3,281.0	216.71	16.140	
10,300.0	6,865.0	6,826.0	6,826.0	92.1	136.8	90.00	-1,175.6	-174.6	3,552.2	3,333.7	218.42	16.263	
10,334.6	6,865.0	6,826.0	6,826.0	92.9	136.8	90.00	-1,175.6	-174.6	3,581.8	3,362.5	219.35	16.329	
10,400.0	6,865.0	6,826.0	6,826.0	94.4	136.8	90.00	-1,175.6	-174.6	3,638.1	3,417.0	221.11	16.454	
10,433.0	6,865.0	6,826.0	6,826.0	95.2	136.8	90.00	-1,175.6	-174.6	3,666.7	3,444.7	222.00	16.517	
10,500.0	6,865.0	6,826.0	6,826.0	96.7	136.8	90.00	-1,175.6	-174.6	3,724.8	3,501.0	223.80	16.643	
10,531.5	6,865.0	6,826.0	6,826.0	97.4	136.8	90.00	-1,175.6	-174.6	3,752.2	3,527.6	224.66	16.702	
10,600.0	6,865.0	6,826.0	6,826.0	99.0	136.8	90.00	-1,175.6	-174.6	3,812.1	3,585.6	226.51	16.830	
10,629.9	6,865.0	6,826.0	6,826.0	99.7	136.8	90.00	-1,175.6	-174.6	3,838.3	3,611.0	227.32	16.885	
10,700.0	6,865.0	6,826.0	6,826.0	101.4	136.8	90.00	-1,175.6	-174.6	3,900.0	3,670.8	229.22	17.015	
10,728.3	6,865.0	6,826.0	6,826.0	102.1	136.8	90.00	-1,175.6	-174.6	3,925.1	3,695.1	229.99	17.066	
10,800.0	6,865.0	6,826.0	6,826.0	103.8	136.8	90.00	-1,175.6	-174.6	3,988.5	3,756.6	231.94	17.197	
10,826.7	6,865.0	6,826.0	6,826.0	104.4	136.8	90.00	-1,175.6	-174.6	4,012.3	3,779.6	232.66	17.245	
10,900.0	6,865.0	6,826.0	6,826.0	106.2	136.8	90.00	-1,175.6	-174.6	4,077.6	3,842.9	234.66	17.377	
10,925.2	6,865.0	6,826.0	6,826.0	106.8	136.8	90.00	-1,175.6	-174.6	4,100.1	3,864.7	235.34	17.422	
11,000.0	6,865.0	6,826.0	6,826.0	108.6	136.8	90.00	-1,175.6	-174.6	4,167.1	3,929.7	237.38	17.554	
11,023.6	6,865.0	6,826.0	6,826.0	109.2	136.8	90.00	-1,175.6	-174.6	4,188.3	3,950.3	238.03	17.596	
11,100.0	6,865.0	6,826.0	6,826.0	111.1	136.8	90.00	-1,175.6	-174.6	4,257.1	4,017.0	240.11	17.729	
11,122.0	6,865.0	6,826.0	6,826.0	111.7	136.8	90.00	-1,175.6	-174.6	4,277.0	4,036.3	240.72	17.768	
11,200.0	6,865.0	6,826.0	6,826.0	113.6	136.8	90.00	-1,175.6	-174.6	4,347.5	4,104.7	242.85	17.902	
11,220.4	6,865.0	6,826.0	6,826.0	114.1	136.8	90.00	-1,175.6	-174.6	4,366.1	4,122.7	243.41	17.937	
11,300.0	6,865.0	6,826.0	6,826.0	116.1	136.8	90.00	-1,175.6	-174.6	4,438.4	4,192.8	245.59	18.072	
11,318.9	6,865.0	6,826.0	6,826.0	116.6	136.8	90.00	-1,175.6	-174.6	4,455.6	4,209.5	246.11	18.104	
11,400.0	6,865.0	6,826.0	6,826.0	118.6	136.8	90.00	-1,175.6	-174.6	4,529.6	4,281.3	248.33	18.240	
11,417.3	6,865.0	6,826.0	6,826.0	119.1	136.8	90.00	-1,175.6	-174.6	4,545.4	4,296.6	248.81	18.269	
11,500.0	6,865.0	6,826.0	6,826.0	121.2	136.8	90.00	-1,175.6	-174.6	4,621.2	4,370.1	251.08	18.406	
11,515.7	6,865.0	6,826.0	6,826.0	121.6	136.8	90.00	-1,175.6	-174.6	4,635.6	4,384.1	251.51	18.431	
11,600.0	6,865.0	6,826.0	6,826.0	123.7	136.8	90.00	-1,175.6	-174.6	4,713.1	4,459.3	253.82	18.568	
11,614.1	6,865.0	6,826.0	6,826.0	124.1	136.8	90.00	-1,175.6	-174.6	4,726.2	4,471.9	254.21	18.591	
11,700.0	6,865.0	6,826.0	6,826.0	126.3	136.8	90.00	-1,175.6	-174.6	4,805.4	4,548.8	256.58	18.729	
11,712.6	6,865.0	6,826.0	6,826.0	126.6	136.8	90.00	-1,175.6	-174.6	4,817.0	4,560.1	256.92	18.749	
11,800.0	6,865.0	6,826.0	6,826.0	128.8	136.8	90.00	-1,175.6	-174.6	4,897.9	4,638.6	259.33	18.887	
11,811.0	6,865.0	6,826.0	6,826.0	129.1	136.8	90.00	-1,175.6	-174.6	4,908.1	4,648.5	259.63	18.904	
11,900.0	6,865.0	6,826.0	6,826.0	131.4	136.8	90.00	-1,175.6	-174.6	4,990.8	4,728.7	262.09	19.042	
11,909.4	6,865.0	6,826.0	6,826.0	131.7	136.8	90.00	-1,175.6	-174.6	4,999.5	4,737.2	262.35	19.057	
12,000.0	6,865.0	6,826.0	6,826.0	134.0	136.8	90.00	-1,175.6	-174.6	5,083.9	4,819.0	264.85	19.196	
12,007.8	6,865.0	6,826.0	6,826.0	134.2	136.8	90.00	-1,175.6	-174.6	5,091.2	4,826.2	265.06	19.208	
12,100.0	6,865.0	6,826.0	6,826.0	136.6	136.8	90.00	-1,175.6	-174.6	5,177.3	4,909.7	267.61	19.346	

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 23
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 23	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	
12,106.3	6,865.0	6,826.0	6,826.0	136.8	136.8	90.00	-1,175.6	-174.6	5,183.1	4,915.4	267.78	19.356	
12,200.0	6,865.0	6,826.0	6,826.0	139.3	136.8	90.00	-1,175.6	-174.6	5,270.9	5,000.5	270.37	19.495	
12,204.7	6,865.0	6,826.0	6,826.0	139.4	136.8	90.00	-1,175.6	-174.6	5,275.3	5,004.8	270.50	19.502	
12,300.0	6,865.0	6,826.0	6,826.0	141.9	136.8	90.00	-1,175.6	-174.6	5,364.7	5,091.6	273.14	19.641	
12,303.1	6,865.0	6,826.0	6,826.0	142.0	136.8	90.00	-1,175.6	-174.6	5,367.7	5,094.4	273.22	19.646	
12,400.0	6,865.0	6,826.0	6,826.0	144.5	136.8	90.00	-1,175.6	-174.6	5,458.8	5,182.9	275.90	19.785	
12,401.5	6,865.0	6,826.0	6,826.0	144.6	136.8	90.00	-1,175.6	-174.6	5,460.3	5,184.3	275.95	19.787	
12,500.0	6,865.0	6,826.0	6,826.0	147.2	136.8	90.00	-1,175.6	-174.6	5,553.1	5,274.4	278.67	19.927	
12,598.4	6,865.0	6,826.0	6,826.0	149.8	136.8	90.00	-1,175.6	-174.6	5,646.0	5,364.6	281.40	20.064	
12,600.0	6,865.0	6,826.0	6,826.0	149.8	136.8	90.00	-1,175.6	-174.6	5,647.5	5,366.1	281.44	20.066	
12,696.8	6,865.0	6,826.0	6,826.0	152.4	136.8	90.00	-1,175.6	-174.6	5,739.2	5,455.1	284.13	20.199	
12,700.0	6,865.0	6,826.0	6,826.0	152.5	136.8	90.00	-1,175.6	-174.6	5,742.2	5,458.0	284.21	20.204	
12,795.2	6,865.0	6,826.0	6,826.0	155.0	136.8	90.00	-1,175.6	-174.6	5,832.5	5,545.7	286.86	20.333	
12,800.0	6,865.0	6,826.0	6,826.0	155.1	136.8	90.00	-1,175.6	-174.6	5,837.0	5,550.0	286.99	20.339	
12,893.7	6,865.0	6,826.0	6,826.0	157.6	136.8	90.00	-1,175.6	-174.6	5,926.0	5,636.4	289.59	20.464	
12,900.0	6,865.0	6,826.0	6,826.0	157.8	136.8	90.00	-1,175.6	-174.6	5,932.0	5,642.3	289.76	20.472	
12,992.1	6,865.0	6,826.0	6,826.0	160.3	136.8	90.00	-1,175.6	-174.6	6,019.7	5,727.4	292.32	20.593	
13,000.0	6,865.0	6,826.0	6,826.0	160.5	136.8	90.00	-1,175.6	-174.6	6,027.2	5,734.7	292.54	20.603	
13,090.5	6,865.0	6,826.0	6,826.0	162.9	136.8	90.00	-1,175.6	-174.6	6,113.5	5,818.4	295.05	20.720	
13,100.0	6,865.0	6,826.0	6,826.0	163.2	136.8	90.00	-1,175.6	-174.6	6,122.5	5,827.2	295.31	20.732	
13,188.9	6,865.0	6,826.0	6,826.0	165.5	136.8	90.00	-1,175.6	-174.6	6,207.4	5,909.7	297.79	20.845	
13,200.0	6,865.0	6,826.0	6,826.0	165.8	136.8	90.00	-1,175.6	-174.6	6,218.0	5,919.9	298.09	20.859	
13,287.4	6,865.0	6,826.0	6,826.0	168.2	136.8	90.00	-1,175.6	-174.6	6,301.5	6,001.0	300.52	20.969	
13,300.0	6,865.0	6,826.0	6,826.0	168.5	136.8	90.00	-1,175.6	-174.6	6,313.6	6,012.7	300.87	20.984	
13,385.8	6,865.0	6,826.0	6,826.0	170.8	136.8	90.00	-1,175.6	-174.6	6,395.7	6,092.5	303.26	21.090	
13,400.0	6,865.0	6,826.0	6,826.0	171.2	136.8	90.00	-1,175.6	-174.6	6,409.3	6,105.7	303.65	21.108	
13,484.2	6,865.0	6,826.0	6,826.0	173.5	136.8	90.00	-1,175.6	-174.6	6,490.1	6,184.1	305.99	21.210	
13,500.0	6,865.0	6,826.0	6,826.0	173.9	136.8	90.00	-1,175.6	-174.6	6,505.2	6,198.8	306.43	21.229	
13,582.6	6,865.0	6,826.0	6,826.0	176.2	136.8	90.00	-1,175.6	-174.6	6,584.5	6,275.8	308.73	21.328	
13,600.0	6,865.0	6,826.0	6,826.0	176.6	136.8	90.00	-1,175.6	-174.6	6,601.2	6,292.0	309.22	21.348	
13,681.1	6,865.0	6,826.0	6,826.0	178.8	136.8	90.00	-1,175.6	-174.6	6,679.1	6,367.6	311.47	21.444	
13,700.0	6,865.0	6,826.0	6,826.0	179.3	136.8	90.00	-1,175.6	-174.6	6,697.3	6,385.3	312.00	21.466	
13,779.5	6,865.0	6,826.0	6,826.0	181.5	136.8	90.00	-1,175.6	-174.6	6,773.8	6,459.6	314.21	21.558	
13,800.0	6,865.0	6,826.0	6,826.0	182.0	136.8	90.00	-1,175.6	-174.6	6,793.5	6,478.8	314.78	21.582	
13,877.9	6,865.0	6,826.0	6,826.0	184.2	136.8	90.00	-1,175.6	-174.6	6,868.6	6,551.6	316.95	21.671	
13,900.0	6,865.0	6,826.0	6,826.0	184.8	136.8	90.00	-1,175.6	-174.6	6,889.9	6,572.3	317.57	21.696	
13,976.3	6,865.0	6,826.0	6,826.0	186.8	136.8	90.00	-1,175.6	-174.6	6,963.5	6,643.8	319.69	21.782	
14,000.0	6,865.0	6,826.0	6,826.0	187.5	136.8	90.00	-1,175.6	-174.6	6,986.3	6,666.0	320.35	21.808	
14,074.8	6,865.0	6,826.0	6,826.0	189.5	136.8	90.00	-1,175.6	-174.6	7,058.5	6,736.0	322.44	21.891	
14,100.0	6,865.0	6,826.0	6,826.0	190.2	136.8	90.00	-1,175.6	-174.6	7,082.8	6,759.7	323.14	21.919	
14,173.2	6,865.0	6,826.0	6,826.0	192.2	136.8	90.00	-1,175.6	-174.6	7,153.6	6,828.4	325.18	21.999	
14,200.0	6,865.0	6,826.0	6,826.0	192.9	136.8	90.00	-1,175.6	-174.6	7,179.5	6,853.5	325.93	22.028	
14,271.6	6,865.0	6,826.0	6,826.0	194.9	136.8	90.00	-1,175.6	-174.6	7,248.7	6,920.8	327.92	22.105	
14,300.0	6,865.0	6,826.0	6,826.0	195.6	136.8	90.00	-1,175.6	-174.6	7,276.2	6,947.5	328.71	22.135	
14,370.0	6,865.0	6,826.0	6,826.0	197.6	136.8	90.00	-1,175.6	-174.6	7,344.0	7,013.3	330.67	22.210	
14,400.0	6,865.0	6,826.0	6,826.0	198.4	136.8	90.00	-1,175.6	-174.6	7,373.0	7,041.5	331.50	22.241	
14,468.5	6,865.0	6,826.0	6,826.0	200.2	136.8	90.00	-1,175.6	-174.6	7,439.3	7,105.9	333.41	22.313	
14,500.0	6,865.0	6,826.0	6,826.0	201.1	136.8	90.00	-1,175.6	-174.6	7,469.9	7,135.6	334.29	22.345	
14,566.9	6,865.0	6,826.0	6,826.0	202.9	136.8	90.00	-1,175.6	-174.6	7,534.7	7,198.6	336.16	22.414	
14,600.0	6,865.0	6,826.0	6,826.0	203.8	136.8	90.00	-1,175.6	-174.6	7,566.8	7,229.8	337.08	22.448	
14,665.3	6,865.0	6,826.0	6,826.0	205.6	136.8	90.00	-1,175.6	-174.6	7,630.2	7,291.3	338.90	22.515	
14,700.0	6,865.0	6,826.0	6,826.0	206.6	136.8	90.00	-1,175.6	-174.6	7,663.9	7,324.0	339.87	22.549	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 23
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 23	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
14,763.7	6,865.0	6,826.0	6,826.0	208.3	136.8	90.00	-1,175.6	-174.6	7,725.8	7,384.2	341.65	22.613	
14,800.0	6,865.0	6,826.0	6,826.0	209.3	136.8	90.00	-1,175.6	-174.6	7,761.0	7,418.4	342.66	22.649	
14,862.2	6,865.0	6,826.0	6,826.0	211.0	136.8	90.00	-1,175.6	-174.6	7,821.4	7,477.0	344.40	22.711	
14,900.0	6,865.0	6,826.0	6,826.0	212.0	136.8	90.00	-1,175.6	-174.6	7,858.2	7,512.8	345.45	22.748	
14,960.6	6,865.0	6,826.0	6,826.0	213.7	136.8	90.00	-1,175.6	-174.6	7,917.1	7,570.0	347.14	22.807	
15,000.0	6,865.0	6,826.0	6,826.0	214.8	136.8	90.00	-1,175.6	-174.6	7,955.5	7,607.2	348.24	22.845	
15,059.0	6,865.0	6,826.0	6,826.0	216.4	136.8	90.00	-1,175.6	-174.6	8,012.9	7,663.0	349.89	22.901	
15,100.0	6,865.0	6,826.0	6,826.0	217.5	136.8	90.00	-1,175.6	-174.6	8,052.8	7,701.8	351.04	22.940	
15,157.4	6,865.0	6,826.0	6,826.0	219.1	136.8	90.00	-1,175.6	-174.6	8,108.8	7,756.1	352.64	22.994	
15,200.0	6,865.0	6,826.0	6,826.0	220.3	136.8	90.00	-1,175.6	-174.6	8,150.2	7,796.4	353.83	23.034	
15,255.9	6,865.0	6,826.0	6,826.0	221.8	136.8	90.00	-1,175.6	-174.6	8,204.7	7,849.3	355.39	23.086	
15,300.0	6,865.0	6,826.0	6,826.0	223.0	136.8	90.00	-1,175.6	-174.6	8,247.7	7,891.0	356.62	23.127	
15,354.3	6,865.0	6,826.0	6,826.0	224.5	136.8	90.00	-1,175.6	-174.6	8,300.6	7,942.5	358.14	23.177	
15,400.0	6,865.0	6,826.0	6,826.0	225.8	136.8	90.00	-1,175.6	-174.6	8,345.2	7,985.8	359.42	23.219	
15,452.7	6,865.0	6,826.0	6,826.0	227.2	136.8	90.00	-1,175.6	-174.6	8,396.6	8,035.7	360.89	23.267	
15,500.0	6,865.0	6,826.0	6,826.0	228.5	136.8	90.00	-1,175.6	-174.6	8,442.8	8,080.6	362.21	23.309	
15,551.1	6,865.0	6,826.0	6,826.0	229.9	136.8	90.00	-1,175.6	-174.6	8,492.7	8,129.1	363.64	23.355	
15,600.0	6,865.0	6,826.0	6,826.0	231.3	136.8	90.00	-1,175.6	-174.6	8,540.4	8,175.4	365.00	23.398	
15,649.6	6,865.0	6,826.0	6,826.0	232.6	136.8	90.00	-1,175.6	-174.6	8,588.8	8,222.4	366.39	23.442	
15,700.0	6,865.0	6,826.0	6,826.0	234.0	136.8	90.00	-1,175.6	-174.6	8,638.1	8,270.3	367.80	23.486	
15,748.0	6,865.0	6,826.0	6,826.0	235.4	136.8	90.00	-1,175.6	-174.6	8,685.0	8,315.9	369.14	23.528	
15,800.0	6,865.0	6,826.0	6,826.0	236.8	136.8	90.00	-1,175.6	-174.6	8,735.8	8,365.2	370.59	23.573	
15,846.4	6,865.0	6,826.0	6,826.0	238.1	136.8	90.00	-1,175.6	-174.6	8,781.2	8,409.3	371.89	23.612	
15,900.0	6,865.0	6,826.0	6,826.0	239.5	136.8	90.00	-1,175.6	-174.6	8,833.6	8,460.2	373.39	23.658	
15,944.8	6,865.0	6,826.0	6,826.0	240.8	136.8	90.00	-1,175.6	-174.6	8,877.5	8,502.8	374.64	23.696	
16,000.0	6,865.0	6,826.0	6,826.0	242.3	136.8	90.00	-1,175.6	-174.6	8,931.5	8,555.3	376.18	23.742	
16,043.3	6,865.0	6,826.0	6,826.0	243.5	136.8	90.00	-1,175.6	-174.6	8,973.8	8,596.4	377.39	23.778	
16,069.4	6,865.0	6,826.0	6,826.0	244.2	136.8	90.00	-1,175.6	-174.6	8,999.3	8,621.2	378.12	23.800	

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 23
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 23	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	-78.92	25.2	-128.4	132.1				
98.4	98.4	81.1	81.1	0.1	0.0	-78.95	25.0	-128.2	130.6	130.5	0.14	930.655	
100.0	100.0	82.7	82.7	0.1	0.0	-78.95	25.0	-128.2	130.6	130.5	0.14	913.001	
196.8	196.8	179.7	179.7	0.3	0.2	-79.04	24.7	-127.6	130.0	129.5	0.50	260.127	
200.0	200.0	182.9	182.9	0.3	0.2	-79.05	24.7	-127.6	129.9	129.4	0.51	253.902	
295.3	295.3	277.7	277.6	0.5	0.3	-79.19	24.3	-127.2	129.5	128.6	0.81	159.624	
300.0	300.0	282.3	282.3	0.5	0.3	-79.20	24.3	-127.1	129.4	128.6	0.83	156.882	
365.1	365.1	347.1	347.1	0.7	0.3	-79.34	23.9	-127.1	129.4	128.3	1.01	127.718 CC	
393.7	393.7	375.6	375.6	0.8	0.3	-79.42	23.8	-127.2	129.4	128.3	1.09	118.207	
400.0	400.0	381.8	381.8	0.8	0.4	-79.44	23.7	-127.2	129.4	128.3	1.11	116.305	
492.1	492.1	473.8	473.8	1.0	0.4	-79.72	23.1	-127.5	129.6	128.2	1.37	94.505 ES	
500.0	500.0	481.6	481.6	1.0	0.4	-79.74	23.1	-127.5	129.6	128.2	1.39	93.026	
590.5	590.5	572.0	572.0	1.2	0.5	-79.98	22.6	-128.0	129.9	128.3	1.64	79.124	
600.0	600.0	581.4	581.4	1.2	0.5	-80.01	22.6	-128.0	130.0	128.3	1.67	77.922	
689.0	689.0	670.4	670.4	1.4	0.5	-80.23	22.1	-128.5	130.4	128.5	1.91	68.286	
700.0	700.0	681.5	681.5	1.4	0.5	-80.26	22.1	-128.5	130.4	128.5	1.94	67.259	
787.4	787.4	768.8	768.8	1.6	0.6	-80.51	21.6	-129.0	130.8	128.6	2.17	60.176	
800.0	800.0	781.4	781.3	1.7	0.6	-80.55	21.5	-129.1	130.9	128.6	2.21	59.284	
885.8	885.8	867.2	867.2	1.9	0.6	-80.76	21.1	-129.6	131.3	128.9	2.44	53.900	
900.0	900.0	881.4	881.3	1.9	0.6	-80.80	21.0	-129.7	131.4	128.9	2.47	53.107	
984.2	984.2	965.4	965.4	2.1	0.6	-80.94	20.8	-130.2	131.8	129.1	2.70	48.896	
1,000.0	1,000.0	981.1	981.1	2.1	0.7	-80.96	20.7	-130.3	132.0	129.2	2.74	48.193	
1,082.7	1,082.7	1,063.5	1,063.5	2.3	0.7	-81.04	20.7	-131.0	132.6	129.7	2.96	44.855	
1,100.0	1,100.0	1,080.8	1,080.8	2.3	0.7	-81.05	20.7	-131.1	132.8	129.8	3.00	44.222	
1,181.1	1,181.1	1,161.7	1,161.7	2.5	0.7	-81.06	20.8	-131.9	133.6	130.3	3.22	41.529	
1,200.0	1,200.0	1,180.6	1,180.5	2.6	0.7	-81.06	20.8	-132.1	133.8	130.5	3.27	40.958	
1,279.5	1,279.5	1,259.9	1,259.9	2.7	0.8	87.90	21.1	-133.0	134.7	131.2	3.44	39.128	
1,300.0	1,300.0	1,280.3	1,280.3	2.8	0.8	88.21	21.2	-133.3	134.9	131.4	3.49	38.665	
1,377.9	1,377.8	1,358.0	1,358.0	2.9	0.8	90.02	22.0	-134.2	135.9	132.2	3.65	37.226	
1,400.0	1,399.8	1,380.0	1,379.9	2.9	0.8	90.73	22.3	-134.4	136.2	132.5	3.69	36.855	
1,476.4	1,475.9	1,456.4	1,456.3	3.1	0.8	93.88	23.7	-135.1	137.4	133.6	3.86	35.606	
1,500.0	1,499.5	1,480.0	1,479.9	3.1	0.8	95.06	24.3	-135.2	137.9	134.0	3.91	35.259	
1,574.8	1,573.7	1,554.5	1,554.4	3.3	0.8	99.36	26.3	-135.4	139.8	135.7	4.09	34.198	
1,601.3	1,600.0	1,580.9	1,580.8	3.3	0.8	101.04	27.0	-135.3	140.7	136.5	4.15	33.890	
1,666.3	1,664.4	1,645.3	1,645.2	3.5	0.8	105.25	28.7	-135.1	143.3	139.0	4.32	33.150	
1,673.2	1,671.2	1,652.2	1,652.0	3.5	0.8	105.69	28.9	-135.0	143.6	139.3	4.34	33.078	
1,700.0	1,697.7	1,678.6	1,678.5	3.6	0.9	107.46	29.7	-134.9	145.0	140.6	4.41	32.838	
1,771.6	1,768.3	1,749.3	1,749.1	3.8	0.9	112.55	31.8	-134.2	149.8	145.2	4.62	32.429	
1,800.0	1,796.1	1,777.1	1,776.9	3.8	0.9	114.67	32.6	-133.9	152.2	147.5	4.70	32.393 SF	
1,870.1	1,864.6	1,845.8	1,845.6	4.1	0.9	120.05	34.6	-133.0	159.7	154.8	4.92	32.453	
1,900.0	1,893.7	1,875.0	1,874.8	4.2	0.9	122.38	35.4	-132.5	163.6	158.6	5.01	32.629	
1,968.5	1,959.9	1,941.2	1,940.9	4.4	0.9	127.63	37.1	-131.1	174.2	169.0	5.25	33.200	
2,000.0	1,990.2	1,971.3	1,971.0	4.5	0.9	129.99	38.0	-130.3	180.0	174.6	5.35	33.640	
2,066.9	2,054.2	2,035.3	2,035.0	4.8	0.9	134.87	39.8	-128.5	194.1	188.6	5.59	34.761	
2,100.0	2,085.5	2,067.0	2,066.6	5.0	0.9	137.18	40.6	-127.5	202.0	196.4	5.69	35.482	
2,165.3	2,147.1	2,128.9	2,128.5	5.3	0.9	141.43	42.0	-125.3	219.4	213.5	5.93	37.015	
2,200.0	2,179.4	2,161.4	2,160.9	5.5	1.0	143.52	42.6	-124.1	229.5	223.5	6.04	38.018	
2,263.8	2,238.5	2,220.6	2,220.1	5.9	1.0	147.04	43.6	-121.7	249.9	243.7	6.26	39.942	
2,300.0	2,271.7	2,253.8	2,253.3	6.1	1.0	148.87	44.1	-120.4	262.5	256.1	6.38	41.141	
2,362.2	2,328.3	2,310.5	2,309.9	6.5	1.0	151.72	44.9	-118.1	285.6	279.0	6.60	43.299	
2,400.0	2,362.3	2,344.8	2,344.1	6.8	1.0	153.30	45.2	-116.7	300.6	293.8	6.72	44.712	
2,460.6	2,416.2	2,399.2	2,398.5	7.3	1.0	155.62	45.7	-114.4	326.0	319.1	6.93	47.015	

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 23
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 23	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,500.0	2,450.9	2,433.5	2,432.8	7.6	1.0	156.96	45.9	-112.9	343.4	336.4	7.07	48.584	
2,559.0	2,502.2	2,484.4	2,483.6	8.1	1.0	158.79	46.3	-110.7	371.0	363.7	7.28	50.954	
2,600.0	2,537.4	2,519.0	2,518.2	8.4	1.0	159.93	46.5	-109.2	391.0	383.6	7.43	52.661	
2,657.5	2,586.0	2,566.8	2,566.0	9.0	1.0	161.37	46.9	-107.0	420.5	412.9	7.64	55.035	
2,700.0	2,621.6	2,601.7	2,600.8	9.4	1.0	162.34	47.2	-105.5	443.3	435.5	7.80	56.848	
2,755.9	2,667.6	2,647.5	2,646.6	9.9	1.1	163.52	47.6	-103.5	474.3	466.3	8.01	59.201	
2,800.0	2,703.4	2,683.1	2,682.1	10.4	1.1	164.36	47.8	-101.8	499.7	491.5	8.18	61.096	
2,854.3	2,746.7	2,725.9	2,724.9	11.0	1.1	165.30	48.2	-99.9	532.0	523.6	8.39	63.371	
2,900.0	2,782.6	2,761.1	2,760.0	11.4	1.1	166.00	48.4	-98.3	560.0	551.4	8.57	65.310	
2,952.7	2,823.3	2,800.9	2,799.8	12.1	1.1	166.74	48.7	-96.5	593.4	584.6	8.79	67.487	
3,000.0	2,859.0	2,835.9	2,834.8	12.6	1.1	167.33	49.0	-95.0	624.1	615.1	8.99	69.445	
3,051.2	2,897.1	2,873.1	2,871.9	13.2	1.1	167.91	49.3	-93.4	658.3	649.1	9.21	71.496	
3,100.0	2,932.6	2,908.2	2,907.0	13.8	1.1	168.41	49.6	-92.0	691.8	682.4	9.42	73.469	
3,149.6	2,968.0	2,944.2	2,942.9	14.5	1.1	168.89	49.9	-90.6	726.6	716.9	9.63	75.419	
3,173.3	2,984.7	2,961.1	2,959.9	14.8	1.1	169.11	50.1	-89.9	743.5	733.7	9.74	76.354	
3,200.0	3,003.3	2,980.2	2,978.9	15.1	1.1	169.46	50.2	-89.2	762.6	752.7	9.86	77.328	
3,248.0	3,036.8	3,013.6	3,012.3	15.7	1.1	170.05	50.3	-87.8	796.9	786.8	10.09	78.990	
3,300.0	3,073.1	3,048.4	3,047.1	16.4	1.2	170.60	50.5	-86.5	834.2	823.8	10.34	80.681	
3,346.4	3,105.6	3,079.5	3,078.2	17.0	1.2	171.05	50.7	-85.4	867.6	857.0	10.57	82.099	
3,400.0	3,143.0	3,116.2	3,114.8	17.7	1.2	171.53	51.0	-84.1	906.1	895.3	10.83	83.649	
3,444.9	3,174.3	3,147.8	3,146.4	18.3	1.2	171.91	51.3	-83.1	938.4	927.3	11.06	84.863	
3,500.0	3,212.8	3,186.7	3,185.3	19.1	1.2	172.34	51.5	-81.9	978.0	966.7	11.34	86.272	
3,543.3	3,243.0	3,218.3	3,216.9	19.7	1.2	172.65	51.7	-81.0	1,009.2	997.6	11.56	87.316	
3,600.0	3,282.6	3,260.8	3,259.3	20.4	1.2	173.05	51.9	-79.9	1,049.9	1,038.0	11.85	88.612	
3,641.7	3,311.8	3,292.2	3,290.8	21.0	1.2	173.32	51.9	-79.0	1,079.7	1,067.7	12.06	89.501	
3,700.0	3,352.5	3,334.6	3,333.2	21.7	1.2	173.65	51.8	-78.0	1,121.4	1,109.0	12.37	90.672	
3,740.1	3,380.5	3,363.7	3,362.2	22.3	1.2	173.87	51.8	-77.3	1,150.1	1,137.5	12.58	91.427	
3,800.0	3,422.3	3,406.9	3,405.5	23.1	1.2	174.16	51.6	-76.2	1,192.8	1,179.9	12.90	92.492	
3,838.6	3,449.3	3,434.4	3,432.9	23.6	1.2	174.34	51.5	-75.6	1,220.3	1,207.2	13.10	93.131	
3,900.0	3,492.2	3,478.1	3,476.6	24.4	1.3	174.60	51.3	-74.7	1,264.1	1,250.6	13.43	94.100	
3,937.0	3,518.0	3,504.4	3,502.9	24.9	1.3	174.75	51.2	-74.1	1,290.4	1,276.8	13.63	94.650	
4,000.0	3,562.0	3,548.2	3,546.7	25.8	1.3	174.98	51.0	-73.2	1,335.4	1,321.4	13.98	95.537	
4,035.4	3,586.7	3,572.8	3,571.3	26.3	1.3	175.10	50.8	-72.7	1,360.6	1,346.4	14.17	96.011	
4,100.0	3,631.8	3,619.0	3,617.5	27.1	1.3	175.33	50.6	-71.7	1,406.7	1,392.1	14.53	96.839	
4,133.8	3,655.5	3,644.4	3,642.9	27.6	1.3	175.45	50.4	-71.1	1,430.8	1,416.1	14.71	97.245	
4,200.0	3,701.7	3,694.1	3,692.6	28.5	1.3	175.67	50.0	-69.9	1,477.8	1,462.7	15.08	98.003	
4,232.3	3,724.2	3,716.8	3,715.3	28.9	1.3	175.77	49.8	-69.4	1,500.7	1,485.5	15.26	98.354	
4,300.0	3,771.5	3,763.2	3,761.6	29.9	1.3	175.96	49.4	-68.2	1,548.9	1,533.3	15.64	99.064	
4,330.7	3,793.0	3,784.2	3,782.6	30.3	1.3	176.04	49.2	-67.6	1,570.7	1,554.9	15.81	99.372	
4,400.0	3,841.4	3,831.4	3,829.8	31.2	1.3	176.23	48.7	-66.4	1,620.1	1,603.9	16.20	100.033	
4,429.1	3,861.7	3,851.2	3,849.6	31.6	1.4	176.30	48.6	-65.8	1,640.8	1,624.4	16.36	100.296	
4,500.0	3,911.2	3,900.0	3,898.4	32.6	1.4	176.48	48.2	-64.5	1,691.3	1,674.6	16.76	100.914	
4,527.5	3,930.4	3,917.1	3,915.4	32.9	1.4	176.54	48.1	-64.0	1,711.0	1,694.1	16.92	101.143	
4,600.0	3,981.0	3,963.4	3,961.7	33.9	1.4	176.68	47.9	-62.9	1,762.8	1,745.4	17.33	101.732	
4,626.0	3,999.2	3,979.9	3,978.3	34.3	1.4	176.73	47.9	-62.6	1,781.4	1,763.9	17.48	101.932	
4,700.0	4,050.9	4,027.0	4,025.3	35.3	1.4	176.85	47.9	-61.9	1,834.5	1,816.6	17.90	102.480	
4,724.4	4,067.9	4,042.4	4,040.8	35.6	1.4	176.88	47.9	-61.7	1,852.0	1,833.9	18.04	102.654	
4,800.0	4,120.7	4,090.1	4,088.5	36.7	1.4	176.98	48.2	-61.3	1,906.4	1,887.9	18.48	103.173	
4,822.8	4,136.6	4,105.1	4,103.4	37.0	1.4	177.00	48.3	-61.2	1,922.8	1,904.2	18.61	103.323	
4,900.0	4,190.5	4,159.5	4,157.8	38.0	1.4	177.09	48.7	-61.2	1,978.4	1,959.4	19.06	103.800	
4,921.2	4,205.4	4,174.5	4,172.8	38.3	1.4	177.11	48.8	-61.2	1,993.7	1,974.6	19.18	103.926	
5,000.0	4,260.4	4,229.2	4,227.5	39.4	1.4	177.18	49.2	-61.4	2,050.5	2,030.8	19.65	104.376	

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 23
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 23	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,019.7	4,274.1	4,242.6	4,241.0	39.6	1.4	177.19	49.3	-61.5	2,064.6	2,044.9	19.76	104.485		
5,100.0	4,330.2	4,297.7	4,296.0	40.7	1.4	177.25	49.8	-61.7	2,122.5	2,102.3	20.23	104.915		
5,118.1	4,342.9	4,310.1	4,308.5	41.0	1.4	177.27	49.9	-61.8	2,135.6	2,115.2	20.34	105.007		
5,200.0	4,400.1	4,366.5	4,364.8	42.1	1.4	177.33	50.4	-62.1	2,194.6	2,173.8	20.82	105.410		
5,216.5	4,411.6	4,377.8	4,376.2	42.3	1.4	177.34	50.5	-62.2	2,206.5	2,185.6	20.92	105.489		
5,300.0	4,469.9	4,436.6	4,435.0	43.5	1.5	177.39	51.0	-62.5	2,266.7	2,245.3	21.41	105.868		
5,314.9	4,480.3	4,447.3	4,445.7	43.7	1.5	177.40	51.1	-62.6	2,277.4	2,255.9	21.50	105.932		
5,400.0	4,539.7	4,508.3	4,506.6	44.8	1.5	177.46	51.6	-63.0	2,338.7	2,316.7	22.00	106.285		
5,413.4	4,549.1	4,518.0	4,516.4	45.0	1.5	177.46	51.7	-63.1	2,348.3	2,326.2	22.08	106.338		
5,500.0	4,609.6	4,581.1	4,579.4	46.2	1.5	177.52	52.1	-63.5	2,410.6	2,388.0	22.60	106.667		
5,511.8	4,617.8	4,589.7	4,588.0	46.4	1.5	177.52	52.2	-63.5	2,419.1	2,396.4	22.67	106.711		
5,517.3	4,621.7	4,593.8	4,592.1	46.4	1.5	177.53	52.2	-63.6	2,423.1	2,400.4	22.70	106.731		
5,600.0	4,680.5	4,654.6	4,653.0	47.4	1.5	177.66	52.5	-63.9	2,481.4	2,458.3	23.17	107.120		
5,610.2	4,687.9	4,662.3	4,660.6	47.5	1.5	177.67	52.6	-64.0	2,488.5	2,465.3	23.22	107.179		
5,700.0	4,754.3	4,730.0	4,728.3	48.3	1.5	177.80	52.9	-64.3	2,549.1	2,525.4	23.67	107.713		
5,708.6	4,760.9	4,736.5	4,734.8	48.4	1.5	177.81	52.9	-64.3	2,554.8	2,531.0	23.70	107.773		
5,800.0	4,831.1	4,806.3	4,804.6	49.3	1.5	177.92	53.2	-64.7	2,613.4	2,589.3	24.11	108.417		
5,807.1	4,836.6	4,811.8	4,810.1	49.3	1.5	177.93	53.2	-64.7	2,617.8	2,593.7	24.13	108.473		
5,900.0	4,910.5	4,884.2	4,882.5	50.1	1.5	178.02	53.5	-64.9	2,674.4	2,649.9	24.48	109.232		
5,905.5	4,915.0	4,888.5	4,886.9	50.2	1.5	178.03	53.5	-64.9	2,677.6	2,653.1	24.50	109.283		
6,000.0	4,992.5	4,966.5	4,964.8	51.0	1.5	178.12	53.8	-65.0	2,731.8	2,707.0	24.80	110.160		
6,003.9	4,995.8	4,969.8	4,968.1	51.0	1.5	178.12	53.8	-65.0	2,734.0	2,709.2	24.81	110.201		
6,100.0	5,077.0	5,054.2	5,052.5	51.8	1.5	178.21	54.1	-64.8	2,785.6	2,760.6	25.05	111.209		
6,102.3	5,079.0	5,056.3	5,054.7	51.8	1.5	178.21	54.1	-64.8	2,786.8	2,761.8	25.05	111.236		
6,200.0	5,163.7	5,144.8	5,143.1	52.5	1.6	178.30	54.1	-64.4	2,835.6	2,810.3	25.23	112.388		
6,200.8	5,164.3	5,145.5	5,143.9	52.5	1.6	178.30	54.1	-64.4	2,835.9	2,810.7	25.23	112.398		
6,299.2	5,251.7	5,234.0	5,232.3	53.2	1.6	178.37	54.1	-63.8	2,881.2	2,855.9	25.34	113.698		
6,300.0	5,252.5	5,234.7	5,233.0	53.2	1.6	178.37	54.1	-63.8	2,881.6	2,856.2	25.34	113.709		
6,397.6	5,341.0	5,320.2	5,318.5	53.9	1.6	178.44	54.0	-63.0	2,922.8	2,897.4	25.38	115.147		
6,400.0	5,343.2	5,322.2	5,320.5	53.9	1.6	178.45	54.0	-63.0	2,923.7	2,898.3	25.38	115.183		
6,496.0	5,431.9	5,400.0	5,398.3	54.4	1.6	178.51	54.1	-62.3	2,960.6	2,935.3	25.36	116.761		
6,500.0	5,435.6	5,406.7	5,405.0	54.5	1.6	178.51	54.1	-62.2	2,962.1	2,936.7	25.36	116.818		
6,594.5	5,524.4	5,486.6	5,484.9	55.0	1.6	178.56	54.4	-61.5	2,994.8	2,969.5	25.27	118.511		
6,600.0	5,529.6	5,491.3	5,489.6	55.0	1.6	178.56	54.5	-61.4	2,996.6	2,971.4	25.26	118.612		
6,692.9	5,618.3	5,579.6	5,577.9	55.5	1.7	178.61	55.0	-60.7	3,025.2	3,000.0	25.12	120.413		
6,700.0	5,625.1	5,586.5	5,584.8	55.5	1.7	178.61	55.1	-60.7	3,027.2	3,002.1	25.11	120.552		
6,791.3	5,713.3	5,685.0	5,683.3	55.9	1.7	178.66	55.4	-59.5	3,051.3	3,026.4	24.91	122.472		
6,800.0	5,721.7	5,694.6	5,692.9	55.9	1.7	178.66	55.4	-59.4	3,053.4	3,028.5	24.89	122.656		
6,889.7	5,809.3	5,787.6	5,785.9	56.2	1.7	178.71	55.4	-57.7	3,073.1	3,048.5	24.64	124.703		
6,900.0	5,819.4	5,798.3	5,796.5	56.3	1.7	178.72	55.4	-57.5	3,075.1	3,050.5	24.61	124.938		
6,988.2	5,906.2	5,900.0	5,898.3	56.5	1.7	178.77	54.9	-55.8	3,090.4	3,066.1	24.32	127.078		
7,000.0	5,917.9	5,913.2	5,911.4	56.6	1.7	178.77	54.8	-55.6	3,092.1	3,067.9	24.28	127.365		
7,086.6	6,003.7	5,995.5	5,993.7	56.8	1.8	178.81	54.4	-54.4	3,103.2	3,079.3	23.94	129.601		
7,100.0	6,017.0	6,009.3	6,007.5	56.8	1.8	178.81	54.3	-54.2	3,104.7	3,080.8	23.89	129.945		
7,185.0	6,101.7	6,100.0	6,098.2	57.0	1.8	178.84	53.7	-53.1	3,111.9	3,088.3	23.54	132.223		
7,200.0	6,116.7	6,114.6	6,112.9	57.0	1.8	178.85	53.6	-52.9	3,112.8	3,089.3	23.47	132.619		
7,283.4	6,200.0	6,192.9	6,191.2	57.1	1.8	178.87	53.2	-52.0	3,116.3	3,093.2	23.10	134.918		
7,300.0	6,216.6	6,208.1	6,206.3	57.1	1.8	178.87	53.1	-51.9	3,116.6	3,093.6	23.02	135.364		
7,345.4	6,262.0	6,249.0	6,247.2	57.1	1.8	10.44	53.0	-51.5	3,117.0	3,058.1	58.86	52.955		
7,375.4	6,292.0	6,276.0	6,274.3	57.1	1.8	10.45	52.9	-51.2	3,117.0	3,058.1	58.88	52.936		
7,375.7	6,292.2	6,276.2	6,274.5	57.1	1.8	10.45	52.9	-51.2	3,117.0	3,058.1	58.88	52.936		
7,381.9	6,298.4	6,281.8	6,280.1	57.1	1.8	100.49	52.9	-51.1	3,117.0	3,094.1	22.89	136.186		

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 23
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 23	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		
7,400.0	6,316.6	6,300.0	6,298.2	57.1	1.8	100.49	52.8	-50.9	3,117.1	3,094.1	22.99	135.592		
7,450.0	6,366.4	6,348.4	6,346.6	57.2	1.8	100.50	52.8	-50.4	3,117.9	3,094.6	23.28	133.946		
7,480.3	6,396.3	6,378.6	6,376.9	57.2	1.8	100.50	52.7	-50.1	3,118.8	3,095.3	23.46	132.941		
7,500.0	6,415.6	6,398.2	6,396.4	57.2	1.8	100.50	52.7	-49.9	3,119.5	3,095.9	23.58	132.298		
7,550.0	6,463.9	6,446.7	6,444.9	57.3	1.9	100.50	52.6	-49.4	3,122.0	3,098.1	23.90	130.636		
7,578.7	6,491.1	6,474.0	6,472.2	57.4	1.9	100.49	52.6	-49.2	3,123.8	3,099.7	24.09	129.655		
7,600.0	6,510.9	6,493.8	6,492.1	57.4	1.9	100.47	52.6	-49.0	3,125.3	3,101.0	24.24	128.934		
7,650.0	6,556.2	6,540.3	6,538.6	57.5	1.9	100.42	52.5	-48.6	3,129.5	3,104.9	24.61	127.156		
7,677.1	6,580.0	6,564.8	6,563.0	57.6	1.9	100.37	52.4	-48.4	3,132.2	3,107.3	24.83	126.125		
7,700.0	6,599.5	6,584.9	6,583.1	57.6	1.9	100.31	52.4	-48.3	3,134.6	3,109.6	25.03	125.256		
7,750.0	6,640.5	6,625.7	6,623.9	57.8	1.9	100.13	52.3	-48.0	3,140.8	3,115.3	25.50	123.189		
7,775.6	6,660.4	6,645.1	6,643.3	57.8	1.9	100.00	52.3	-47.8	3,144.3	3,118.5	25.77	122.030		
7,800.0	6,678.8	6,662.9	6,661.1	57.9	1.9	99.86	52.3	-47.7	3,147.9	3,121.9	26.03	120.917		
7,850.0	6,714.1	6,697.3	6,695.5	58.1	1.9	99.47	52.2	-47.5	3,156.2	3,129.6	26.65	118.420		
7,874.0	6,730.0	6,700.0	6,698.2	58.2	1.9	99.07	52.2	-47.5	3,160.6	3,133.6	26.99	117.105		
7,900.0	6,746.3	6,700.0	6,698.2	58.3	1.9	98.55	52.2	-47.5	3,165.8	3,138.4	27.36	115.690		
7,950.0	6,775.0	6,700.0	6,698.2	58.5	1.9	97.44	52.2	-47.5	3,176.7	3,148.5	28.16	112.810		
7,972.4	6,786.7	6,700.0	6,698.2	58.6	1.9	96.90	52.2	-47.5	3,182.0	3,153.5	28.55	111.469		
8,000.0	6,800.0	6,700.0	6,698.2	58.7	1.9	96.19	52.2	-47.5	3,188.9	3,159.9	29.02	109.897		
8,050.0	6,821.2	6,700.0	6,698.2	59.0	1.9	94.80	52.2	-47.5	3,202.3	3,172.4	29.90	107.084		
8,070.8	6,828.8	6,700.0	6,698.2	59.1	1.9	94.19	52.2	-47.5	3,208.2	3,177.9	30.28	105.944		
8,100.0	6,838.3	6,700.0	6,698.2	59.3	1.9	93.30	52.2	-47.5	3,216.8	3,186.0	30.78	104.495		
8,150.0	6,851.3	6,700.0	6,698.2	59.6	1.9	91.68	52.2	-47.5	3,232.2	3,200.6	31.61	102.238		
8,169.3	6,855.2	6,700.0	6,698.2	59.7	1.9	91.03	52.2	-47.5	3,238.4	3,206.5	31.92	101.457		
8,200.0	6,860.0	6,700.0	6,698.2	59.9	1.9	89.96	52.2	-47.5	3,248.4	3,216.1	32.36	100.397		
8,250.0	6,864.4	6,700.0	6,698.2	60.3	1.9	88.16	52.2	-47.5	3,265.4	3,232.4	32.97	99.038		
8,267.7	6,864.9	6,700.0	6,698.2	60.4	1.9	87.51	52.2	-47.5	3,271.5	3,238.3	33.15	98.678		
8,275.5	6,865.0	6,700.0	6,698.2	60.4	1.9	87.22	52.2	-47.5	3,274.2	3,241.0	33.23	98.545		
8,300.0	6,865.0	6,700.0	6,698.2	60.6	1.9	87.22	52.2	-47.5	3,282.8	3,249.2	33.69	97.452		
8,366.1	6,865.0	6,700.0	6,698.2	61.1	1.9	87.22	52.2	-47.5	3,307.0	3,272.0	34.98	94.526		
8,400.0	6,865.0	6,700.0	6,698.2	61.4	1.9	87.22	52.2	-47.5	3,319.8	3,284.1	35.65	93.123		
8,464.5	6,865.0	6,700.0	6,698.2	62.0	1.9	87.22	52.2	-47.5	3,345.0	3,308.0	36.99	90.433		
8,500.0	6,865.0	6,700.0	6,698.2	62.3	1.9	87.22	52.2	-47.5	3,359.2	3,321.5	37.72	89.050		
8,563.0	6,865.0	6,700.0	6,698.2	62.9	1.9	87.22	52.2	-47.5	3,385.4	3,346.3	39.09	86.607		
8,600.0	6,865.0	6,700.0	6,698.2	63.2	1.9	87.22	52.2	-47.5	3,401.2	3,361.3	39.89	85.262		
8,661.4	6,865.0	6,700.0	6,698.2	63.9	1.9	87.22	52.2	-47.5	3,428.2	3,386.9	41.27	83.064		
8,700.0	6,865.0	6,700.0	6,698.2	64.3	1.9	87.22	52.2	-47.5	3,445.6	3,403.4	42.14	81.768		
8,759.8	6,865.0	6,700.0	6,698.2	64.9	1.9	87.22	52.2	-47.5	3,473.2	3,429.7	43.52	79.803		
8,800.0	6,865.0	6,700.0	6,698.2	65.4	1.9	87.22	52.2	-47.5	3,492.2	3,447.8	44.45	78.562		
8,858.2	6,865.0	6,700.0	6,698.2	66.1	1.9	87.22	52.2	-47.5	3,520.4	3,474.6	45.83	76.812		
8,900.0	6,865.0	6,700.0	6,698.2	66.6	1.9	87.22	52.2	-47.5	3,541.1	3,494.3	46.82	75.630		
8,956.7	6,865.0	6,700.0	6,698.2	67.4	1.9	87.22	52.2	-47.5	3,569.8	3,521.6	48.19	74.075		
9,000.0	6,865.0	6,700.0	6,698.2	67.9	1.9	87.22	52.2	-47.5	3,592.1	3,542.9	49.24	72.953		
9,055.1	6,865.0	6,700.0	6,698.2	68.7	1.9	87.22	52.2	-47.5	3,621.1	3,570.5	50.59	71.573		
9,100.0	6,865.0	6,700.0	6,698.2	69.4	1.9	87.22	52.2	-47.5	3,645.1	3,593.4	51.70	70.510		
9,153.5	6,865.0	6,700.0	6,698.2	70.1	1.9	87.22	52.2	-47.5	3,674.3	3,621.3	53.03	69.286		
9,200.0	6,865.0	6,700.0	6,698.2	70.9	1.9	87.22	52.2	-47.5	3,700.1	3,645.9	54.19	68.280		
9,251.9	6,865.0	6,700.0	6,698.2	71.7	1.9	87.22	52.2	-47.5	3,729.4	3,673.9	55.50	67.195		
9,300.0	6,865.0	6,700.0	6,698.2	72.4	1.9	87.22	52.2	-47.5	3,756.9	3,700.2	56.71	66.244		
9,350.4	6,865.0	6,700.0	6,698.2	73.3	1.9	87.22	52.2	-47.5	3,786.2	3,728.2	58.00	65.282		
9,400.0	6,865.0	6,700.0	6,698.2	74.1	1.9	87.22	52.2	-47.5	3,815.5	3,756.3	59.26	64.383		
9,448.8	6,865.0	6,700.0	6,698.2	74.9	1.9	87.22	52.2	-47.5	3,844.7	3,784.2	60.52	63.530		

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 23
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 23	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	6,865.0	6,700.0	6,698.2	75.8	1.9	87.22	52.2	-47.5	3,875.8	3,814.0	61.84	62.679	
9,547.2	6,865.0	6,700.0	6,698.2	76.7	1.9	87.22	52.2	-47.5	3,904.9	3,841.8	63.06	61.923	
9,600.0	6,865.0	6,700.0	6,698.2	77.7	1.9	87.22	52.2	-47.5	3,937.7	3,873.3	64.43	61.118	
9,645.6	6,865.0	6,700.0	6,698.2	78.5	1.9	87.22	52.2	-47.5	3,966.5	3,900.9	65.62	60.446	
9,700.0	6,865.0	6,700.0	6,698.2	79.6	1.9	87.22	52.2	-47.5	4,001.2	3,934.1	67.04	59.684	
9,744.1	6,865.0	6,700.0	6,698.2	80.4	1.9	87.22	52.2	-47.5	4,029.6	3,961.4	68.20	59.088	
9,800.0	6,865.0	6,700.0	6,698.2	81.5	1.9	87.22	52.2	-47.5	4,066.1	3,996.4	69.67	58.366	
9,842.5	6,865.0	6,700.0	6,698.2	82.4	1.9	87.22	52.2	-47.5	4,094.1	4,023.3	70.79	57.837	
9,900.0	6,865.0	6,700.0	6,698.2	83.5	1.9	87.22	52.2	-47.5	4,132.4	4,060.1	72.31	57.152	
9,940.9	6,865.0	6,700.0	6,698.2	84.4	1.9	87.22	52.2	-47.5	4,159.9	4,086.6	73.39	56.682	
10,000.0	6,865.0	6,700.0	6,698.2	85.6	1.9	87.22	52.2	-47.5	4,200.1	4,125.1	74.96	56.032	
10,039.3	6,865.0	6,700.0	6,698.2	86.4	1.9	87.22	52.2	-47.5	4,227.0	4,151.0	76.01	55.615	
10,100.0	6,865.0	6,700.0	6,698.2	87.7	1.9	87.22	52.2	-47.5	4,269.0	4,191.4	77.62	54.998	
10,137.8	6,865.0	6,700.0	6,698.2	88.6	1.9	87.22	52.2	-47.5	4,295.4	4,216.7	78.63	54.626	
10,200.0	6,865.0	6,700.0	6,698.2	89.9	1.9	87.22	52.2	-47.5	4,339.1	4,258.8	80.30	54.040	
10,236.2	6,865.0	6,700.0	6,698.2	90.7	1.9	87.22	52.2	-47.5	4,364.8	4,283.5	81.27	53.710	
10,300.0	6,865.0	6,700.0	6,698.2	92.1	1.9	87.22	52.2	-47.5	4,410.4	4,327.4	82.98	53.152	
10,334.6	6,865.0	6,700.0	6,698.2	92.9	1.9	87.22	52.2	-47.5	4,435.4	4,351.5	83.91	52.859	
10,400.0	6,865.0	6,700.0	6,698.2	94.4	1.9	87.22	52.2	-47.5	4,482.8	4,397.1	85.67	52.327	
10,433.0	6,865.0	6,700.0	6,698.2	95.2	1.9	87.22	52.2	-47.5	4,507.0	4,420.4	86.56	52.067	
10,500.0	6,865.0	6,700.0	6,698.2	96.7	1.9	87.22	52.2	-47.5	4,556.2	4,467.9	88.37	51.560	
10,531.5	6,865.0	6,700.0	6,698.2	97.4	1.9	87.22	52.2	-47.5	4,579.6	4,490.3	89.22	51.330	
10,600.0	6,865.0	6,700.0	6,698.2	99.0	1.9	87.22	52.2	-47.5	4,630.7	4,539.6	91.07	50.846	
10,629.9	6,865.0	6,700.0	6,698.2	99.7	1.9	87.22	52.2	-47.5	4,653.1	4,561.2	91.88	50.642	
10,700.0	6,865.0	6,700.0	6,698.2	101.4	1.9	87.22	52.2	-47.5	4,706.0	4,612.3	93.78	50.180	
10,728.3	6,865.0	6,700.0	6,698.2	102.1	1.9	87.22	52.2	-47.5	4,727.6	4,633.0	94.55	49.999	
10,800.0	6,865.0	6,700.0	6,698.2	103.8	1.9	87.22	52.2	-47.5	4,782.3	4,685.8	96.50	49.558	
10,826.7	6,865.0	6,700.0	6,698.2	104.4	1.9	87.22	52.2	-47.5	4,802.9	4,705.6	97.23	49.398	
10,900.0	6,865.0	6,700.0	6,698.2	106.2	1.9	87.22	52.2	-47.5	4,859.5	4,760.2	99.22	48.976	
10,925.2	6,865.0	6,700.0	6,698.2	106.8	1.9	87.22	52.2	-47.5	4,879.0	4,779.1	99.91	48.835	
11,000.0	6,865.0	6,700.0	6,698.2	108.6	1.9	87.22	52.2	-47.5	4,937.4	4,835.5	101.95	48.430	
11,023.6	6,865.0	6,700.0	6,698.2	109.2	1.9	87.22	52.2	-47.5	4,955.9	4,853.3	102.59	48.307	
11,100.0	6,865.0	6,700.0	6,698.2	111.1	1.9	87.22	52.2	-47.5	5,016.1	4,911.5	104.68	47.919	
11,122.0	6,865.0	6,700.0	6,698.2	111.7	1.9	87.22	52.2	-47.5	5,033.6	4,928.3	105.28	47.811	
11,200.0	6,865.0	6,700.0	6,698.2	113.6	1.9	87.22	52.2	-47.5	5,095.6	4,988.2	107.41	47.439	
11,220.4	6,865.0	6,700.0	6,698.2	114.1	1.9	87.22	52.2	-47.5	5,112.0	5,004.0	107.97	47.344	
11,300.0	6,865.0	6,700.0	6,698.2	116.1	1.9	87.22	52.2	-47.5	5,175.8	5,065.7	110.15	46.988	
11,318.9	6,865.0	6,700.0	6,698.2	116.6	1.9	87.22	52.2	-47.5	5,191.0	5,080.4	110.67	46.905	
11,400.0	6,865.0	6,700.0	6,698.2	118.6	1.9	87.22	52.2	-47.5	5,256.7	5,143.8	112.89	46.563	
11,417.3	6,865.0	6,700.0	6,698.2	119.1	1.9	87.22	52.2	-47.5	5,270.8	5,157.4	113.37	46.492	
11,500.0	6,865.0	6,700.0	6,698.2	121.2	1.9	87.22	52.2	-47.5	5,338.2	5,222.6	115.64	46.162	
11,515.7	6,865.0	6,700.0	6,698.2	121.6	1.9	87.22	52.2	-47.5	5,351.1	5,235.0	116.07	46.102	
11,600.0	6,865.0	6,700.0	6,698.2	123.7	1.9	87.22	52.2	-47.5	5,420.4	5,302.0	118.39	45.785	
11,614.1	6,865.0	6,700.0	6,698.2	124.1	1.9	87.22	52.2	-47.5	5,432.0	5,313.3	118.78	45.733	
11,700.0	6,865.0	6,700.0	6,698.2	126.3	1.9	87.22	52.2	-47.5	5,503.1	5,382.0	121.14	45.428	
11,712.6	6,865.0	6,700.0	6,698.2	126.6	1.9	87.22	52.2	-47.5	5,513.6	5,392.1	121.49	45.384	
11,800.0	6,865.0	6,700.0	6,698.2	128.8	1.9	87.22	52.2	-47.5	5,586.4	5,462.5	123.89	45.091	
11,811.0	6,865.0	6,700.0	6,698.2	129.1	1.9	87.22	52.2	-47.5	5,595.6	5,471.4	124.20	45.055	
11,900.0	6,865.0	6,700.0	6,698.2	131.4	1.9	87.22	52.2	-47.5	5,670.2	5,543.6	126.65	44.772	
11,909.4	6,865.0	6,700.0	6,698.2	131.7	1.9	87.22	52.2	-47.5	5,678.2	5,551.3	126.91	44.742	
12,000.0	6,865.0	6,700.0	6,698.2	134.0	1.9	87.22	52.2	-47.5	5,754.6	5,625.2	129.41	44.469	
12,007.8	6,865.0	6,700.0	6,698.2	134.2	1.9	87.22	52.2	-47.5	5,761.2	5,631.6	129.62	44.446	

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 23
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 23	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	6,865.0	6,700.0	6,698.2	136.6	1.9	87.22	52.2	-47.5	5,839.4	5,707.3	132.17	44.182		
12,106.3	6,865.0	6,700.0	6,698.2	136.8	1.9	87.22	52.2	-47.5	5,844.8	5,712.4	132.34	44.165		
12,200.0	6,865.0	6,700.0	6,698.2	139.3	1.9	87.22	52.2	-47.5	5,924.8	5,789.8	134.93	43.910		
12,204.7	6,865.0	6,700.0	6,698.2	139.4	1.9	87.22	52.2	-47.5	5,928.8	5,793.7	135.06	43.898		
12,300.0	6,865.0	6,700.0	6,698.2	141.9	1.9	87.22	52.2	-47.5	6,010.5	5,872.8	137.69	43.652		
12,303.1	6,865.0	6,700.0	6,698.2	142.0	1.9	87.22	52.2	-47.5	6,013.2	5,875.4	137.78	43.644		
12,400.0	6,865.0	6,700.0	6,698.2	144.5	1.9	87.22	52.2	-47.5	6,096.7	5,956.3	140.46	43.406		
12,401.5	6,865.0	6,700.0	6,698.2	144.6	1.9	87.22	52.2	-47.5	6,098.1	5,957.6	140.50	43.402		
12,500.0	6,865.0	6,700.0	6,698.2	147.2	1.9	87.22	52.2	-47.5	6,183.4	6,040.1	143.23	43.172		
12,598.4	6,865.0	6,700.0	6,698.2	149.8	1.9	87.22	52.2	-47.5	6,269.0	6,123.0	145.95	42.953		
12,600.0	6,865.0	6,700.0	6,698.2	149.8	1.9	87.22	52.2	-47.5	6,270.4	6,124.4	145.99	42.949		
12,696.8	6,865.0	6,700.0	6,698.2	152.4	1.9	87.22	52.2	-47.5	6,355.0	6,206.3	148.68	42.744		
12,700.0	6,865.0	6,700.0	6,698.2	152.5	1.9	87.22	52.2	-47.5	6,357.8	6,209.0	148.77	42.737		
12,795.2	6,865.0	6,700.0	6,698.2	155.0	1.9	87.22	52.2	-47.5	6,441.4	6,290.0	151.41	42.544		
12,800.0	6,865.0	6,700.0	6,698.2	155.1	1.9	87.22	52.2	-47.5	6,445.6	6,294.0	151.54	42.535		
12,893.7	6,865.0	6,700.0	6,698.2	157.6	1.9	87.22	52.2	-47.5	6,528.1	6,374.0	154.13	42.353		
12,900.0	6,865.0	6,700.0	6,698.2	157.8	1.9	87.22	52.2	-47.5	6,533.7	6,379.4	154.31	42.341		
12,992.1	6,865.0	6,700.0	6,698.2	160.3	1.9	87.22	52.2	-47.5	6,615.1	6,458.3	156.87	42.171		
13,000.0	6,865.0	6,700.0	6,698.2	160.5	1.9	87.22	52.2	-47.5	6,622.1	6,465.1	157.08	42.157		
13,090.5	6,865.0	6,700.0	6,698.2	162.9	1.9	87.22	52.2	-47.5	6,702.5	6,542.9	159.60	41.996		
13,100.0	6,865.0	6,700.0	6,698.2	163.2	1.9	87.22	52.2	-47.5	6,710.9	6,551.1	159.86	41.980		
13,188.9	6,865.0	6,700.0	6,698.2	165.5	1.9	87.22	52.2	-47.5	6,790.2	6,627.8	162.33	41.829		
13,200.0	6,865.0	6,700.0	6,698.2	165.8	1.9	87.22	52.2	-47.5	6,800.0	6,637.4	162.64	41.811		
13,287.4	6,865.0	6,700.0	6,698.2	168.2	1.9	87.22	52.2	-47.5	6,878.1	6,713.0	165.06	41.670		
13,300.0	6,865.0	6,700.0	6,698.2	168.5	1.9	87.22	52.2	-47.5	6,889.4	6,724.0	165.41	41.650		
13,385.8	6,865.0	6,700.0	6,698.2	170.8	1.9	87.22	52.2	-47.5	6,966.3	6,798.5	167.80	41.516		
13,400.0	6,865.0	6,700.0	6,698.2	171.2	1.9	87.22	52.2	-47.5	6,979.1	6,810.9	168.19	41.495		
13,484.2	6,865.0	6,700.0	6,698.2	173.5	1.9	87.22	52.2	-47.5	7,054.8	6,884.3	170.53	41.369		
13,500.0	6,865.0	6,700.0	6,698.2	173.9	1.9	87.22	52.2	-47.5	7,069.0	6,898.1	170.97	41.346		
13,582.6	6,865.0	6,700.0	6,698.2	176.2	1.9	87.22	52.2	-47.5	7,143.6	6,970.3	173.27	41.228		
13,600.0	6,865.0	6,700.0	6,698.2	176.6	1.9	87.22	52.2	-47.5	7,159.3	6,985.5	173.75	41.204		
13,681.1	6,865.0	6,700.0	6,698.2	178.8	1.9	87.22	52.2	-47.5	7,232.6	7,056.6	176.01	41.093		
13,700.0	6,865.0	6,700.0	6,698.2	179.3	1.9	87.22	52.2	-47.5	7,249.8	7,073.2	176.53	41.067		
13,779.5	6,865.0	6,700.0	6,698.2	181.5	1.9	87.22	52.2	-47.5	7,321.9	7,143.1	178.75	40.963		
13,800.0	6,865.0	6,700.0	6,698.2	182.0	1.9	87.22	52.2	-47.5	7,340.5	7,161.2	179.32	40.936		
13,877.9	6,865.0	6,700.0	6,698.2	184.2	1.9	87.22	52.2	-47.5	7,411.3	7,229.9	181.48	40.837		
13,900.0	6,865.0	6,700.0	6,698.2	184.8	1.9	87.22	52.2	-47.5	7,431.4	7,249.3	182.10	40.810		
13,976.3	6,865.0	6,700.0	6,698.2	186.8	1.9	87.22	52.2	-47.5	7,501.1	7,316.8	184.22	40.717		
14,000.0	6,865.0	6,700.0	6,698.2	187.5	1.9	87.22	52.2	-47.5	7,522.6	7,337.8	184.88	40.689		
14,074.8	6,865.0	6,700.0	6,698.2	189.5	1.9	87.22	52.2	-47.5	7,591.0	7,404.0	186.96	40.601		
14,100.0	6,865.0	6,700.0	6,698.2	190.2	1.9	87.22	52.2	-47.5	7,614.1	7,426.4	187.67	40.572		
14,173.2	6,865.0	6,700.0	6,698.2	192.2	1.9	87.22	52.2	-47.5	7,681.1	7,491.4	189.71	40.490		
14,200.0	6,865.0	6,700.0	6,698.2	192.9	1.9	87.22	52.2	-47.5	7,705.7	7,515.2	190.45	40.460		
14,271.6	6,865.0	6,700.0	6,698.2	194.9	1.9	87.22	52.2	-47.5	7,771.4	7,579.0	192.45	40.382		
14,300.0	6,865.0	6,700.0	6,698.2	195.6	1.9	87.22	52.2	-47.5	7,797.5	7,604.3	193.24	40.352		
14,370.0	6,865.0	6,700.0	6,698.2	197.6	1.9	87.22	52.2	-47.5	7,862.0	7,666.8	195.19	40.279		
14,400.0	6,865.0	6,700.0	6,698.2	198.4	1.9	87.22	52.2	-47.5	7,889.6	7,693.5	196.02	40.248		
14,468.5	6,865.0	6,700.0	6,698.2	200.2	1.9	87.22	52.2	-47.5	7,952.7	7,754.8	197.93	40.179		
14,500.0	6,865.0	6,700.0	6,698.2	201.1	1.9	87.22	52.2	-47.5	7,981.8	7,783.0	198.81	40.148		
14,566.9	6,865.0	6,700.0	6,698.2	202.9	1.9	87.22	52.2	-47.5	8,043.6	7,842.9	200.68	40.083		
14,600.0	6,865.0	6,700.0	6,698.2	203.8	1.9	87.22	52.2	-47.5	8,074.2	7,872.6	201.60	40.051		
14,665.3	6,865.0	6,700.0	6,698.2	205.6	1.9	87.22	52.2	-47.5	8,134.7	7,931.2	203.42	39.990		

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 23
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 23	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	6,865.0	6,700.0	6,698.2	206.6	1.9	87.22	52.2	-47.5	8,166.8	7,962.4	204.39	39.958	
14,763.7	6,865.0	6,700.0	6,698.2	208.3	1.9	87.22	52.2	-47.5	8,225.9	8,019.7	206.16	39.900	
14,800.0	6,865.0	6,700.0	6,698.2	209.3	1.9	87.22	52.2	-47.5	8,259.5	8,052.4	207.17	39.868	
14,862.2	6,865.0	6,700.0	6,698.2	211.0	1.9	87.22	52.2	-47.5	8,317.3	8,108.4	208.91	39.813	
14,900.0	6,865.0	6,700.0	6,698.2	212.0	1.9	87.22	52.2	-47.5	8,352.5	8,142.5	209.96	39.781	
14,960.6	6,865.0	6,700.0	6,698.2	213.7	1.9	87.22	52.2	-47.5	8,408.9	8,197.2	211.65	39.729	
15,000.0	6,865.0	6,700.0	6,698.2	214.8	1.9	87.22	52.2	-47.5	8,445.6	8,232.8	212.75	39.697	
15,059.0	6,865.0	6,700.0	6,698.2	216.4	1.9	87.22	52.2	-47.5	8,500.6	8,286.2	214.40	39.648	
15,100.0	6,865.0	6,700.0	6,698.2	217.5	1.9	87.22	52.2	-47.5	8,538.8	8,323.3	215.54	39.615	
15,157.4	6,865.0	6,700.0	6,698.2	219.1	1.9	87.22	52.2	-47.5	8,592.4	8,375.3	217.15	39.570	
15,200.0	6,865.0	6,700.0	6,698.2	220.3	1.9	87.22	52.2	-47.5	8,632.2	8,413.9	218.33	39.537	
15,255.9	6,865.0	6,700.0	6,698.2	221.8	1.9	87.22	52.2	-47.5	8,684.5	8,464.6	219.89	39.494	
15,300.0	6,865.0	6,700.0	6,698.2	223.0	1.9	87.22	52.2	-47.5	8,725.8	8,504.6	221.12	39.461	
15,354.3	6,865.0	6,700.0	6,698.2	224.5	1.9	87.22	52.2	-47.5	8,776.6	8,554.0	222.64	39.421	
15,400.0	6,865.0	6,700.0	6,698.2	225.8	1.9	87.22	52.2	-47.5	8,819.4	8,595.5	223.92	39.387	
15,452.7	6,865.0	6,700.0	6,698.2	227.2	1.9	87.22	52.2	-47.5	8,868.9	8,643.5	225.39	39.350	
15,500.0	6,865.0	6,700.0	6,698.2	228.5	1.9	87.22	52.2	-47.5	8,913.3	8,686.6	226.71	39.316	
15,551.1	6,865.0	6,700.0	6,698.2	229.9	1.9	87.22	52.2	-47.5	8,961.3	8,733.2	228.14	39.281	
15,600.0	6,865.0	6,700.0	6,698.2	231.3	1.9	87.22	52.2	-47.5	9,007.2	8,777.7	229.50	39.247	
15,649.6	6,865.0	6,700.0	6,698.2	232.6	1.9	87.22	52.2	-47.5	9,053.8	8,823.0	230.88	39.214	
15,700.0	6,865.0	6,700.0	6,698.2	234.0	1.9	87.22	52.2	-47.5	9,101.3	8,869.0	232.29	39.180	
15,748.0	6,865.0	6,700.0	6,698.2	235.4	1.9	87.22	52.2	-47.5	9,146.5	8,912.9	233.63	39.149	
15,800.0	6,865.0	6,700.0	6,698.2	236.8	1.9	87.22	52.2	-47.5	9,195.5	8,960.4	235.08	39.116	
15,846.4	6,865.0	6,700.0	6,698.2	238.1	1.9	87.22	52.2	-47.5	9,239.3	9,002.9	236.38	39.086	
15,900.0	6,865.0	6,700.0	6,698.2	239.5	1.9	87.22	52.2	-47.5	9,289.8	9,052.0	237.88	39.053	
15,944.8	6,865.0	6,700.0	6,698.2	240.8	1.9	87.22	52.2	-47.5	9,332.2	9,093.1	239.13	39.026	
16,000.0	6,865.0	6,700.0	6,698.2	242.3	1.9	87.22	52.2	-47.5	9,384.3	9,143.6	240.67	38.992	
16,043.3	6,865.0	6,700.0	6,698.2	243.5	1.9	87.22	52.2	-47.5	9,425.2	9,183.3	241.88	38.966	
16,069.4	6,865.0	6,700.0	6,698.2	244.2	1.9	87.22	52.2	-47.5	9,449.9	9,207.3	242.61	38.951	

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 23
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 23	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB-EST @ 4664.0usft (Original Well ECoordinates are relative to: VETTING 23

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: 0.55°

Separation Factor Plot

