

EXTRACTION OIL & GAS

**WELD COUNTY, COLORADO (NAD 83)
SW NW SEC. 15 T5N R65W 6th P.M.
VETTING 14**

**ORIGINAL WELLBORE
PROPOSAL #2**

Anticollision Report

10 March, 2016



Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 14
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 14	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	10/03/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	15,099.6	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	4,909.5	4,600.0	2,065.4	1,954.5	18.617	CC
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	4,921.2	4,600.0	2,065.5	1,954.5	18.609	ES
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Design #1	5,100.0	4,600.0	2,074.2	1,962.4	18.558	SF
CARLSON A-15-16HN - Wellbore #1 - Design #1	9,812.6	14,862.7	2,840.2	2,522.8	8.949	CC
CARLSON A-15-16HN - Wellbore #1 - Design #1	9,900.0	14,862.7	2,841.5	2,521.8	8.886	ES
CARLSON A-15-16HN - Wellbore #1 - Design #1	10,531.5	14,862.7	2,929.8	2,592.5	8.687	SF
CARLSON B-15-16HC - Wellbore #1 - Design #1	9,811.9	14,905.1	2,677.4	2,360.5	8.447	CC
CARLSON B-15-16HC - Wellbore #1 - Design #1	9,900.0	14,905.1	2,678.9	2,359.5	8.388	ES
CARLSON B-15-16HC - Wellbore #1 - Design #1	10,433.0	14,905.1	2,748.5	2,414.4	8.227	SF
CARLSON C-15-16HN - Wellbore #1 - Design #1	9,811.1	14,796.3	2,510.6	2,193.7	7.921	CC
CARLSON C-15-16HN - Wellbore #1 - Design #1	9,900.0	14,796.3	2,512.2	2,192.8	7.865	ES
CARLSON C-15-16HN - Wellbore #1 - Design #1	10,334.6	14,796.3	2,564.6	2,233.2	7.739	SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	9,809.8	14,777.6	2,180.5	1,863.9	6.888	CC
CARLSON D-15-16HN - Wellbore #1 - Design #1	9,842.5	14,777.6	2,180.8	1,863.3	6.869	ES
CARLSON D-15-16HN - Wellbore #1 - Design #1	10,236.2	14,777.6	2,221.8	1,893.5	6.767	SF
CARLSON E-15-16HC - Wellbore #1 - Design #1	9,809.2	14,848.6	2,018.5	1,702.2	6.382	CC
CARLSON E-15-16HC - Wellbore #1 - Design #1	9,842.5	14,848.6	2,018.8	1,701.6	6.364	ES
CARLSON E-15-16HC - Wellbore #1 - Design #1	10,137.8	14,848.6	2,045.1	1,719.7	6.286	SF
CARLSON F-15-16HN - Wellbore #1 - Design #1	9,808.7	14,769.7	1,900.5	1,584.1	6.008	CC
CARLSON F-15-16HN - Wellbore #1 - Design #1	9,842.5	14,769.7	1,900.8	1,583.5	5.991	ES
CARLSON F-15-16HN - Wellbore #1 - Design #1	10,137.8	14,769.7	1,928.7	1,603.3	5.927	SF
CARLSON G-15-16HN - Wellbore #1 - Design #1	9,806.8	14,787.6	1,480.4	1,164.5	4.685	CC
CARLSON G-15-16HN - Wellbore #1 - Design #1	9,842.5	14,787.6	1,480.9	1,163.9	4.672	ES
CARLSON G-15-16HN - Wellbore #1 - Design #1	10,000.0	14,787.6	1,493.0	1,171.7	4.647	SF
CARLSON H-15-16HC - Wellbore #1 - Design #1	9,806.2	14,883.6	1,319.9	1,004.9	4.190	CC
CARLSON H-15-16HC - Wellbore #1 - Design #1	9,842.5	14,883.6	1,320.4	1,004.4	4.179	ES
CARLSON H-15-16HC - Wellbore #1 - Design #1	9,940.9	14,883.6	1,326.8	1,008.1	4.163	SF
CARLSON I-15-16HN - Wellbore #1 - Design #1	9,805.2	14,836.2	1,100.6	784.8	3.485	CC
CARLSON I-15-16HN - Wellbore #1 - Design #1	9,842.5	14,836.2	1,101.3	784.4	3.476	ES
CARLSON I-15-16HN - Wellbore #1 - Design #1	9,900.0	14,836.2	1,104.7	786.3	3.469	SF
CARLSON J-15-16HN - Wellbore #1 - Design #1	9,803.8	14,901.4	770.8	455.3	2.443	CC
CARLSON J-15-16HN - Wellbore #1 - Design #1	9,842.5	14,901.4	771.7	455.2	2.438	ES, SF
CARLSON K-15-16HC - Wellbore #1 - Design #1	9,803.2	15,013.6	615.6	304.4	1.978	CC, ES
CARLSON K-15-16HC - Wellbore #1 - Design #1	9,842.5	15,013.6	616.9	304.6	1.975	SF
CARLSON L-15-16HN - Wellbore #1 - Design #1	9,802.4	14,977.0	441.2	126.2	1.401	Level 3, CC, ES, SF
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,057.2	7,070.9	1,750.5	1,517.0	7.496	CC
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,100.0	7,070.8	1,751.0	1,516.3	7.460	ES

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)	Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,400.0	7,070.3	1,783.7	1,540.6	7.337	SF
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	11,461.2	7,225.1	1,656.6	1,489.1	9.886	CC
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	11,500.0	7,224.6	1,657.1	1,488.4	9.825	ES
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	11,909.4	7,219.6	1,716.2	1,536.1	9.531	SF
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	14,786.0	7,147.9	2,254.7	1,994.7	8.673	CC
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	14,862.2	7,147.9	2,256.0	1,993.9	8.608	ES
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,100.4	7,148.0	2,276.5	2,008.7	8.501	SF
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	13,383.8	6,895.3	2,269.8	2,065.1	11.090	CC
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	13,484.2	6,894.8	2,272.0	2,064.5	10.951	ES
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,100.0	6,891.6	2,380.1	2,155.4	10.592	SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	12,052.5	7,950.0	817.8	655.0	5.024	CC, ES
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	12,200.0	7,950.0	831.0	664.4	4.989	SF
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	15,100.4	7,625.1	419.0	135.3	1.477	Level 3, CC, ES, SF
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	12,213.3	7,619.3	335.9	149.1	1.798	CC, ES, SF
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	11,443.3	7,509.0	380.9	213.6	2.276	CC, ES
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	11,500.0	7,503.0	385.1	215.9	2.276	SF
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	14,151.2	7,911.8	937.0	694.8	3.868	CC
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	14,173.2	7,912.6	937.3	694.4	3.859	ES
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	14,271.6	7,915.8	944.7	699.1	3.846	SF
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	14,633.9	7,250.2	1,039.0	782.3	4.047	CC
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	14,665.3	7,247.9	1,039.5	781.9	4.035	ES
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	14,763.7	7,240.7	1,047.1	786.8	4.023	SF
EXIST DD EHRlich MOTORS #D8 - Wellbore #1 - Well	15,100.4	7,298.3	2,428.4	2,138.8	8.384	CC, ES, SF
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	15,100.4	7,450.9	1,633.8	1,354.6	5.852	CC, ES, SF
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - V	14,111.7	7,385.3	470.2	232.7	1.979	CC, ES, SF
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	12,043.3	6,941.0	2,370.7	2,196.7	13.627	CC
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	12,106.3	6,941.0	2,371.5	2,195.8	13.496	ES
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	12,992.1	6,941.7	2,553.5	2,353.0	12.738	SF
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	10,822.5	7,290.5	2,365.6	2,203.2	14.564	CC
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	10,900.0	7,289.5	2,366.9	2,202.3	14.381	ES
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	11,800.0	7,278.1	2,559.6	2,370.0	13.498	SF
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	12,672.4	6,970.7	1,689.5	1,503.1	9.068	CC
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	12,700.0	6,970.7	1,689.7	1,502.6	9.032	ES
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,100.0	6,970.3	1,742.7	1,544.5	8.790	SF
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	12,895.1	7,327.2	389.6	197.8	2.031	CC
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	12,900.0	7,327.1	389.6	197.7	2.030	ES, SF
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	12,725.7	7,704.8	866.8	668.2	4.363	CC, ES
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	12,800.0	7,705.3	870.0	669.3	4.334	SF
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	4,726.8	5,279.2	2,260.1	2,233.8	85.836	CC, ES
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	15,000.0	6,988.0	8,999.0	8,745.4	35.493	SF
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	0.0	0.0	2,505.7			
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	300.0	284.8	2,506.0	2,505.2	3,021.719	ES
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	14,500.0	7,124.2	9,939.5	9,693.6	40.423	SF
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	4,380.8	4,955.4	2,155.3	2,125.6	72.646	CC
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	4,800.0	5,377.0	2,156.8	2,123.8	65.332	ES
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	15,000.0	7,104.8	9,657.4	9,403.1	37.988	SF
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	10,320.1	7,833.4	250.2	94.1	1.603	CC
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	10,334.6	7,830.5	250.6	93.8	1.599	ES, SF
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,081.8	7,672.5	1,607.1	1,451.2	10.306	CC
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,137.8	7,662.6	1,608.0	1,450.5	10.210	ES
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,531.5	7,582.6	1,666.4	1,498.1	9.900	SF
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	10,905.1	7,497.1	1,142.7	981.4	7.087	CC
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	10,925.2	7,494.3	1,142.8	981.0	7.062	ES

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Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Summary

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SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	11,122.0	7,465.4	1,162.6	995.0	6.939	SF
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	10,085.6	7,162.7	905.2	777.4	7.084	CC
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	10,100.0	7,162.8	905.3	777.1	7.063	ES
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	10,236.2	7,163.9	917.6	785.7	6.955	SF
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbore	13,457.9	7,558.4	310.2	94.2	1.436	Level 3, CC, ES, SF
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	15,100.4	7,716.2	1,377.9	1,081.2	4.643	CC, ES, SF
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,100.4	7,298.0	2,297.6	2,002.2	7.778	CC, ES, SF
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	14,720.1	7,735.1	283.8	20.0	1.076	Level 2, CC, ES, SF
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,100.4	7,992.7	1,598.4	1,291.8	5.214	CC, ES, SF
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	325.7	311.2	1,654.6	1,653.7	1,866.182	CC, ES
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	14,600.0	6,600.0	9,957.9	9,739.2	45.535	SF
EXIST VERT FAY #1 - Wellbore #1 - Design #1	8,828.2	6,864.0	1,006.7	805.2	4.995	CC
EXIST VERT FAY #1 - Wellbore #1 - Design #1	8,858.2	6,864.0	1,007.2	804.8	4.977	ES
EXIST VERT FAY #1 - Wellbore #1 - Design #1	8,956.7	6,864.0	1,014.9	809.9	4.950	SF
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	5,653.9	5,507.3	467.6	333.8	3.494	CC
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	6,450.0	6,301.4	471.0	320.6	3.131	ES, SF
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	98.4	80.1	101.9	101.7	738.067	CC
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	304.3	286.4	102.3	101.5	122.887	ES
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #	15,000.0	6,700.0	8,914.2	8,678.6	37.835	SF
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	100.0	100.0	47.9	47.7	253.734	CC
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,069.7	346.1	-129.0	0.728	Level 1, ES, SF
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	200.0	200.0	22.6	21.9	35.369	CC
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,280.6	254.8	-67.5	0.791	Level 1, ES, SF
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	25.3	24.2	23.283	CC
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,171.7	331.5	-145.2	0.695	Level 1, ES, SF
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	47.5	46.4	43.652	CC, ES
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,409.8	532.5	87.6	1.197	Level 2, SF
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	72.8	71.7	66.902	CC, ES
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,284.8	659.4	182.0	1.381	Level 3, SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	95.3	94.2	87.625	CC, ES
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,420.3	990.9	513.5	2.075	SF
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	120.6	119.6	111.016	CC, ES
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,682.9	1,171.2	700.4	2.488	SF
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	143.2	142.1	131.640	CC, ES
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,616.6	1,318.8	840.6	2.758	SF
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	168.5	167.4	154.921	CC, ES
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	15,843.4	1,650.4	1,171.9	3.450	SF
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	191.1	190.0	175.666	CC, ES
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	16,129.6	1,824.7	1,349.3	3.838	SF
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	216.4	215.3	198.947	CC, ES
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	16,069.4	1,978.2	1,499.1	4.129	SF
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	238.5	237.4	219.261	CC, ES
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	15,100.4	16,281.8	2,309.8	1,830.5	4.819	SF
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	100.0	99.0	109.8	109.6	584.324	CC, ES
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	15,100.4	13,078.1	663.6	207.7	1.456	Level 3, SF
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	300.0	299.0	194.7	193.6	179.370	CC, ES
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	15,100.4	13,531.9	2,648.1	2,182.2	5.683	SF
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	300.0	299.0	217.1	216.0	199.941	CC, ES
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	15,100.4	13,704.9	2,818.9	2,353.7	6.060	SF
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	173.2	172.1	159.228	CC, ES
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	15,100.4	13,381.5	2,316.6	1,851.8	4.984	SF
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	135.9	134.8	124.923	CC, ES
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	15,100.4	13,305.2	1,988.8	1,526.1	4.299	SF

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 14
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 14	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
0.0	0.0	0.0	0.0	0.0	0.0	178.01	-1,146.5	39.8	1,147.8				
98.4	98.4	59.4	59.4	0.1	0.6	178.01	-1,146.5	39.8	1,147.2	1,146.5	0.69	1,672.269	
100.0	100.0	61.0	61.0	0.1	0.6	178.01	-1,146.5	39.8	1,147.2	1,146.5	0.70	1,630.678	
196.8	196.8	157.8	157.8	0.3	2.3	178.01	-1,146.5	39.8	1,147.2	1,144.5	2.66	430.936	
200.0	200.0	161.0	161.0	0.3	2.4	178.01	-1,146.5	39.8	1,147.2	1,144.4	2.74	418.261	
295.3	295.3	256.3	256.3	0.5	4.5	178.01	-1,146.5	39.8	1,147.2	1,142.1	5.04	227.654	
300.0	300.0	261.0	261.0	0.5	4.6	178.01	-1,146.5	39.8	1,147.2	1,142.0	5.15	222.836	
393.7	393.7	354.7	354.7	0.7	6.5	-24.10	-1,146.5	39.8	1,145.8	1,138.5	7.26	157.746	
400.0	400.0	361.0	361.0	0.7	6.7	-24.11	-1,146.5	39.8	1,145.6	1,138.2	7.40	154.722	
492.1	492.0	453.0	453.0	0.9	8.5	-24.24	-1,146.5	39.8	1,141.3	1,131.9	9.44	120.840	
500.0	499.8	460.8	460.8	0.9	8.7	-24.25	-1,146.5	39.8	1,140.8	1,131.2	9.62	118.617	
590.5	590.1	551.1	551.1	1.2	10.5	-24.47	-1,146.5	39.8	1,133.8	1,122.1	11.61	97.647	
600.0	599.5	560.5	560.5	1.2	10.7	-24.50	-1,146.5	39.8	1,132.9	1,121.0	11.82	95.868	
689.0	687.8	648.8	648.8	1.4	12.5	-24.81	-1,146.5	39.8	1,123.2	1,109.4	13.76	81.630	
700.0	698.7	659.7	659.7	1.4	12.7	-24.85	-1,146.5	39.8	1,121.8	1,107.8	14.00	80.142	
787.4	785.1	746.1	746.1	1.7	14.5	-25.25	-1,146.5	39.8	1,109.5	1,093.7	15.89	69.844	
800.0	797.5	758.5	758.5	1.8	14.7	-25.31	-1,146.5	39.8	1,107.6	1,091.4	16.16	68.558	
885.8	881.8	842.8	842.8	2.1	16.4	-25.80	-1,146.5	39.8	1,092.9	1,075.0	17.99	60.756	
899.9	895.5	856.5	856.5	2.1	16.7	-25.89	-1,146.5	39.8	1,090.3	1,072.0	18.29	59.624	
984.2	978.0	939.0	939.0	2.5	18.3	-26.30	-1,146.5	39.8	1,074.5	1,054.4	20.16	53.292	
1,000.0	993.4	954.4	954.4	2.6	18.7	-26.37	-1,146.5	39.8	1,071.6	1,051.1	20.51	52.238	
1,082.7	1,074.3	1,035.3	1,035.3	2.9	20.3	-26.79	-1,146.5	39.8	1,056.1	1,033.8	22.36	47.231	
1,100.0	1,091.3	1,052.3	1,052.3	3.0	20.6	-26.87	-1,146.5	39.8	1,052.9	1,030.2	22.75	46.285	
1,181.1	1,170.6	1,131.6	1,131.6	3.3	22.2	-27.29	-1,146.5	39.8	1,037.8	1,013.3	24.57	42.243	
1,200.0	1,189.1	1,150.1	1,150.1	3.4	22.6	-27.39	-1,146.5	39.8	1,034.3	1,009.3	24.99	41.386	
1,279.5	1,266.9	1,227.9	1,227.9	3.8	24.2	-27.82	-1,146.5	39.8	1,019.6	992.8	26.78	38.070	
1,300.0	1,286.9	1,247.9	1,247.9	3.9	24.6	-27.93	-1,146.5	39.8	1,015.8	988.6	27.24	37.287	
1,377.9	1,363.1	1,324.1	1,324.1	4.2	26.1	-28.36	-1,146.5	39.8	1,001.5	972.5	29.00	34.532	
1,400.0	1,384.7	1,345.7	1,345.7	4.3	26.5	-28.49	-1,146.5	39.8	997.4	967.9	29.50	33.809	
1,476.4	1,459.4	1,420.4	1,420.4	4.7	28.0	-28.93	-1,146.5	39.8	983.4	952.2	31.23	31.490	
1,500.0	1,482.5	1,443.5	1,443.5	4.8	28.5	-29.06	-1,146.5	39.8	979.1	947.3	31.77	30.822	
1,574.8	1,555.7	1,516.7	1,516.7	5.1	30.0	-29.51	-1,146.5	39.8	965.5	932.0	33.46	28.851	
1,600.0	1,580.3	1,541.3	1,541.3	5.2	30.5	-29.66	-1,146.5	39.8	960.9	926.8	34.04	28.230	
1,673.2	1,652.0	1,613.0	1,613.0	5.5	31.9	-30.12	-1,146.5	39.8	947.6	911.9	35.70	26.540	
1,700.0	1,678.1	1,639.1	1,639.1	5.7	32.4	-30.28	-1,146.5	39.8	942.8	906.5	36.32	25.961	
1,771.6	1,748.2	1,709.2	1,709.2	6.0	33.9	-30.74	-1,146.5	39.8	929.9	891.9	37.95	24.501	
1,800.0	1,776.0	1,737.0	1,737.0	6.1	34.4	-30.93	-1,146.5	39.8	924.8	886.2	38.60	23.958	
1,870.1	1,844.5	1,805.5	1,805.5	6.4	35.8	-31.40	-1,146.5	39.8	912.2	872.0	40.21	22.689	
1,900.0	1,873.8	1,834.8	1,834.8	6.6	36.4	-31.60	-1,146.5	39.8	906.9	866.0	40.89	22.178	
1,968.5	1,940.8	1,901.8	1,901.8	6.9	37.7	-32.08	-1,146.5	39.8	894.7	852.3	42.47	21.069	
2,000.0	1,971.6	1,932.6	1,932.6	7.0	38.3	-32.30	-1,146.5	39.8	889.2	846.0	43.19	20.586	
2,066.9	2,037.1	1,998.1	1,998.1	7.3	39.7	-32.78	-1,146.5	39.8	877.4	832.6	44.74	19.612	
2,100.0	2,069.4	2,030.4	2,030.4	7.5	40.3	-33.02	-1,146.5	39.8	871.6	826.1	45.50	19.155	
2,165.3	2,133.3	2,094.3	2,094.3	7.8	41.6	-33.51	-1,146.5	39.8	860.1	813.1	47.01	18.296	
2,200.0	2,167.2	2,128.2	2,128.2	7.9	42.3	-33.78	-1,146.5	39.8	854.1	806.3	47.82	17.862	
2,263.8	2,229.6	2,190.6	2,190.6	8.2	43.5	-34.28	-1,146.5	39.8	843.0	793.7	49.30	17.101	
2,300.0	2,265.0	2,226.0	2,226.0	8.4	44.3	-34.57	-1,146.5	39.8	836.8	786.6	50.14	16.688	
2,362.2	2,325.9	2,286.9	2,286.9	8.7	45.5	-35.07	-1,146.5	39.8	826.1	774.5	51.59	16.012	
2,400.0	2,362.9	2,323.9	2,323.9	8.8	46.2	-35.38	-1,146.5	39.8	819.6	767.1	52.47	15.619	
2,460.6	2,422.2	2,383.2	2,383.2	9.1	47.4	-35.90	-1,146.5	39.8	809.3	755.4	53.89	15.016	
2,500.0	2,460.7	2,421.7	2,421.7	9.3	48.2	-36.24	-1,146.5	39.8	802.6	747.8	54.82	14.642	
2,559.0	2,518.4	2,479.4	2,479.4	9.6	49.3	-36.76	-1,146.5	39.8	792.7	736.5	56.21	14.103	

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 14
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 14	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
2,600.0	2,558.5	2,519.5	2,519.5	9.8	50.2	-37.13	-1,146.5	39.8	785.8	728.7	57.17	13.745	
2,657.5	2,614.7	2,575.7	2,575.7	10.0	51.3	-37.65	-1,146.5	39.8	776.3	717.7	58.53	13.263	
2,700.0	2,656.3	2,617.3	2,617.3	10.2	52.1	-38.05	-1,146.5	39.8	769.2	709.7	59.54	12.920	
2,755.9	2,711.0	2,672.0	2,672.0	10.5	53.2	-38.59	-1,146.5	39.8	760.0	699.2	60.86	12.488	
2,800.0	2,754.1	2,715.1	2,715.1	10.7	54.1	-39.02	-1,146.5	39.8	752.8	690.9	61.91	12.160	
2,854.3	2,807.3	2,768.3	2,768.3	10.9	55.2	-39.56	-1,146.5	39.8	744.0	680.8	63.21	11.771	
2,900.0	2,851.9	2,812.9	2,812.9	11.1	56.1	-40.03	-1,146.5	39.8	736.6	672.3	64.30	11.456	
2,952.7	2,903.5	2,864.5	2,864.5	11.4	57.1	-40.58	-1,146.5	39.8	728.2	662.6	65.56	11.107	
3,000.0	2,949.7	2,910.7	2,910.7	11.6	58.0	-41.08	-1,146.5	39.8	720.7	654.0	66.70	10.805	
3,051.2	2,999.8	2,960.8	2,960.8	11.8	59.0	-41.64	-1,146.5	39.8	712.6	644.7	67.93	10.490	
3,100.0	3,047.6	3,008.6	3,008.6	12.0	60.0	-42.18	-1,146.5	39.8	705.0	635.9	69.11	10.201	
3,149.6	3,096.1	3,057.1	3,057.1	12.3	61.0	-42.74	-1,146.5	39.8	697.3	627.0	70.32	9.917	
3,200.0	3,145.4	3,106.4	3,106.4	12.5	62.0	-43.33	-1,146.5	39.8	689.6	618.0	71.54	9.639	
3,248.0	3,192.4	3,153.4	3,153.4	12.7	62.9	-43.90	-1,146.5	39.8	682.3	609.6	72.71	9.384	
3,300.0	3,243.2	3,204.2	3,204.2	13.0	63.9	-44.53	-1,146.5	39.8	674.5	600.5	73.98	9.117	
3,346.4	3,288.6	3,249.6	3,249.6	13.2	64.8	-45.10	-1,146.5	39.8	667.5	592.4	75.12	8.886	
3,400.0	3,341.0	3,302.0	3,302.0	13.4	65.9	-45.78	-1,146.5	39.8	659.6	583.2	76.44	8.630	
3,444.9	3,384.9	3,345.9	3,345.9	13.6	66.8	-46.36	-1,146.5	39.8	653.1	575.5	77.54	8.422	
3,500.0	3,438.8	3,399.8	3,399.8	13.9	67.9	-47.09	-1,146.5	39.8	645.1	566.2	78.91	8.176	
3,543.3	3,481.2	3,442.2	3,442.2	14.1	68.7	-47.67	-1,146.5	39.8	639.0	559.0	79.98	7.989	
3,600.0	3,536.6	3,497.6	3,497.6	14.3	69.8	-48.45	-1,146.5	39.8	631.0	549.6	81.40	7.752	
3,641.7	3,577.5	3,538.5	3,538.5	14.5	70.6	-49.04	-1,146.5	39.8	625.2	542.8	82.44	7.584	
3,700.0	3,634.5	3,595.5	3,595.5	14.8	71.8	-49.88	-1,146.5	39.8	617.2	533.3	83.90	7.357	
3,740.1	3,673.7	3,634.7	3,634.7	15.0	72.6	-50.47	-1,146.5	39.8	611.8	526.9	84.91	7.206	
3,800.0	3,732.3	3,693.3	3,693.3	15.3	73.8	-51.37	-1,146.5	39.8	603.9	517.5	86.42	6.988	
3,838.6	3,770.0	3,731.0	3,731.0	15.4	74.5	-51.96	-1,146.5	39.8	598.8	511.4	87.39	6.852	
3,900.0	3,830.1	3,791.1	3,791.1	15.7	75.7	-52.92	-1,146.5	39.8	590.9	502.0	88.95	6.644	
3,937.0	3,866.3	3,827.3	3,827.3	15.9	76.5	-53.51	-1,146.5	39.8	586.3	496.4	89.89	6.522	
4,000.0	3,927.9	3,888.9	3,888.9	16.2	77.7	-54.54	-1,146.5	39.8	578.5	487.0	91.50	6.322	
4,035.4	3,962.5	3,923.5	3,923.5	16.3	78.4	-55.13	-1,146.5	39.8	574.2	481.8	92.40	6.214	
4,100.0	4,025.7	3,986.7	3,986.7	16.6	79.7	-56.23	-1,146.5	39.8	566.5	472.4	94.06	6.022	
4,133.8	4,058.8	4,019.8	4,019.8	16.8	80.3	-56.81	-1,146.5	39.8	562.5	467.6	94.93	5.926	
4,200.0	4,123.5	4,084.5	4,084.5	17.1	81.6	-57.98	-1,146.5	39.8	555.0	458.4	96.64	5.743	
4,232.3	4,155.1	4,116.1	4,116.1	17.2	82.3	-58.57	-1,146.5	39.8	551.4	454.0	97.47	5.657	
4,300.0	4,221.3	4,182.3	4,182.3	17.5	83.6	-59.81	-1,146.5	39.8	544.1	444.9	99.23	5.483	
4,330.7	4,251.4	4,212.4	4,212.4	17.7	84.2	-60.39	-1,146.5	39.8	540.9	440.8	100.02	5.407	
4,400.0	4,319.2	4,280.2	4,280.2	18.0	85.6	-61.71	-1,146.5	39.8	533.8	431.9	101.82	5.242	
4,429.1	4,347.6	4,308.6	4,308.6	18.1	86.1	-62.27	-1,146.5	39.8	530.9	428.3	102.58	5.175	
4,500.0	4,417.0	4,378.0	4,378.0	18.5	87.5	-63.67	-1,146.5	39.8	524.1	419.6	104.43	5.018	
4,527.5	4,443.9	4,404.9	4,404.9	18.6	88.1	-64.23	-1,146.5	39.8	521.5	416.3	105.15	4.960	
4,600.0	4,514.8	4,475.8	4,475.8	18.9	89.5	-65.71	-1,146.5	39.8	515.0	408.0	107.04	4.811	
4,626.0	4,540.2	4,501.2	4,501.2	19.0	90.0	-66.25	-1,146.5	39.8	512.8	405.0	107.72	4.760	
4,700.0	4,612.6	4,573.6	4,573.6	19.4	91.5	-67.81	-1,146.5	39.8	506.7	397.0	109.66	4.620	
4,724.4	4,636.5	4,597.5	4,597.5	19.5	91.9	-68.34	-1,146.5	39.8	504.7	394.4	110.30	4.576	
4,800.0	4,710.4	4,671.4	4,671.4	19.8	93.4	-69.98	-1,146.5	39.8	499.0	386.7	112.27	4.445	
4,822.8	4,732.7	4,693.7	4,693.7	19.9	93.9	-70.48	-1,146.5	39.8	497.4	384.5	112.87	4.407	
4,900.0	4,808.2	4,769.2	4,769.2	20.3	95.4	-72.21	-1,146.5	39.8	492.2	377.3	114.88	4.284	
4,921.2	4,829.0	4,790.0	4,790.0	20.4	95.8	-72.69	-1,146.5	39.8	490.8	375.4	115.44	4.252	
5,000.0	4,906.1	4,867.1	4,867.1	20.8	97.4	-74.50	-1,146.5	39.8	486.1	368.6	117.49	4.137	
5,019.7	4,925.3	4,886.3	4,886.3	20.8	97.8	-74.95	-1,146.5	39.8	485.0	367.0	118.00	4.110	
5,100.0	5,003.9	4,964.9	4,964.9	21.2	99.3	-76.83	-1,146.5	39.8	480.8	360.7	120.08	4.004	
5,118.1	5,021.6	4,982.6	4,982.6	21.3	99.7	-77.26	-1,146.5	39.8	480.0	359.4	120.54	3.982	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 14
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 14	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
5,200.0	5,101.7	5,062.7	5,062.7	21.7	101.3	-79.22	-1,146.5	39.8	476.4	353.8	122.65	3.884	
5,216.5	5,117.8	5,078.8	5,078.8	21.8	101.6	-79.62	-1,146.5	39.8	475.8	352.7	123.07	3.866	
5,300.0	5,199.5	5,160.5	5,160.5	22.1	103.3	-81.64	-1,146.5	39.8	472.9	347.7	125.20	3.777	
5,314.9	5,214.1	5,175.1	5,175.1	22.2	103.6	-82.01	-1,146.5	39.8	472.4	346.9	125.58	3.762	
5,400.0	5,297.3	5,258.3	5,258.3	22.6	105.2	-84.09	-1,146.5	39.8	470.2	342.5	127.72	3.682	
5,413.4	5,310.4	5,271.4	5,271.4	22.7	105.5	-84.42	-1,146.5	39.8	470.0	341.9	128.06	3.670	
5,500.0	5,395.1	5,356.1	5,356.1	23.1	107.2	-86.57	-1,146.5	39.8	468.5	338.3	130.22	3.598	
5,511.8	5,406.7	5,367.7	5,367.7	23.1	107.4	-86.86	-1,146.5	39.8	468.4	337.9	130.51	3.589	
5,514.6	5,409.5	5,370.5	5,370.5	23.1	107.5	-86.93	-1,146.5	39.8	468.3	337.8	130.58	3.587	
5,600.0	5,493.2	5,454.2	5,454.2	23.4	109.2	-88.90	-1,146.5	39.8	467.7	335.1	132.61	3.527	
5,610.2	5,503.3	5,464.3	5,464.3	23.5	109.4	-89.12	-1,146.5	39.8	467.7	334.9	132.84	3.521	
5,653.9	5,546.3	5,507.3	5,507.3	23.6	110.2	-90.00	-1,146.5	39.8	467.6	333.8	133.82	3.494 CC	
5,700.0	5,591.9	5,552.9	5,552.9	23.7	111.2	-90.85	-1,146.5	39.8	467.7	332.8	134.86	3.468	
5,708.6	5,600.4	5,561.4	5,561.4	23.7	111.3	-91.00	-1,146.5	39.8	467.7	332.7	135.05	3.463	
5,800.0	5,691.1	5,652.1	5,652.1	23.9	113.2	-92.40	-1,146.5	39.8	468.0	331.0	137.08	3.415	
5,807.1	5,698.1	5,659.1	5,659.1	23.9	113.3	-92.49	-1,146.5	39.8	468.1	330.9	137.23	3.411	
5,900.0	5,790.6	5,751.6	5,751.6	24.1	115.2	-93.53	-1,146.5	39.8	468.5	329.3	139.25	3.365	
5,905.5	5,796.1	5,757.1	5,757.1	24.1	115.3	-93.58	-1,146.5	39.8	468.6	329.2	139.37	3.362	
6,000.0	5,890.5	5,851.5	5,851.5	24.3	117.2	-94.24	-1,146.5	39.8	468.9	327.5	141.40	3.316	
6,003.9	5,894.4	5,855.4	5,855.4	24.3	117.2	-94.26	-1,146.5	39.8	468.9	327.4	141.49	3.314	
6,100.0	5,990.4	5,951.4	5,951.4	24.4	119.2	-94.51	-1,146.5	39.8	469.1	325.6	143.52	3.268	
6,102.3	5,992.8	5,953.8	5,953.8	24.4	119.2	-94.52	-1,146.5	39.8	469.1	325.5	143.57	3.267	
6,114.6	6,005.0	5,966.0	5,966.0	24.4	119.5	107.55	-1,146.5	39.8	469.1	334.5	134.54	3.487	
6,200.0	6,090.4	6,051.4	6,051.4	24.5	121.2	107.55	-1,146.5	39.8	469.1	332.7	136.41	3.439	
6,200.8	6,091.2	6,052.2	6,052.2	24.5	121.2	107.55	-1,146.5	39.8	469.1	332.7	136.42	3.438	
6,299.2	6,189.6	6,150.6	6,150.6	24.6	123.2	107.55	-1,146.5	39.8	469.1	330.5	138.56	3.386	
6,300.0	6,190.4	6,151.4	6,151.4	24.6	123.2	107.55	-1,146.5	39.8	469.1	330.5	138.57	3.385	
6,397.6	6,288.1	6,249.1	6,249.1	24.7	125.2	107.55	-1,146.5	39.8	469.1	328.4	140.69	3.334	
6,401.6	6,292.0	6,253.0	6,253.0	24.7	125.2	107.55	-1,146.5	39.8	469.1	328.3	140.78	3.332	
6,450.0	6,340.4	6,301.4	6,301.4	24.8	126.2	-162.43	-1,146.5	39.8	471.0	320.6	150.45	3.131 ES, SF	
6,496.0	6,386.1	6,347.1	6,347.1	24.8	127.1	-162.47	-1,146.5	39.8	476.5	326.4	150.10	3.175	
6,500.0	6,390.0	6,351.0	6,351.0	24.8	127.2	-162.47	-1,146.5	39.8	477.1	327.1	150.03	3.180	
6,550.0	6,438.8	6,399.8	6,399.8	25.0	128.2	-162.54	-1,146.5	39.8	487.3	338.8	148.57	3.280	
6,594.5	6,481.3	6,442.3	6,442.3	25.1	129.0	-162.60	-1,146.5	39.8	499.8	353.4	146.40	3.414	
6,600.0	6,486.5	6,447.5	6,447.5	25.1	129.2	-162.61	-1,146.5	39.8	501.6	355.6	146.07	3.434	
6,650.0	6,532.7	6,493.7	6,493.7	25.3	130.1	-162.66	-1,146.5	39.8	519.9	377.3	142.54	3.647	
6,692.9	6,570.9	6,531.9	6,531.9	25.5	130.8	-162.66	-1,146.5	39.8	538.6	399.9	138.71	3.883	
6,700.0	6,577.1	6,538.1	6,538.1	25.5	131.0	-162.65	-1,146.5	39.8	542.0	404.0	138.00	3.927	
6,750.0	6,619.4	6,580.4	6,580.4	25.7	131.8	-162.56	-1,146.5	39.8	567.9	435.3	132.53	4.285	
6,791.3	6,652.4	6,613.4	6,613.4	25.9	132.5	-162.40	-1,146.5	39.8	591.9	464.5	127.37	4.647	
6,800.0	6,659.1	6,620.1	6,620.1	26.0	132.6	-162.35	-1,146.5	39.8	597.3	471.0	126.22	4.732	
6,850.0	6,696.0	6,657.0	6,657.0	26.3	133.4	-161.96	-1,146.5	39.8	630.0	510.8	119.23	5.284	
6,889.7	6,723.2	6,684.2	6,684.2	26.5	133.9	-161.49	-1,146.5	39.8	658.3	545.0	113.33	5.809	
6,900.0	6,729.9	6,690.9	6,690.9	26.6	134.0	-161.33	-1,146.5	39.8	665.9	554.1	111.78	5.957	
6,950.0	6,760.5	6,721.5	6,721.5	27.0	134.7	-160.37	-1,146.5	39.8	704.6	600.3	104.28	6.757	
6,988.2	6,781.4	6,742.4	6,742.4	27.3	135.1	-159.32	-1,146.5	39.8	735.9	637.0	98.87	7.443	
7,000.0	6,787.4	6,748.4	6,748.4	27.4	135.2	-158.93	-1,146.5	39.8	745.9	648.5	97.33	7.664	
7,050.0	6,810.6	6,771.6	6,771.6	27.9	135.7	-156.76	-1,146.5	39.8	789.4	697.4	91.99	8.581	
7,086.6	6,825.1	6,786.1	6,786.1	28.3	136.0	-154.48	-1,146.5	39.8	822.4	732.3	90.11	9.127	
7,100.0	6,829.9	6,790.9	6,790.9	28.4	136.1	-153.44	-1,146.5	39.8	834.8	744.7	90.07	9.268	
7,150.0	6,845.1	6,806.1	6,806.1	29.0	136.4	-148.09	-1,146.5	39.8	881.8	787.3	94.49	9.332	
7,185.0	6,853.2	6,814.2	6,814.2	29.4	136.5	-142.20	-1,146.5	39.8	915.4	811.8	103.57	8.838	

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 14
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 14	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
7,200.0	6,856.0	6,817.0	6,817.0	29.6	136.6	-138.84	-1,146.5	39.8	929.9	820.5	109.43	8.498	
7,250.0	6,862.7	6,823.7	6,823.7	30.3	136.7	-121.59	-1,146.5	39.8	978.9	840.8	138.10	7.089	
7,283.4	6,864.7	6,825.7	6,825.7	30.8	136.8	-102.64	-1,146.5	39.8	1,012.0	853.6	158.34	6.391	
7,301.6	6,865.0	6,826.0	6,826.0	31.0	136.8	-90.01	-1,146.5	39.8	1,029.9	867.0	162.97	6.320	
7,381.9	6,865.0	6,826.0	6,826.0	32.3	136.8	-90.01	-1,146.5	39.8	1,109.5	944.8	164.65	6.738	
7,400.0	6,865.0	6,826.0	6,826.0	32.6	136.8	-90.01	-1,146.5	39.8	1,127.5	962.4	165.03	6.832	
7,480.3	6,865.0	6,826.0	6,826.0	34.0	136.8	-90.01	-1,146.5	39.8	1,207.2	1,040.4	166.80	7.237	
7,500.0	6,865.0	6,826.0	6,826.0	34.4	136.8	-90.01	-1,146.5	39.8	1,226.7	1,059.5	167.23	7.335	
7,578.7	6,865.0	6,826.0	6,826.0	35.9	136.8	-90.01	-1,146.5	39.8	1,305.0	1,135.9	169.04	7.720	
7,600.0	6,865.0	6,826.0	6,826.0	36.3	136.8	-90.01	-1,146.5	39.8	1,326.1	1,156.6	169.53	7.822	
7,677.1	6,865.0	6,826.0	6,826.0	37.9	136.8	-90.01	-1,146.5	39.8	1,402.9	1,231.5	171.36	8.186	
7,700.0	6,865.0	6,826.0	6,826.0	38.3	136.8	-90.01	-1,146.5	39.8	1,425.6	1,253.7	171.90	8.293	
7,775.6	6,865.0	6,826.0	6,826.0	40.0	136.8	-90.01	-1,146.5	39.8	1,500.8	1,327.1	173.74	8.638	
7,800.0	6,865.0	6,826.0	6,826.0	40.5	136.8	-90.01	-1,146.5	39.8	1,525.1	1,350.8	174.34	8.748	
7,874.0	6,865.0	6,826.0	6,826.0	42.1	136.8	-90.01	-1,146.5	39.8	1,598.8	1,422.6	176.17	9.075	
7,900.0	6,865.0	6,826.0	6,826.0	42.7	136.8	-90.01	-1,146.5	39.8	1,624.7	1,447.9	176.82	9.189	
7,972.4	6,865.0	6,826.0	6,826.0	44.4	136.8	-90.01	-1,146.5	39.8	1,696.9	1,518.2	178.65	9.499	
8,000.0	6,865.0	6,826.0	6,826.0	45.0	136.8	-90.01	-1,146.5	39.8	1,724.4	1,545.0	179.34	9.615	
8,070.8	6,865.0	6,826.0	6,826.0	46.7	136.8	-90.01	-1,146.5	39.8	1,795.0	1,613.8	181.15	9.909	
8,100.0	6,865.0	6,826.0	6,826.0	47.4	136.8	-90.01	-1,146.5	39.8	1,824.0	1,642.1	181.90	10.028	
8,169.3	6,865.0	6,826.0	6,826.0	49.1	136.8	-90.01	-1,146.5	39.8	1,893.1	1,709.4	183.69	10.306	
8,200.0	6,865.0	6,826.0	6,826.0	49.8	136.8	-90.01	-1,146.5	39.8	1,923.8	1,739.3	184.48	10.428	
8,267.7	6,865.0	6,826.0	6,826.0	51.5	136.8	-90.01	-1,146.5	39.8	1,991.3	1,805.0	186.25	10.691	
8,300.0	6,865.0	6,826.0	6,826.0	52.3	136.8	-90.01	-1,146.5	39.8	2,023.5	1,836.4	187.09	10.815	
8,366.1	6,865.0	6,826.0	6,826.0	54.0	136.8	-90.01	-1,146.5	39.8	2,089.5	1,900.6	188.83	11.065	
8,400.0	6,865.0	6,826.0	6,826.0	54.8	136.8	-90.01	-1,146.5	39.8	2,123.3	1,933.5	189.72	11.191	
8,464.5	6,865.0	6,826.0	6,826.0	56.4	136.8	-90.01	-1,146.5	39.8	2,187.7	1,996.2	191.43	11.428	
8,500.0	6,865.0	6,826.0	6,826.0	57.3	136.8	-90.01	-1,146.5	39.8	2,223.1	2,030.7	192.37	11.556	
8,563.0	6,865.0	6,826.0	6,826.0	59.0	136.8	-90.01	-1,146.5	39.8	2,285.9	2,091.9	194.05	11.780	
8,600.0	6,865.0	6,826.0	6,826.0	59.9	136.8	-90.01	-1,146.5	39.8	2,322.9	2,127.8	195.03	11.910	
8,661.4	6,865.0	6,826.0	6,826.0	61.5	136.8	-90.01	-1,146.5	39.8	2,384.1	2,187.5	196.68	12.122	
8,700.0	6,865.0	6,826.0	6,826.0	62.5	136.8	-90.01	-1,146.5	39.8	2,422.7	2,225.0	197.71	12.254	
8,759.8	6,865.0	6,826.0	6,826.0	64.0	136.8	-90.01	-1,146.5	39.8	2,482.4	2,283.1	199.32	12.454	
8,800.0	6,865.0	6,826.0	6,826.0	65.1	136.8	-90.01	-1,146.5	39.8	2,522.5	2,322.1	200.40	12.587	
8,858.2	6,865.0	6,826.0	6,826.0	66.6	136.8	-90.01	-1,146.5	39.8	2,580.7	2,378.7	201.97	12.778	
8,900.0	6,865.0	6,826.0	6,826.0	67.7	136.8	-90.01	-1,146.5	39.8	2,622.4	2,419.3	203.10	12.912	
8,956.7	6,865.0	6,826.0	6,826.0	69.2	136.8	-90.01	-1,146.5	39.8	2,679.0	2,474.3	204.63	13.092	
9,000.0	6,865.0	6,826.0	6,826.0	70.4	136.8	-90.01	-1,146.5	39.8	2,722.2	2,516.4	205.80	13.227	
9,055.1	6,865.0	6,826.0	6,826.0	71.8	136.8	-90.01	-1,146.5	39.8	2,777.2	2,569.9	207.30	13.397	
9,100.0	6,865.0	6,826.0	6,826.0	73.0	136.8	-90.01	-1,146.5	39.8	2,822.1	2,613.6	208.52	13.534	
9,153.5	6,865.0	6,826.0	6,826.0	74.4	136.8	-90.01	-1,146.5	39.8	2,875.5	2,665.6	209.97	13.695	
9,200.0	6,865.0	6,826.0	6,826.0	75.7	136.8	-90.01	-1,146.5	39.8	2,922.0	2,710.7	211.24	13.832	
9,251.9	6,865.0	6,826.0	6,826.0	77.1	136.8	-90.01	-1,146.5	39.8	2,973.9	2,761.2	212.66	13.984	
9,300.0	6,865.0	6,826.0	6,826.0	78.4	136.8	-90.01	-1,146.5	39.8	3,021.9	2,807.9	213.97	14.123	
9,350.4	6,865.0	6,826.0	6,826.0	79.7	136.8	-90.01	-1,146.5	39.8	3,072.2	2,856.8	215.34	14.266	
9,400.0	6,865.0	6,826.0	6,826.0	81.0	136.8	-90.01	-1,146.5	39.8	3,121.7	2,905.0	216.70	14.406	
9,448.8	6,865.0	6,826.0	6,826.0	82.4	136.8	-90.01	-1,146.5	39.8	3,170.5	2,952.5	218.04	14.541	
9,500.0	6,865.0	6,826.0	6,826.0	83.7	136.8	-90.01	-1,146.5	39.8	3,221.6	3,002.2	219.44	14.681	
9,547.2	6,865.0	6,826.0	6,826.0	85.0	136.8	-90.01	-1,146.5	39.8	3,268.8	3,048.1	220.74	14.809	
9,600.0	6,865.0	6,826.0	6,826.0	86.4	136.8	-90.01	-1,146.5	39.8	3,321.6	3,099.4	222.18	14.950	
9,645.6	6,865.0	6,826.0	6,826.0	87.7	136.8	-90.01	-1,146.5	39.8	3,367.2	3,143.7	223.44	15.070	
9,700.0	6,865.0	6,826.0	6,826.0	89.2	136.8	-90.01	-1,146.5	39.8	3,421.5	3,196.5	224.93	15.211	

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 14
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 14	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	
9,744.1	6,865.0	6,826.0	6,826.0	90.4	136.8	-90.01	-1,146.5	39.8	3,465.5	3,239.4	226.14	15.324	
9,800.0	6,865.0	6,826.0	6,826.0	91.9	136.8	-90.01	-1,146.5	39.8	3,521.4	3,293.7	227.68	15.466	
9,842.5	6,865.0	6,826.0	6,826.0	93.0	136.8	-90.01	-1,146.5	39.8	3,563.8	3,335.0	228.85	15.573	
9,900.0	6,865.0	6,826.0	6,826.0	94.6	136.8	-90.01	-1,146.5	39.8	3,621.3	3,390.9	230.44	15.715	
9,940.9	6,865.0	6,826.0	6,826.0	95.7	136.8	-90.01	-1,146.5	39.8	3,662.2	3,430.6	231.57	15.815	
10,000.0	6,865.0	6,826.0	6,826.0	97.3	136.8	-90.01	-1,146.5	39.8	3,721.2	3,488.0	233.20	15.958	
10,039.3	6,865.0	6,826.0	6,826.0	98.4	136.8	-90.01	-1,146.5	39.8	3,760.5	3,526.3	234.28	16.051	
10,100.0	6,865.0	6,826.0	6,826.0	100.1	136.8	-90.01	-1,146.5	39.8	3,821.2	3,585.2	235.96	16.194	
10,137.8	6,865.0	6,826.0	6,826.0	101.1	136.8	-90.01	-1,146.5	39.8	3,858.9	3,621.9	237.00	16.282	
10,200.0	6,865.0	6,826.0	6,826.0	102.8	136.8	-90.01	-1,146.5	39.8	3,921.1	3,682.4	238.72	16.425	
10,236.2	6,865.0	6,826.0	6,826.0	103.8	136.8	-90.01	-1,146.5	39.8	3,957.3	3,717.5	239.72	16.508	
10,300.0	6,865.0	6,826.0	6,826.0	105.5	136.8	-90.01	-1,146.5	39.8	4,021.0	3,779.5	241.49	16.651	
10,334.6	6,865.0	6,826.0	6,826.0	106.5	136.8	-90.01	-1,146.5	39.8	4,055.6	3,813.2	242.45	16.728	
10,400.0	6,865.0	6,826.0	6,826.0	108.3	136.8	-90.01	-1,146.5	39.8	4,121.0	3,876.7	244.26	16.872	
10,433.0	6,865.0	6,826.0	6,826.0	109.2	136.8	-90.01	-1,146.5	39.8	4,154.0	3,908.8	245.17	16.943	
10,500.0	6,865.0	6,826.0	6,826.0	111.0	136.8	-90.01	-1,146.5	39.8	4,220.9	3,973.9	247.03	17.087	
10,531.5	6,865.0	6,826.0	6,826.0	111.9	136.8	-90.01	-1,146.5	39.8	4,252.4	4,004.5	247.90	17.154	
10,600.0	6,865.0	6,826.0	6,826.0	113.8	136.8	-90.01	-1,146.5	39.8	4,320.9	4,071.1	249.80	17.297	
10,629.9	6,865.0	6,826.0	6,826.0	114.6	136.8	-90.01	-1,146.5	39.8	4,350.7	4,100.1	250.63	17.359	
10,700.0	6,865.0	6,826.0	6,826.0	116.5	136.8	-90.00	-1,146.5	39.8	4,420.8	4,168.2	252.57	17.503	
10,728.3	6,865.0	6,826.0	6,826.0	117.3	136.8	-90.00	-1,146.5	39.8	4,449.1	4,195.8	253.36	17.560	
10,800.0	6,865.0	6,826.0	6,826.0	119.3	136.8	-90.00	-1,146.5	39.8	4,520.7	4,265.4	255.35	17.704	
10,826.7	6,865.0	6,826.0	6,826.0	120.0	136.8	-90.00	-1,146.5	39.8	4,547.5	4,291.4	256.09	17.757	
10,900.0	6,865.0	6,826.0	6,826.0	122.1	136.8	-90.00	-1,146.5	39.8	4,620.7	4,362.6	258.13	17.901	
10,925.2	6,865.0	6,826.0	6,826.0	122.7	136.8	-90.00	-1,146.5	39.8	4,645.9	4,387.0	258.83	17.950	
11,000.0	6,865.0	6,826.0	6,826.0	124.8	136.8	-90.00	-1,146.5	39.8	4,720.7	4,459.7	260.91	18.093	
11,023.6	6,865.0	6,826.0	6,826.0	125.5	136.8	-90.00	-1,146.5	39.8	4,744.2	4,482.7	261.56	18.138	
11,100.0	6,865.0	6,826.0	6,826.0	127.6	136.8	-90.00	-1,146.5	39.8	4,820.6	4,556.9	263.69	18.282	
11,122.0	6,865.0	6,826.0	6,826.0	128.2	136.8	-90.00	-1,146.5	39.8	4,842.6	4,578.3	264.30	18.323	
11,200.0	6,865.0	6,826.0	6,826.0	130.3	136.8	-90.00	-1,146.5	39.8	4,920.6	4,654.1	266.47	18.466	
11,220.4	6,865.0	6,826.0	6,826.0	130.9	136.8	-90.00	-1,146.5	39.8	4,941.0	4,674.0	267.04	18.503	
11,300.0	6,865.0	6,826.0	6,826.0	133.1	136.8	-90.00	-1,146.5	39.8	5,020.5	4,751.3	269.25	18.646	
11,318.9	6,865.0	6,826.0	6,826.0	133.6	136.8	-90.00	-1,146.5	39.8	5,039.4	4,769.6	269.78	18.680	
11,400.0	6,865.0	6,826.0	6,826.0	135.9	136.8	-90.00	-1,146.5	39.8	5,120.5	4,848.5	272.04	18.823	
11,417.3	6,865.0	6,826.0	6,826.0	136.4	136.8	-90.00	-1,146.5	39.8	5,137.8	4,865.3	272.52	18.853	
11,500.0	6,865.0	6,826.0	6,826.0	138.7	136.8	-90.00	-1,146.5	39.8	5,220.5	4,945.6	274.82	18.996	
11,515.7	6,865.0	6,826.0	6,826.0	139.1	136.8	-90.00	-1,146.5	39.8	5,236.2	4,960.9	275.26	19.023	
11,600.0	6,865.0	6,826.0	6,826.0	141.4	136.8	-90.00	-1,146.5	39.8	5,320.4	5,042.8	277.61	19.165	
11,614.1	6,865.0	6,826.0	6,826.0	141.8	136.8	-90.00	-1,146.5	39.8	5,334.6	5,056.6	278.00	19.189	
11,700.0	6,865.0	6,826.0	6,826.0	144.2	136.8	-89.99	-1,146.5	39.8	5,420.4	5,140.0	280.39	19.331	
11,712.6	6,865.0	6,826.0	6,826.0	144.5	136.8	-89.99	-1,146.5	39.8	5,433.0	5,152.2	280.74	19.352	
11,800.0	6,865.0	6,826.0	6,826.0	147.0	136.8	-89.99	-1,146.5	39.8	5,520.3	5,237.2	283.18	19.494	
11,811.0	6,865.0	6,826.0	6,826.0	147.3	136.8	-89.99	-1,146.5	39.8	5,531.3	5,247.9	283.49	19.512	
11,900.0	6,865.0	6,826.0	6,826.0	149.8	136.8	-89.99	-1,146.5	39.8	5,620.3	5,334.3	285.97	19.654	
11,909.4	6,865.0	6,826.0	6,826.0	150.0	136.8	-89.99	-1,146.5	39.8	5,629.7	5,343.5	286.23	19.668	
12,000.0	6,865.0	6,826.0	6,826.0	152.5	136.8	-89.99	-1,146.5	39.8	5,720.3	5,431.5	288.76	19.810	
12,007.8	6,865.0	6,826.0	6,826.0	152.7	136.8	-89.99	-1,146.5	39.8	5,728.1	5,439.2	288.98	19.822	
12,100.0	6,865.0	6,826.0	6,826.0	155.3	136.8	-89.99	-1,146.5	39.8	5,820.3	5,528.7	291.55	19.963	
12,106.3	6,865.0	6,826.0	6,826.0	155.5	136.8	-89.99	-1,146.5	39.8	5,826.5	5,534.8	291.72	19.973	
12,200.0	6,865.0	6,826.0	6,826.0	158.1	136.8	-89.99	-1,146.5	39.8	5,920.2	5,625.9	294.34	20.113	
12,204.7	6,865.0	6,826.0	6,826.0	158.2	136.8	-89.99	-1,146.5	39.8	5,924.9	5,630.5	294.47	20.120	
12,300.0	6,865.0	6,826.0	6,826.0	160.9	136.8	-89.99	-1,146.5	39.8	6,020.2	5,723.1	297.13	20.261	

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 14
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 14	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	
12,303.1	6,865.0	6,826.0	6,826.0	161.0	136.8	-89.99	-1,146.5	39.8	6,023.3	5,726.1	297.22	20.266	
12,400.0	6,865.0	6,826.0	6,826.0	163.7	136.8	-89.98	-1,146.5	39.8	6,120.2	5,820.2	299.92	20.406	
12,401.5	6,865.0	6,826.0	6,826.0	163.7	136.8	-89.98	-1,146.5	39.8	6,121.7	5,821.7	299.97	20.408	
12,500.0	6,865.0	6,826.0	6,826.0	166.4	136.8	-89.98	-1,146.5	39.8	6,220.1	5,917.4	302.72	20.548	
12,598.4	6,865.0	6,826.0	6,826.0	169.2	136.8	-89.98	-1,146.5	39.8	6,318.5	6,013.1	305.47	20.685	
12,600.0	6,865.0	6,826.0	6,826.0	169.2	136.8	-89.98	-1,146.5	39.8	6,320.1	6,014.6	305.51	20.687	
12,696.8	6,865.0	6,826.0	6,826.0	171.9	136.8	-89.98	-1,146.5	39.8	6,416.9	6,108.7	308.22	20.820	
12,700.0	6,865.0	6,826.0	6,826.0	172.0	136.8	-89.98	-1,146.5	39.8	6,420.1	6,111.8	308.31	20.824	
12,795.2	6,865.0	6,826.0	6,826.0	174.7	136.8	-89.98	-1,146.5	39.8	6,515.3	6,204.4	310.97	20.952	
12,800.0	6,865.0	6,826.0	6,826.0	174.8	136.8	-89.98	-1,146.5	39.8	6,520.1	6,209.0	311.10	20.958	
12,893.7	6,865.0	6,826.0	6,826.0	177.4	136.8	-89.98	-1,146.5	39.8	6,613.7	6,300.0	313.72	21.082	
12,900.0	6,865.0	6,826.0	6,826.0	177.6	136.8	-89.98	-1,146.5	39.8	6,620.0	6,306.1	313.89	21.090	
12,992.1	6,865.0	6,826.0	6,826.0	180.2	136.8	-89.98	-1,146.5	39.8	6,712.1	6,395.7	316.47	21.209	
13,000.0	6,865.0	6,826.0	6,826.0	180.4	136.8	-89.98	-1,146.5	39.8	6,720.0	6,403.3	316.69	21.220	
13,090.5	6,865.0	6,826.0	6,826.0	182.9	136.8	-89.97	-1,146.5	39.8	6,810.5	6,491.3	319.22	21.335	
13,100.0	6,865.0	6,826.0	6,826.0	183.2	136.8	-89.97	-1,146.5	39.8	6,820.0	6,500.5	319.49	21.347	
13,188.9	6,865.0	6,826.0	6,826.0	185.6	136.8	-89.97	-1,146.5	39.8	6,908.9	6,587.0	321.97	21.458	
13,200.0	6,865.0	6,826.0	6,826.0	185.9	136.8	-89.97	-1,146.5	39.8	6,920.0	6,597.7	322.28	21.472	
13,287.4	6,865.0	6,826.0	6,826.0	188.4	136.8	-89.97	-1,146.5	39.8	7,007.3	6,682.6	324.73	21.579	
13,300.0	6,865.0	6,826.0	6,826.0	188.7	136.8	-89.97	-1,146.5	39.8	7,020.0	6,694.9	325.08	21.595	
13,385.8	6,865.0	6,826.0	6,826.0	191.1	136.8	-89.97	-1,146.5	39.8	7,105.7	6,778.3	327.48	21.698	
13,400.0	6,865.0	6,826.0	6,826.0	191.5	136.8	-89.97	-1,146.5	39.8	7,119.9	6,792.1	327.88	21.715	
13,484.2	6,865.0	6,826.0	6,826.0	193.9	136.8	-89.97	-1,146.5	39.8	7,204.1	6,873.9	330.23	21.815	
13,500.0	6,865.0	6,826.0	6,826.0	194.3	136.8	-89.97	-1,146.5	39.8	7,219.9	6,889.2	330.67	21.834	
13,582.6	6,865.0	6,826.0	6,826.0	196.6	136.8	-89.97	-1,146.5	39.8	7,302.6	6,969.6	332.99	21.931	
13,600.0	6,865.0	6,826.0	6,826.0	197.1	136.8	-89.96	-1,146.5	39.8	7,319.9	6,986.4	333.47	21.951	
13,681.1	6,865.0	6,826.0	6,826.0	199.4	136.8	-89.96	-1,146.5	39.8	7,401.0	7,065.2	335.74	22.044	
13,700.0	6,865.0	6,826.0	6,826.0	199.9	136.8	-89.96	-1,146.5	39.8	7,419.9	7,083.6	336.27	22.065	
13,779.5	6,865.0	6,826.0	6,826.0	202.1	136.8	-89.96	-1,146.5	39.8	7,499.4	7,160.9	338.49	22.155	
13,800.0	6,865.0	6,826.0	6,826.0	202.7	136.8	-89.96	-1,146.5	39.8	7,519.9	7,180.8	339.07	22.178	
13,877.9	6,865.0	6,826.0	6,826.0	204.9	136.8	-89.96	-1,146.5	39.8	7,597.8	7,256.5	341.25	22.265	
13,900.0	6,865.0	6,826.0	6,826.0	205.5	136.8	-89.96	-1,146.5	39.8	7,619.8	7,278.0	341.87	22.289	
13,976.3	6,865.0	6,826.0	6,826.0	207.6	136.8	-89.96	-1,146.5	39.8	7,696.2	7,352.2	344.00	22.372	
14,000.0	6,865.0	6,826.0	6,826.0	208.3	136.8	-89.96	-1,146.5	39.8	7,719.8	7,375.2	344.67	22.398	
14,074.8	6,865.0	6,826.0	6,826.0	210.4	136.8	-89.95	-1,146.5	39.8	7,794.6	7,447.8	346.76	22.478	
14,100.0	6,865.0	6,826.0	6,826.0	211.1	136.8	-89.95	-1,146.5	39.8	7,819.8	7,472.3	347.47	22.505	
14,173.2	6,865.0	6,826.0	6,826.0	213.1	136.8	-89.95	-1,146.5	39.8	7,893.0	7,543.5	349.52	22.583	
14,200.0	6,865.0	6,826.0	6,826.0	213.9	136.8	-89.95	-1,146.5	39.8	7,919.8	7,569.5	350.27	22.611	
14,271.6	6,865.0	6,826.0	6,826.0	215.9	136.8	-89.95	-1,146.5	39.8	7,991.4	7,639.1	352.27	22.685	
14,300.0	6,865.0	6,826.0	6,826.0	216.7	136.8	-89.95	-1,146.5	39.8	8,019.8	7,666.7	353.07	22.715	
14,370.0	6,865.0	6,826.0	6,826.0	218.6	136.8	-89.95	-1,146.5	39.8	8,089.8	7,734.8	355.03	22.786	
14,400.0	6,865.0	6,826.0	6,826.0	219.5	136.8	-89.95	-1,146.5	39.8	8,119.8	7,763.9	355.87	22.817	
14,468.5	6,865.0	6,826.0	6,826.0	221.4	136.8	-89.95	-1,146.5	39.8	8,188.2	7,830.4	357.78	22.886	
14,500.0	6,865.0	6,826.0	6,826.0	222.3	136.8	-89.94	-1,146.5	39.8	8,219.7	7,861.1	358.67	22.918	
14,566.9	6,865.0	6,826.0	6,826.0	224.1	136.8	-89.94	-1,146.5	39.8	8,286.6	7,926.1	360.54	22.984	
14,600.0	6,865.0	6,826.0	6,826.0	225.1	136.8	-89.94	-1,146.5	39.8	8,319.7	7,958.3	361.47	23.017	
14,665.3	6,865.0	6,826.0	6,826.0	226.9	136.8	-89.94	-1,146.5	39.8	8,385.0	8,021.8	363.30	23.080	
14,700.0	6,865.0	6,826.0	6,826.0	227.9	136.8	-89.94	-1,146.5	39.8	8,419.7	8,055.5	364.27	23.114	
14,763.7	6,865.0	6,826.0	6,826.0	229.6	136.8	-89.94	-1,146.5	39.8	8,483.5	8,117.4	366.05	23.175	
14,800.0	6,865.0	6,826.0	6,826.0	230.6	136.8	-89.94	-1,146.5	39.8	8,519.7	8,152.6	367.07	23.210	
14,862.2	6,865.0	6,826.0	6,826.0	232.4	136.8	-89.94	-1,146.5	39.8	8,581.9	8,213.1	368.81	23.269	
14,900.0	6,865.0	6,826.0	6,826.0	233.4	136.8	-89.93	-1,146.5	39.8	8,619.7	8,249.8	369.87	23.305	

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 14
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 14	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
14,960.6	6,865.0	6,826.0	6,826.0	235.1	136.8	-89.93	-1,146.5	39.8	8,680.3	8,308.7	371.57	23.361	
15,000.0	6,865.0	6,826.0	6,826.0	236.2	136.8	-89.93	-1,146.5	39.8	8,719.7	8,347.0	372.67	23.398	
15,059.0	6,865.0	6,826.0	6,826.0	237.3	136.8	-89.93	-1,146.5	39.8	8,778.7	8,404.9	373.75	23.488	
15,100.4	6,865.0	6,826.0	6,826.0	238.1	136.8	-89.93	-1,146.5	39.8	8,820.1	8,445.6	374.51	23.551	

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 14
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 14	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	57.76	54.3	86.1	103.3				
98.4	98.4	80.1	80.1	0.1	0.0	57.87	54.2	86.3	101.9	101.7	0.14	738.067 CC	
100.0	100.0	81.7	81.7	0.1	0.0	57.87	54.2	86.3	101.9	101.7	0.14	724.149	
196.8	196.8	178.5	178.5	0.3	0.2	58.21	53.8	86.9	102.2	101.7	0.49	206.610	
200.0	200.0	181.7	181.7	0.3	0.2	58.22	53.8	86.9	102.2	101.7	0.51	201.685	
295.3	295.3	277.4	277.4	0.5	0.3	58.54	53.4	87.3	102.4	101.5	0.81	126.932	
300.0	300.0	282.1	282.1	0.5	0.3	58.55	53.4	87.3	102.3	101.5	0.82	124.752	
304.3	304.3	286.4	286.4	0.6	0.3	-143.50	53.4	87.3	102.3	101.5	0.83	122.887 ES	
393.7	393.7	376.2	376.2	0.7	0.3	-143.78	52.9	87.3	103.3	102.2	1.07	96.214	
400.0	400.0	382.6	382.5	0.7	0.4	-143.83	52.8	87.3	103.4	102.3	1.09	94.848	
492.1	492.0	474.7	474.7	0.9	0.4	-145.11	52.3	86.9	106.7	105.3	1.34	79.848	
500.0	499.8	482.6	482.5	0.9	0.4	-145.26	52.2	86.9	107.1	105.7	1.36	78.909	
590.5	590.1	572.9	572.8	1.2	0.5	-147.34	51.7	86.5	112.9	111.3	1.62	69.766	
600.0	599.5	582.3	582.3	1.2	0.5	-147.59	51.7	86.5	113.6	112.0	1.64	69.098	
689.0	687.8	670.7	670.7	1.4	0.5	-150.15	51.2	86.0	122.2	120.2	1.92	63.707	
700.0	698.7	681.6	681.6	1.4	0.5	-150.48	51.2	85.9	123.4	121.4	1.95	63.252	
787.4	785.1	768.1	768.1	1.7	0.6	-153.16	50.7	85.5	134.6	132.4	2.23	60.284	
800.0	797.5	780.6	780.6	1.8	0.6	-153.55	50.6	85.4	136.5	134.2	2.27	60.039	
885.8	881.8	864.8	864.8	2.1	0.6	-156.18	50.2	84.9	150.5	147.9	2.56	58.759	
899.9	895.5	878.6	878.6	2.1	0.6	-156.60	50.2	84.8	153.1	150.5	2.61	58.707	
984.2	978.0	961.1	961.1	2.5	0.6	-159.02	49.9	84.3	168.8	166.0	2.86	58.958	
1,000.0	993.4	976.5	976.5	2.6	0.7	-159.43	49.9	84.2	171.8	168.9	2.91	59.042	
1,082.7	1,074.3	1,057.4	1,057.4	2.9	0.7	-161.40	49.8	83.5	187.5	184.4	3.16	59.395	
1,100.0	1,091.3	1,074.4	1,074.3	3.0	0.7	-161.78	49.8	83.4	190.9	187.6	3.21	59.502	
1,181.1	1,170.6	1,153.6	1,153.6	3.3	0.7	-163.42	49.9	82.6	206.5	203.1	3.45	59.939	
1,200.0	1,189.1	1,172.1	1,172.1	3.4	0.7	-163.77	49.9	82.4	210.2	206.7	3.50	60.061	
1,279.5	1,266.9	1,249.5	1,249.5	3.8	0.7	-165.15	50.2	81.5	225.9	222.1	3.73	60.509	
1,300.0	1,286.9	1,269.4	1,269.4	3.9	0.8	-165.49	50.3	81.3	230.0	226.2	3.79	60.662	
1,377.9	1,363.1	1,344.4	1,344.3	4.2	0.8	-166.67	50.9	80.4	245.7	241.7	4.01	61.233	
1,400.0	1,384.7	1,365.4	1,365.4	4.3	0.8	-166.99	51.2	80.2	250.3	246.2	4.08	61.363	
1,476.4	1,459.4	1,438.0	1,437.9	4.7	0.8	-168.03	52.5	79.5	266.5	262.2	4.30	61.995	
1,500.0	1,482.5	1,460.3	1,460.2	4.8	0.8	-168.32	53.0	79.3	271.6	267.2	4.37	62.202	
1,574.8	1,555.7	1,531.5	1,531.4	5.1	0.8	-169.18	54.8	79.1	288.3	283.7	4.58	62.915	
1,600.0	1,580.3	1,555.7	1,555.6	5.2	0.8	-169.44	55.4	79.1	294.0	289.3	4.65	63.165	
1,673.2	1,652.0	1,626.0	1,625.9	5.5	0.8	-170.11	57.3	79.3	310.7	305.9	4.86	63.910	
1,700.0	1,678.1	1,651.6	1,651.4	5.7	0.8	-170.33	58.0	79.4	316.9	312.0	4.94	64.182	
1,771.6	1,748.2	1,720.1	1,720.0	6.0	0.9	-170.86	60.1	79.9	333.7	328.5	5.14	64.896	
1,800.0	1,776.0	1,747.6	1,747.4	6.1	0.9	-171.05	60.9	80.2	340.3	335.1	5.22	65.175	
1,870.1	1,844.5	1,815.4	1,815.2	6.4	0.9	-171.46	62.9	81.0	356.9	351.5	5.42	65.827	
1,900.0	1,873.8	1,844.4	1,844.1	6.6	0.9	-171.61	63.7	81.5	364.0	358.5	5.51	66.100	
1,968.5	1,940.8	1,910.4	1,910.1	6.9	0.9	-171.90	65.5	82.7	380.2	374.5	5.70	66.684	
2,000.0	1,971.6	1,940.2	1,939.9	7.0	0.9	-172.00	66.3	83.4	387.8	382.0	5.79	66.938	
2,066.9	2,037.1	2,003.6	2,003.3	7.3	0.9	-172.19	68.0	85.0	404.0	398.0	5.99	67.473	
2,100.0	2,069.4	2,036.0	2,035.6	7.5	0.9	-172.27	68.9	86.0	412.1	406.0	6.08	67.732	
2,165.3	2,133.3	2,099.9	2,099.5	7.8	0.9	-172.37	70.5	88.1	427.9	421.7	6.27	68.202	
2,200.0	2,167.2	2,133.9	2,133.5	7.9	0.9	-172.39	71.2	89.3	436.3	429.9	6.37	68.447	
2,263.8	2,229.6	2,196.7	2,196.2	8.2	1.0	-172.42	72.4	91.8	451.6	445.1	6.56	68.855	
2,300.0	2,265.0	2,232.5	2,231.9	8.4	1.0	-172.42	72.9	93.2	460.3	453.6	6.66	69.068	
2,362.2	2,325.9	2,294.0	2,293.4	8.7	1.0	-172.42	73.8	95.6	475.0	468.2	6.85	69.398	
2,400.0	2,362.9	2,331.3	2,330.6	8.8	1.0	-172.41	74.2	97.2	483.9	477.0	6.96	69.578	
2,460.6	2,422.2	2,391.0	2,390.4	9.1	1.0	-172.37	74.8	99.7	498.1	491.0	7.13	69.837	
2,500.0	2,460.7	2,429.4	2,428.6	9.3	1.0	-172.34	75.0	101.3	507.3	500.0	7.25	69.985	

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 14
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 14	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	
2,559.0	2,518.4	2,486.6	2,485.8	9.6	1.0	-172.30	75.4	103.9	521.1	513.6	7.42	70.195	
2,600.0	2,558.5	2,526.2	2,525.4	9.8	1.0	-172.26	75.7	105.6	530.6	523.1	7.54	70.330	
2,657.5	2,614.7	2,581.7	2,580.8	10.0	1.0	-172.23	76.2	108.1	544.1	536.4	7.72	70.516	
2,700.0	2,656.3	2,623.0	2,622.0	10.2	1.1	-172.20	76.5	109.9	554.1	546.2	7.84	70.649	
2,755.9	2,711.0	2,677.4	2,676.4	10.5	1.1	-172.16	76.9	112.4	567.2	559.2	8.01	70.814	
2,800.0	2,754.1	2,720.4	2,719.4	10.7	1.1	-172.12	77.2	114.3	577.5	569.4	8.14	70.939	
2,854.3	2,807.3	2,773.3	2,772.2	10.9	1.1	-172.09	77.6	116.7	590.2	581.9	8.30	71.088	
2,900.0	2,851.9	2,817.9	2,816.8	11.1	1.1	-172.06	78.0	118.7	600.9	592.5	8.44	71.208	
2,952.7	2,903.5	2,869.4	2,868.3	11.4	1.1	-172.04	78.4	120.9	613.3	604.7	8.60	71.341	
3,000.0	2,949.7	2,915.9	2,914.7	11.6	1.1	-172.04	78.8	122.7	624.3	615.5	8.74	71.456	
3,051.2	2,999.8	2,967.1	2,965.9	11.8	1.1	-172.03	79.2	124.8	636.1	627.2	8.89	71.569	
3,100.0	3,047.6	3,015.5	3,014.2	12.0	1.1	-172.01	79.5	126.7	647.3	638.3	9.03	71.662	
3,149.6	3,096.1	3,063.6	3,062.3	12.3	1.2	-172.01	79.8	128.5	658.7	649.5	9.18	71.752	
3,200.0	3,145.4	3,112.9	3,111.6	12.5	1.2	-172.02	80.1	130.2	670.3	660.9	9.33	71.845	
3,248.0	3,192.4	3,161.1	3,159.8	12.7	1.2	-172.04	80.5	131.7	681.2	671.7	9.47	71.921	
3,300.0	3,243.2	3,213.7	3,212.3	13.0	1.2	-172.07	80.8	133.3	692.9	683.3	9.62	71.994	
3,346.4	3,288.6	3,261.5	3,260.1	13.2	1.2	-172.10	81.0	134.6	703.3	693.5	9.76	72.050	
3,400.0	3,341.0	3,316.3	3,314.9	13.4	1.2	-172.12	81.0	136.0	715.0	705.1	9.92	72.093	
3,444.9	3,384.9	3,361.5	3,360.0	13.6	1.2	-172.15	80.9	137.2	724.7	714.6	10.05	72.119	
3,500.0	3,438.8	3,416.7	3,415.2	13.9	1.2	-172.18	80.7	138.4	736.5	726.3	10.21	72.137	
3,543.3	3,481.2	3,459.6	3,458.2	14.1	1.3	-172.20	80.5	139.4	745.7	735.4	10.34	72.143	
3,600.0	3,536.6	3,515.6	3,514.1	14.3	1.3	-172.23	80.3	140.6	757.7	747.2	10.50	72.144	
3,641.7	3,577.5	3,556.2	3,554.7	14.5	1.3	-172.25	80.1	141.4	766.6	756.0	10.63	72.142	
3,700.0	3,634.5	3,613.3	3,611.8	14.8	1.3	-172.28	79.8	142.6	778.9	768.2	10.80	72.140	
3,740.1	3,673.7	3,653.5	3,652.0	15.0	1.3	-172.30	79.5	143.5	787.4	776.5	10.92	72.134	
3,800.0	3,732.3	3,712.9	3,711.4	15.3	1.3	-172.31	79.0	145.0	800.0	788.9	11.09	72.115	
3,838.6	3,770.0	3,749.9	3,748.3	15.4	1.3	-172.31	78.6	145.9	808.1	796.9	11.21	72.103	
3,900.0	3,830.1	3,808.8	3,807.2	15.7	1.3	-172.31	78.1	147.5	821.1	809.7	11.39	72.090	
3,937.0	3,866.3	3,844.5	3,842.9	15.9	1.4	-172.31	77.8	148.5	828.9	817.4	11.50	72.079	
4,000.0	3,927.9	3,905.2	3,903.6	16.2	1.4	-172.31	77.3	150.1	842.3	830.7	11.69	72.067	
4,035.4	3,962.5	3,939.6	3,938.0	16.3	1.4	-172.32	77.1	151.0	849.9	838.1	11.79	72.064	
4,100.0	4,025.7	4,002.3	4,000.7	16.6	1.4	-172.36	77.0	152.2	863.7	851.7	11.99	72.064	
4,133.8	4,058.8	4,035.3	4,033.7	16.8	1.4	-172.40	77.0	152.7	871.0	858.9	12.08	72.074	
4,200.0	4,123.5	4,099.8	4,098.1	17.1	1.4	-172.49	77.4	153.2	885.1	872.9	12.28	72.094	
4,232.3	4,155.1	4,132.3	4,130.6	17.2	1.4	-172.56	77.6	153.3	892.0	879.7	12.37	72.106	
4,300.0	4,221.3	4,200.6	4,198.9	17.5	1.4	-172.70	78.1	153.2	906.4	893.8	12.57	72.123	
4,330.7	4,251.4	4,230.6	4,228.9	17.7	1.4	-172.76	78.4	153.1	912.9	900.2	12.66	72.128	
4,400.0	4,319.2	4,298.3	4,296.7	18.0	1.4	-172.91	78.9	152.7	927.5	914.7	12.86	72.139	
4,429.1	4,347.6	4,326.6	4,325.0	18.1	1.4	-172.97	79.2	152.6	933.7	920.7	12.94	72.142	
4,500.0	4,417.0	4,395.5	4,393.9	18.5	1.5	-173.12	79.8	152.2	948.7	935.5	13.15	72.149	
4,527.5	4,443.9	4,422.9	4,421.2	18.6	1.5	-173.18	80.0	152.0	954.5	941.3	13.23	72.153	
4,600.0	4,514.8	4,495.0	4,493.4	18.9	1.5	-173.33	80.7	151.6	969.7	956.3	13.44	72.158	
4,626.0	4,540.2	4,520.7	4,519.1	19.0	1.5	-173.38	80.9	151.4	975.2	961.7	13.51	72.159	
4,700.0	4,612.6	4,593.9	4,592.3	19.4	1.5	-173.52	81.3	150.9	990.7	977.0	13.73	72.159	
4,724.4	4,636.5	4,618.1	4,616.4	19.5	1.5	-173.57	81.5	150.8	995.8	982.0	13.80	72.158	
4,800.0	4,710.4	4,692.9	4,691.2	19.8	1.5	-173.70	81.8	150.3	1,011.5	997.5	14.02	72.151	
4,822.8	4,732.7	4,715.3	4,713.6	19.9	1.5	-173.74	81.9	150.2	1,016.3	1,002.2	14.09	72.148	
4,900.0	4,808.2	4,790.4	4,788.7	20.3	1.5	-173.86	82.2	149.9	1,032.3	1,018.0	14.31	72.136	
4,921.2	4,829.0	4,811.0	4,809.3	20.4	1.5	-173.89	82.3	149.8	1,036.7	1,022.4	14.37	72.132	
5,000.0	4,906.1	4,886.9	4,885.2	20.8	1.5	-174.01	82.6	149.5	1,053.2	1,038.6	14.60	72.116	
5,019.7	4,925.3	4,905.9	4,904.2	20.8	1.5	-174.03	82.7	149.5	1,057.3	1,042.7	14.66	72.112	
5,100.0	5,003.9	4,983.9	4,982.2	21.2	1.5	-174.13	83.0	149.5	1,074.2	1,059.3	14.90	72.090	

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 14
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 14	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	
5,118.1	5,021.6	5,001.5	4,999.8	21.3	1.5	-174.15	83.1	149.5	1,078.0	1,063.0	14.95	72.085	
5,200.0	5,101.7	5,082.1	5,080.4	21.7	1.5	-174.24	83.2	149.7	1,095.2	1,080.0	15.20	72.067	
5,216.5	5,117.8	5,098.4	5,096.7	21.8	1.5	-174.25	83.2	149.8	1,098.7	1,083.4	15.25	72.063	
5,300.0	5,199.5	5,180.6	5,178.9	22.1	1.6	-174.32	83.2	150.3	1,116.1	1,100.6	15.49	72.037	
5,314.9	5,214.1	5,195.4	5,193.7	22.2	1.6	-174.33	83.2	150.4	1,119.3	1,103.7	15.54	72.032	
5,400.0	5,297.3	5,277.0	5,275.4	22.6	1.6	-174.39	83.2	151.0	1,137.1	1,121.3	15.79	72.007	
5,413.4	5,310.4	5,289.9	5,288.2	22.7	1.6	-174.40	83.2	151.1	1,139.9	1,124.1	15.83	72.003	
5,500.0	5,395.1	5,372.1	5,370.4	23.1	1.6	-174.44	83.2	151.9	1,158.2	1,142.1	16.09	71.980	
5,511.8	5,406.7	5,383.3	5,381.6	23.1	1.6	-174.45	83.2	152.0	1,160.7	1,144.6	16.13	71.978	
5,514.6	5,409.5	5,386.0	5,384.3	23.1	1.6	-174.45	83.2	152.1	1,161.4	1,145.2	16.13	71.977	
5,600.0	5,493.2	5,466.9	5,465.2	23.4	1.6	-174.53	83.5	152.8	1,178.4	1,162.1	16.29	72.345	
5,610.2	5,503.3	5,476.6	5,474.9	23.5	1.6	-174.54	83.5	152.9	1,180.3	1,164.0	16.30	72.397	
5,700.0	5,591.9	5,564.8	5,563.1	23.7	1.7	-174.62	84.1	153.6	1,195.4	1,178.9	16.43	72.766	
5,708.6	5,600.4	5,573.4	5,571.7	23.7	1.7	-174.62	84.1	153.7	1,196.7	1,180.2	16.44	72.798	
5,800.0	5,691.1	5,664.3	5,662.6	23.9	1.7	-174.67	84.5	154.6	1,208.9	1,192.3	16.55	73.055	
5,807.1	5,698.1	5,671.4	5,669.7	23.9	1.7	-174.67	84.5	154.7	1,209.7	1,193.1	16.55	73.072	
5,900.0	5,790.6	5,765.3	5,763.6	24.1	1.7	-174.65	84.5	156.4	1,218.9	1,202.2	16.65	73.198	
5,905.5	5,796.1	5,770.9	5,769.2	24.1	1.7	-174.65	84.5	156.5	1,219.3	1,202.7	16.66	73.202	
6,000.0	5,890.5	5,870.9	5,869.2	24.3	1.7	-174.61	84.2	158.2	1,225.1	1,208.4	16.74	73.173	
6,003.9	5,894.4	5,875.2	5,873.4	24.3	1.7	-174.61	84.2	158.3	1,225.3	1,208.6	16.75	73.169	
6,100.0	5,990.4	5,972.4	5,970.6	24.4	1.8	-174.55	83.6	159.7	1,227.5	1,210.7	16.82	72.961	
6,102.3	5,992.8	5,974.7	5,972.9	24.4	1.8	-174.55	83.6	159.8	1,227.5	1,210.7	16.83	72.952	
6,114.6	6,005.0	5,986.8	5,985.0	24.4	1.8	27.53	83.5	159.9	1,227.6	1,201.6	25.97	47.263	
6,200.0	6,090.4	6,074.3	6,072.6	24.5	1.8	27.59	83.0	161.1	1,227.7	1,201.6	26.08	47.068	
6,200.8	6,091.2	6,075.1	6,073.4	24.5	1.8	27.59	83.0	161.1	1,227.7	1,201.6	26.08	47.066	
6,284.4	6,174.8	6,158.6	6,156.8	24.6	1.8	27.64	82.5	162.0	1,227.6	1,201.4	26.18	46.893	
6,299.2	6,189.6	6,173.2	6,171.4	24.6	1.8	27.65	82.4	162.2	1,227.6	1,201.4	26.20	46.863	
6,300.0	6,190.4	6,173.9	6,172.2	24.6	1.8	27.65	82.4	162.2	1,227.6	1,201.4	26.20	46.862	
6,397.6	6,288.1	6,268.3	6,266.5	24.7	1.8	27.70	82.0	163.2	1,227.8	1,201.5	26.31	46.666	
6,401.6	6,292.0	6,272.1	6,270.3	24.7	1.8	27.70	82.0	163.2	1,227.8	1,201.5	26.31	46.659	
6,450.0	6,340.4	6,319.4	6,317.6	24.8	1.8	117.74	82.0	163.7	1,228.9	1,211.4	17.53	70.090	
6,496.0	6,386.1	6,365.4	6,363.6	24.8	1.8	117.75	81.9	164.2	1,231.8	1,214.0	17.73	69.485	
6,500.0	6,390.0	6,369.3	6,367.5	24.8	1.8	117.75	81.9	164.3	1,232.1	1,214.3	17.74	69.437	
6,550.0	6,438.8	6,418.4	6,416.6	25.0	1.9	117.74	81.8	164.8	1,237.3	1,219.4	17.96	68.889	
6,594.5	6,481.3	6,461.1	6,459.3	25.1	1.9	117.70	81.7	165.2	1,243.8	1,225.6	18.16	68.483	
6,600.0	6,486.5	6,466.3	6,464.6	25.1	1.9	117.69	81.7	165.2	1,244.7	1,226.5	18.19	68.438	
6,650.0	6,532.7	6,512.9	6,511.1	25.3	1.9	117.58	81.7	165.6	1,254.2	1,235.8	18.43	68.063	
6,692.9	6,570.9	6,551.7	6,549.9	25.5	1.9	117.41	81.6	166.0	1,264.2	1,245.5	18.65	67.769	
6,700.0	6,577.1	6,558.0	6,556.2	25.5	1.9	117.38	81.6	166.0	1,266.0	1,247.3	18.69	67.725	
6,750.0	6,619.4	6,600.9	6,599.1	25.7	1.9	117.05	81.5	166.3	1,280.0	1,261.0	19.00	67.371	
6,791.3	6,652.4	6,633.4	6,631.6	25.9	1.9	116.62	81.4	166.5	1,293.4	1,274.1	19.30	67.010	
6,800.0	6,659.1	6,640.0	6,638.3	26.0	1.9	116.51	81.4	166.6	1,296.4	1,277.0	19.37	66.934	
6,850.0	6,696.0	6,676.4	6,674.6	26.3	1.9	115.74	81.4	166.8	1,315.1	1,295.3	19.83	66.337	
6,889.7	6,723.2	6,700.0	6,698.2	26.5	1.9	114.82	81.3	167.0	1,331.8	1,311.5	20.27	65.691	
6,900.0	6,729.9	6,700.0	6,698.2	26.6	1.9	114.36	81.3	167.0	1,336.4	1,316.0	20.40	65.513	
6,950.0	6,760.5	6,700.0	6,698.2	27.0	1.9	111.83	81.3	167.0	1,360.4	1,339.3	21.12	64.402	
6,988.2	6,781.4	6,700.0	6,698.2	27.3	1.9	109.59	81.3	167.0	1,380.7	1,358.9	21.78	63.382	
7,000.0	6,787.4	6,700.0	6,698.2	27.4	1.9	108.85	81.3	167.0	1,387.3	1,365.3	21.99	63.073	
7,050.0	6,810.6	6,700.0	6,698.2	27.9	1.9	105.40	81.3	167.0	1,416.5	1,393.6	22.97	61.669	
7,086.6	6,825.1	6,700.0	6,698.2	28.3	1.9	102.59	81.3	167.0	1,439.2	1,415.5	23.72	60.668	
7,100.0	6,829.9	6,700.0	6,698.2	28.4	1.9	101.50	81.3	167.0	1,447.8	1,423.8	23.99	60.347	
7,150.0	6,845.1	6,700.0	6,698.2	29.0	1.9	97.18	81.3	167.0	1,480.8	1,455.8	25.00	59.232	

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 14
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 14	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,185.0	6,853.2	6,700.0	6,698.2	29.4	1.9	93.93	81.3	167.0	1,504.6	1,479.0	25.68	58.589	
7,200.0	6,856.0	6,700.0	6,698.2	29.6	1.9	92.49	81.3	167.0	1,515.0	1,489.1	25.96	58.370	
7,250.0	6,862.7	6,700.0	6,698.2	30.3	1.9	87.51	81.3	167.0	1,550.3	1,523.5	26.85	57.750	
7,283.4	6,864.7	6,700.0	6,698.2	30.8	1.9	84.08	81.3	167.0	1,574.3	1,546.9	27.38	57.490	
7,301.6	6,865.0	6,700.0	6,698.2	31.0	1.9	82.20	81.3	167.0	1,587.4	1,559.8	27.64	57.438	
7,381.9	6,865.0	6,700.0	6,698.2	32.3	1.9	82.20	81.3	167.0	1,646.4	1,617.1	29.30	56.195	
7,400.0	6,865.0	6,700.0	6,698.2	32.6	1.9	82.20	81.3	167.0	1,660.0	1,630.3	29.67	55.942	
7,480.3	6,865.0	6,700.0	6,698.2	34.0	1.9	82.20	81.3	167.0	1,721.1	1,689.6	31.43	54.763	
7,500.0	6,865.0	6,700.0	6,698.2	34.4	1.9	82.20	81.3	167.0	1,736.3	1,704.4	31.86	54.501	
7,578.7	6,865.0	6,700.0	6,698.2	35.9	1.9	82.20	81.3	167.0	1,798.0	1,764.4	33.65	53.431	
7,600.0	6,865.0	6,700.0	6,698.2	36.3	1.9	82.20	81.3	167.0	1,815.0	1,780.8	34.14	53.168	
7,677.1	6,865.0	6,700.0	6,698.2	37.9	1.9	82.20	81.3	167.0	1,877.0	1,841.1	35.95	52.210	
7,700.0	6,865.0	6,700.0	6,698.2	38.3	1.9	82.20	81.3	167.0	1,895.6	1,859.1	36.49	51.950	
7,775.6	6,865.0	6,700.0	6,698.2	40.0	1.9	82.20	81.3	167.0	1,957.8	1,919.5	38.31	51.100	
7,800.0	6,865.0	6,700.0	6,698.2	40.5	1.9	82.20	81.3	167.0	1,978.1	1,939.2	38.90	50.847	
7,874.0	6,865.0	6,700.0	6,698.2	42.1	1.9	82.20	81.3	167.0	2,040.1	1,999.3	40.72	50.094	
7,900.0	6,865.0	6,700.0	6,698.2	42.7	1.9	82.20	81.3	167.0	2,062.0	2,020.7	41.36	49.850	
7,972.4	6,865.0	6,700.0	6,698.2	44.4	1.9	82.20	81.3	167.0	2,123.7	2,080.6	43.18	49.186	
8,000.0	6,865.0	6,700.0	6,698.2	45.0	1.9	82.20	81.3	167.0	2,147.4	2,103.5	43.87	48.952	
8,070.8	6,865.0	6,700.0	6,698.2	46.7	1.9	82.20	81.3	167.0	2,208.6	2,163.0	45.67	48.366	
8,100.0	6,865.0	6,700.0	6,698.2	47.4	1.9	82.20	81.3	167.0	2,234.0	2,187.6	46.40	48.141	
8,169.3	6,865.0	6,700.0	6,698.2	49.1	1.9	82.20	81.3	167.0	2,294.6	2,246.4	48.18	47.624	
8,200.0	6,865.0	6,700.0	6,698.2	49.8	1.9	82.20	81.3	167.0	2,321.6	2,272.7	48.97	47.410	
8,267.7	6,865.0	6,700.0	6,698.2	51.5	1.9	82.20	81.3	167.0	2,381.5	2,330.8	50.72	46.952	
8,300.0	6,865.0	6,700.0	6,698.2	52.3	1.9	82.20	81.3	167.0	2,410.3	2,358.7	51.56	46.748	
8,366.1	6,865.0	6,700.0	6,698.2	54.0	1.9	82.20	81.3	167.0	2,469.3	2,416.0	53.28	46.342	
8,400.0	6,865.0	6,700.0	6,698.2	54.8	1.9	82.20	81.3	167.0	2,499.7	2,445.6	54.17	46.147	
8,464.5	6,865.0	6,700.0	6,698.2	56.4	1.9	82.20	81.3	167.0	2,557.9	2,502.0	55.86	45.788	
8,500.0	6,865.0	6,700.0	6,698.2	57.3	1.9	82.20	81.3	167.0	2,590.0	2,533.2	56.79	45.602	
8,563.0	6,865.0	6,700.0	6,698.2	59.0	1.9	82.20	81.3	167.0	2,647.2	2,588.7	58.46	45.283	
8,600.0	6,865.0	6,700.0	6,698.2	59.9	1.9	82.20	81.3	167.0	2,680.9	2,621.5	59.44	45.105	
8,661.4	6,865.0	6,700.0	6,698.2	61.5	1.9	82.20	81.3	167.0	2,737.1	2,676.0	61.07	44.821	
8,700.0	6,865.0	6,700.0	6,698.2	62.5	1.9	82.20	81.3	167.0	2,772.5	2,710.4	62.09	44.651	
8,759.8	6,865.0	6,700.0	6,698.2	64.0	1.9	82.20	81.3	167.0	2,827.5	2,763.8	63.69	44.397	
8,800.0	6,865.0	6,700.0	6,698.2	65.1	1.9	82.20	81.3	167.0	2,864.6	2,799.8	64.76	44.235	
8,858.2	6,865.0	6,700.0	6,698.2	66.6	1.9	82.20	81.3	167.0	2,918.5	2,852.2	66.32	44.008	
8,900.0	6,865.0	6,700.0	6,698.2	67.7	1.9	82.20	81.3	167.0	2,957.2	2,889.8	67.43	43.853	
8,956.7	6,865.0	6,700.0	6,698.2	69.2	1.9	82.20	81.3	167.0	3,009.9	2,941.0	68.96	43.650	
9,000.0	6,865.0	6,700.0	6,698.2	70.4	1.9	82.20	81.3	167.0	3,050.3	2,980.2	70.12	43.502	
9,055.1	6,865.0	6,700.0	6,698.2	71.8	1.9	82.20	81.3	167.0	3,101.8	3,030.2	71.60	43.319	
9,100.0	6,865.0	6,700.0	6,698.2	73.0	1.9	82.20	81.3	167.0	3,143.9	3,071.0	72.81	43.177	
9,153.5	6,865.0	6,700.0	6,698.2	74.4	1.9	82.20	81.3	167.0	3,194.1	3,119.8	74.26	43.013	
9,200.0	6,865.0	6,700.0	6,698.2	75.7	1.9	82.20	81.3	167.0	3,237.8	3,162.3	75.51	42.877	
9,251.9	6,865.0	6,700.0	6,698.2	77.1	1.9	82.20	81.3	167.0	3,286.7	3,209.8	76.92	42.730	
9,300.0	6,865.0	6,700.0	6,698.2	78.4	1.9	82.20	81.3	167.0	3,332.0	3,253.8	78.22	42.599	
9,350.4	6,865.0	6,700.0	6,698.2	79.7	1.9	82.20	81.3	167.0	3,379.7	3,300.1	79.58	42.466	
9,400.0	6,865.0	6,700.0	6,698.2	81.0	1.9	82.20	81.3	167.0	3,426.6	3,345.7	80.93	42.341	
9,448.8	6,865.0	6,700.0	6,698.2	82.4	1.9	82.20	81.3	167.0	3,472.9	3,390.6	82.26	42.221	
9,500.0	6,865.0	6,700.0	6,698.2	83.7	1.9	82.20	81.3	167.0	3,521.5	3,437.9	83.65	42.100	
9,547.2	6,865.0	6,700.0	6,698.2	85.0	1.9	82.20	81.3	167.0	3,566.4	3,481.5	84.93	41.991	
9,600.0	6,865.0	6,700.0	6,698.2	86.4	1.9	82.20	81.3	167.0	3,616.7	3,530.3	86.37	41.875	
9,645.6	6,865.0	6,700.0	6,698.2	87.7	1.9	82.20	81.3	167.0	3,660.2	3,572.6	87.61	41.777	

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 14
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 14	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,700.0	6,865.0	6,700.0	6,698.2	89.2	1.9	82.20	81.3	167.0	3,712.1	3,623.0	89.09	41.665		
9,744.1	6,865.0	6,700.0	6,698.2	90.4	1.9	82.20	81.3	167.0	3,754.2	3,663.9	90.30	41.577		
9,800.0	6,865.0	6,700.0	6,698.2	91.9	1.9	82.20	81.3	167.0	3,807.8	3,715.9	91.82	41.468		
9,842.5	6,865.0	6,700.0	6,698.2	93.0	1.9	82.20	81.3	167.0	3,848.5	3,755.5	92.98	41.388		
9,900.0	6,865.0	6,700.0	6,698.2	94.6	1.9	82.20	81.3	167.0	3,903.6	3,809.1	94.56	41.284		
9,940.9	6,865.0	6,700.0	6,698.2	95.7	1.9	82.20	81.3	167.0	3,942.9	3,847.3	95.68	41.212		
10,000.0	6,865.0	6,700.0	6,698.2	97.3	1.9	82.20	81.3	167.0	3,999.7	3,902.4	97.29	41.111		
10,039.3	6,865.0	6,700.0	6,698.2	98.4	1.9	82.20	81.3	167.0	4,037.6	3,939.2	98.37	41.045		
10,100.0	6,865.0	6,700.0	6,698.2	100.1	1.9	82.20	81.3	167.0	4,096.0	3,996.0	100.03	40.947		
10,137.8	6,865.0	6,700.0	6,698.2	101.1	1.9	82.20	81.3	167.0	4,132.4	4,031.3	101.07	40.888		
10,200.0	6,865.0	6,700.0	6,698.2	102.8	1.9	82.20	81.3	167.0	4,192.4	4,089.6	102.77	40.794		
10,236.2	6,865.0	6,700.0	6,698.2	103.8	1.9	82.20	81.3	167.0	4,227.4	4,123.6	103.76	40.740		
10,300.0	6,865.0	6,700.0	6,698.2	105.5	1.9	82.20	81.3	167.0	4,289.0	4,183.5	105.52	40.648		
10,334.6	6,865.0	6,700.0	6,698.2	106.5	1.9	82.20	81.3	167.0	4,322.5	4,216.0	106.47	40.600		
10,400.0	6,865.0	6,700.0	6,698.2	108.3	1.9	82.20	81.3	167.0	4,385.8	4,277.5	108.26	40.511		
10,433.0	6,865.0	6,700.0	6,698.2	109.2	1.9	82.20	81.3	167.0	4,417.8	4,308.6	109.17	40.467		
10,500.0	6,865.0	6,700.0	6,698.2	111.0	1.9	82.20	81.3	167.0	4,482.7	4,371.7	111.01	40.381		
10,531.5	6,865.0	6,700.0	6,698.2	111.9	1.9	82.20	81.3	167.0	4,513.2	4,401.3	111.87	40.342		
10,600.0	6,865.0	6,700.0	6,698.2	113.8	1.9	82.20	81.3	167.0	4,579.7	4,465.9	113.76	40.258		
10,629.9	6,865.0	6,700.0	6,698.2	114.6	1.9	82.20	81.3	167.0	4,608.7	4,494.2	114.58	40.222		
10,700.0	6,865.0	6,700.0	6,698.2	116.5	1.9	82.20	81.3	167.0	4,676.9	4,560.3	116.51	40.141		
10,728.3	6,865.0	6,700.0	6,698.2	117.3	1.9	82.20	81.3	167.0	4,704.4	4,587.1	117.29	40.109		
10,800.0	6,865.0	6,700.0	6,698.2	119.3	1.9	82.20	81.3	167.0	4,774.1	4,654.9	119.26	40.030		
10,826.7	6,865.0	6,700.0	6,698.2	120.0	1.9	82.20	81.3	167.0	4,800.2	4,680.2	120.00	40.001		
10,900.0	6,865.0	6,700.0	6,698.2	122.1	1.9	82.20	81.3	167.0	4,871.5	4,749.5	122.02	39.924		
10,925.2	6,865.0	6,700.0	6,698.2	122.7	1.9	82.20	81.3	167.0	4,896.0	4,773.3	122.71	39.899		
11,000.0	6,865.0	6,700.0	6,698.2	124.8	1.9	82.20	81.3	167.0	4,969.0	4,844.2	124.77	39.824		
11,023.6	6,865.0	6,700.0	6,698.2	125.5	1.9	82.20	81.3	167.0	4,992.0	4,866.6	125.43	39.801		
11,100.0	6,865.0	6,700.0	6,698.2	127.6	1.9	82.20	81.3	167.0	5,066.6	4,939.1	127.53	39.728		
11,122.0	6,865.0	6,700.0	6,698.2	128.2	1.9	82.20	81.3	167.0	5,088.1	4,959.9	128.14	39.707		
11,200.0	6,865.0	6,700.0	6,698.2	130.3	1.9	82.20	81.3	167.0	5,164.3	5,034.0	130.29	39.636		
11,220.4	6,865.0	6,700.0	6,698.2	130.9	1.9	82.20	81.3	167.0	5,184.2	5,053.4	130.86	39.618		
11,300.0	6,865.0	6,700.0	6,698.2	133.1	1.9	82.20	81.3	167.0	5,262.0	5,129.0	133.05	39.549		
11,318.9	6,865.0	6,700.0	6,698.2	133.6	1.9	82.20	81.3	167.0	5,280.5	5,146.9	133.57	39.533		
11,400.0	6,865.0	6,700.0	6,698.2	135.9	1.9	82.20	81.3	167.0	5,359.9	5,224.1	135.81	39.465		
11,417.3	6,865.0	6,700.0	6,698.2	136.4	1.9	82.20	81.3	167.0	5,376.8	5,240.5	136.29	39.451		
11,500.0	6,865.0	6,700.0	6,698.2	138.7	1.9	82.20	81.3	167.0	5,457.8	5,319.2	138.57	39.385		
11,515.7	6,865.0	6,700.0	6,698.2	139.1	1.9	82.20	81.3	167.0	5,473.2	5,334.2	139.01	39.373		
11,600.0	6,865.0	6,700.0	6,698.2	141.4	1.9	82.20	81.3	167.0	5,555.8	5,414.5	141.34	39.309		
11,614.1	6,865.0	6,700.0	6,698.2	141.8	1.9	82.20	81.3	167.0	5,569.7	5,427.9	141.73	39.298		
11,700.0	6,865.0	6,700.0	6,698.2	144.2	1.9	82.20	81.3	167.0	5,653.9	5,509.8	144.10	39.235		
11,712.6	6,865.0	6,700.0	6,698.2	144.5	1.9	82.20	81.3	167.0	5,666.2	5,521.8	144.45	39.226		
11,800.0	6,865.0	6,700.0	6,698.2	147.0	1.9	82.19	81.3	167.0	5,752.0	5,605.1	146.87	39.165		
11,811.0	6,865.0	6,700.0	6,698.2	147.3	1.9	82.19	81.3	167.0	5,762.8	5,615.6	147.17	39.157		
11,900.0	6,865.0	6,700.0	6,698.2	149.8	1.9	82.19	81.3	167.0	5,850.2	5,700.6	149.63	39.097		
11,909.4	6,865.0	6,700.0	6,698.2	150.0	1.9	82.19	81.3	167.0	5,859.5	5,709.6	149.89	39.091		
12,000.0	6,865.0	6,700.0	6,698.2	152.5	1.9	82.19	81.3	167.0	5,948.5	5,796.1	152.40	39.032		
12,007.8	6,865.0	6,700.0	6,698.2	152.7	1.9	82.19	81.3	167.0	5,956.2	5,803.6	152.62	39.027		
12,100.0	6,865.0	6,700.0	6,698.2	155.3	1.9	82.19	81.3	167.0	6,046.8	5,891.6	155.17	38.970		
12,106.3	6,865.0	6,700.0	6,698.2	155.5	1.9	82.19	81.3	167.0	6,052.9	5,897.6	155.34	38.966		
12,200.0	6,865.0	6,700.0	6,698.2	158.1	1.9	82.19	81.3	167.0	6,145.1	5,987.2	157.93	38.910		
12,204.7	6,865.0	6,700.0	6,698.2	158.2	1.9	82.19	81.3	167.0	6,149.8	5,991.7	158.06	38.907		

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 14
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 14	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		
12,300.0	6,865.0	6,700.0	6,698.2	160.9	1.9	82.19	81.3	167.0	6,243.6	6,082.9	160.70	38.852		
12,303.1	6,865.0	6,700.0	6,698.2	161.0	1.9	82.19	81.3	167.0	6,246.6	6,085.9	160.79	38.850		
12,400.0	6,865.0	6,700.0	6,698.2	163.7	1.9	82.19	81.3	167.0	6,342.0	6,178.6	163.47	38.796		
12,401.5	6,865.0	6,700.0	6,698.2	163.7	1.9	82.19	81.3	167.0	6,343.6	6,180.1	163.51	38.795		
12,500.0	6,865.0	6,700.0	6,698.2	166.4	1.9	82.19	81.3	167.0	6,440.6	6,274.3	166.24	38.742		
12,598.4	6,865.0	6,700.0	6,698.2	169.2	1.9	82.19	81.3	167.0	6,537.5	6,368.6	168.97	38.691		
12,600.0	6,865.0	6,700.0	6,698.2	169.2	1.9	82.19	81.3	167.0	6,539.1	6,370.1	169.01	38.691		
12,696.8	6,865.0	6,700.0	6,698.2	171.9	1.9	82.19	81.3	167.0	6,634.6	6,462.9	171.69	38.642		
12,700.0	6,865.0	6,700.0	6,698.2	172.0	1.9	82.19	81.3	167.0	6,637.7	6,465.9	171.78	38.641		
12,795.2	6,865.0	6,700.0	6,698.2	174.7	1.9	82.19	81.3	167.0	6,731.7	6,557.3	174.42	38.594		
12,800.0	6,865.0	6,700.0	6,698.2	174.8	1.9	82.19	81.3	167.0	6,736.4	6,561.8	174.55	38.592		
12,893.7	6,865.0	6,700.0	6,698.2	177.4	1.9	82.19	81.3	167.0	6,828.8	6,651.7	177.15	38.548		
12,900.0	6,865.0	6,700.0	6,698.2	177.6	1.9	82.19	81.3	167.0	6,835.1	6,657.7	177.32	38.546		
12,992.1	6,865.0	6,700.0	6,698.2	180.2	1.9	82.19	81.3	167.0	6,926.0	6,746.1	179.88	38.504		
13,000.0	6,865.0	6,700.0	6,698.2	180.4	1.9	82.19	81.3	167.0	6,933.8	6,753.7	180.10	38.500		
13,090.5	6,865.0	6,700.0	6,698.2	182.9	1.9	82.19	81.3	167.0	7,023.2	6,840.6	182.61	38.461		
13,100.0	6,865.0	6,700.0	6,698.2	183.2	1.9	82.19	81.3	167.0	7,032.5	6,849.7	182.87	38.457		
13,188.9	6,865.0	6,700.0	6,698.2	185.6	1.9	82.19	81.3	167.0	7,120.4	6,935.1	185.34	38.419		
13,200.0	6,865.0	6,700.0	6,698.2	185.9	1.9	82.19	81.3	167.0	7,131.3	6,945.7	185.64	38.414		
13,287.4	6,865.0	6,700.0	6,698.2	188.4	1.9	82.19	81.3	167.0	7,217.7	7,029.6	188.07	38.379		
13,300.0	6,865.0	6,700.0	6,698.2	188.7	1.9	82.19	81.3	167.0	7,230.2	7,041.8	188.42	38.373		
13,385.8	6,865.0	6,700.0	6,698.2	191.1	1.9	82.19	81.3	167.0	7,315.0	7,124.2	190.80	38.339		
13,400.0	6,865.0	6,700.0	6,698.2	191.5	1.9	82.19	81.3	167.0	7,329.0	7,137.8	191.19	38.334		
13,484.2	6,865.0	6,700.0	6,698.2	193.9	1.9	82.19	81.3	167.0	7,412.3	7,218.8	193.53	38.301		
13,500.0	6,865.0	6,700.0	6,698.2	194.3	1.9	82.19	81.3	167.0	7,427.9	7,234.0	193.96	38.295		
13,582.6	6,865.0	6,700.0	6,698.2	196.6	1.9	82.19	81.3	167.0	7,509.7	7,313.4	196.26	38.264		
13,600.0	6,865.0	6,700.0	6,698.2	197.1	1.9	82.19	81.3	167.0	7,526.8	7,330.1	196.74	38.258		
13,681.1	6,865.0	6,700.0	6,698.2	199.4	1.9	82.19	81.3	167.0	7,607.1	7,408.1	198.99	38.229		
13,700.0	6,865.0	6,700.0	6,698.2	199.9	1.9	82.19	81.3	167.0	7,625.8	7,426.3	199.51	38.222		
13,779.5	6,865.0	6,700.0	6,698.2	202.1	1.9	82.19	81.3	167.0	7,704.5	7,502.7	201.72	38.194		
13,800.0	6,865.0	6,700.0	6,698.2	202.7	1.9	82.19	81.3	167.0	7,724.8	7,522.5	202.29	38.187		
13,877.9	6,865.0	6,700.0	6,698.2	204.9	1.9	82.19	81.3	167.0	7,801.9	7,597.5	204.45	38.160		
13,900.0	6,865.0	6,700.0	6,698.2	205.5	1.9	82.19	81.3	167.0	7,823.8	7,618.7	205.06	38.153		
13,976.3	6,865.0	6,700.0	6,698.2	207.6	1.9	82.19	81.3	167.0	7,899.4	7,692.2	207.18	38.127		
14,000.0	6,865.0	6,700.0	6,698.2	208.3	1.9	82.19	81.3	167.0	7,922.8	7,714.9	207.84	38.120		
14,074.8	6,865.0	6,700.0	6,698.2	210.4	1.9	82.19	81.3	167.0	7,996.9	7,786.9	209.92	38.096		
14,100.0	6,865.0	6,700.0	6,698.2	211.1	1.9	82.19	81.3	167.0	8,021.8	7,811.2	210.62	38.088		
14,173.2	6,865.0	6,700.0	6,698.2	213.1	1.9	82.19	81.3	167.0	8,094.4	7,881.7	212.65	38.065		
14,200.0	6,865.0	6,700.0	6,698.2	213.9	1.9	82.19	81.3	167.0	8,120.9	7,907.5	213.39	38.056		
14,271.6	6,865.0	6,700.0	6,698.2	215.9	1.9	82.19	81.3	167.0	8,191.9	7,976.5	215.38	38.034		
14,300.0	6,865.0	6,700.0	6,698.2	216.7	1.9	82.19	81.3	167.0	8,220.0	8,003.8	216.17	38.026		
14,370.0	6,865.0	6,700.0	6,698.2	218.6	1.9	82.19	81.3	167.0	8,289.4	8,071.3	218.11	38.005		
14,400.0	6,865.0	6,700.0	6,698.2	219.5	1.9	82.19	81.3	167.0	8,319.1	8,100.2	218.95	37.996		
14,468.5	6,865.0	6,700.0	6,698.2	221.4	1.9	82.19	81.3	167.0	8,387.0	8,166.2	220.85	37.977		
14,500.0	6,865.0	6,700.0	6,698.2	222.3	1.9	82.19	81.3	167.0	8,418.3	8,196.5	221.72	37.968		
14,566.9	6,865.0	6,700.0	6,698.2	224.1	1.9	82.19	81.3	167.0	8,484.6	8,261.0	223.58	37.949		
14,600.0	6,865.0	6,700.0	6,698.2	225.1	1.9	82.19	81.3	167.0	8,517.4	8,292.9	224.50	37.940		
14,665.3	6,865.0	6,700.0	6,698.2	226.9	1.9	82.19	81.3	167.0	8,582.2	8,355.9	226.31	37.922		
14,700.0	6,865.0	6,700.0	6,698.2	227.9	1.9	82.19	81.3	167.0	8,616.6	8,389.3	227.28	37.912		
14,763.7	6,865.0	6,700.0	6,698.2	229.6	1.9	82.19	81.3	167.0	8,679.8	8,450.8	229.05	37.895		
14,800.0	6,865.0	6,700.0	6,698.2	230.6	1.9	82.19	81.3	167.0	8,715.8	8,485.7	230.06	37.886		
14,862.2	6,865.0	6,700.0	6,698.2	232.4	1.9	82.19	81.3	167.0	8,777.5	8,545.7	231.78	37.870		

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 14
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 14	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
14,900.0	6,865.0	6,700.0	6,698.2	233.4	1.9	82.19	81.3	167.0	8,815.0	8,582.2	232.83	37.860	
14,960.6	6,865.0	6,700.0	6,698.2	235.1	1.9	82.19	81.3	167.0	8,875.1	8,640.6	234.52	37.844	
15,000.0	6,865.0	6,700.0	6,698.2	236.2	1.9	82.19	81.3	167.0	8,914.2	8,678.6	235.61	37.835 SF	
15,059.0	6,865.0	6,700.0	6,698.2	237.3	1.9	82.19	81.3	167.0	8,972.8	8,736.1	236.68	37.911	
15,100.4	6,865.0	6,700.0	6,698.2	238.1	1.9	82.19	81.3	167.0	9,013.9	8,776.5	237.43	37.965	

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well VETTING 14
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 14	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 14

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.500000

Grid Convergence at Surface is: 0.54°

Separation Factor Plot

