EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)
SW NW SEC. 15 T5N R65W 6th P.M.
VT-LDS C2-16-18

ORIGINAL WELLBORE
PROPOSAL #2

Anticollision Report

10 March, 2016

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

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

Survey Tool Program **Date** 10/03/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	20,658.8	PROPOSAL #2 (ORIGINAL WELLBORE)	MWD	MWD - Standard

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.						
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Des	800.0	758.0	2,611.6	2,595.2	159.177	CC
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Des	900.0	858.0	2,612.7	2,594.1	140.206	ES
ABDN VERT LORENZ FARM INC #1 - Wellbore #1 - Des	8,100.0	4,600.0	6,084.7	5,909.7	34.776	SF
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,260.2	14,862.7	757.2	450.7	2.471	CC
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,267.7	14,862.7	757.2	450.6	2.470	ES
CARLSON A-15-16HN - Wellbore #1 - Design #1	8,300.0	14,862.7	758.5	451.3	2.469	SF
CARLSON B-15-16HC - Wellbore #1 - Design #1	8,259.7	14,905.1	581.6	272.0	1.878	CC
CARLSON B-15-16HC - Wellbore #1 - Design #1	8,267.7	14,905.1	581.7	271.9	1.877	ES, SF
CARLSON C-15-16HN - Wellbore #1 - Design #1	8,232.2	14,796.3	439.0	144.4	1.490	Level 3, CC, ES
CARLSON C-15-16HN - Wellbore #1 - Design #1	8,250.0	14,796.3	439.4	144.4	1.490	Level 3, SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	7,972.4	14,559.8	138.5	-144.0	0.490	Level 1, ES, SF
CARLSON D-15-16HN - Wellbore #1 - Design #1	8,003.1	14,585.2	137.5	-137.0	0.501	Level 1, CC
CARLSON E-15-16HC - Wellbore #1 - Design #1	8,011.2	14,662.7	45.9	-228.8	0.167	Level 1, CC
CARLSON E-15-16HC - Wellbore #1 - Design #1	8,032.1	14,680.0	47.4	-244.3	0.162	Level 1, SF
CARLSON E-15-16HC - Wellbore #1 - Design #1	8,050.0	14,694.9	50.7	-246.7	0.171	Level 1, ES
CARLSON F-15-16HN - Wellbore #1 - Design #1	7,806.4	14,414.8	118.0	-152.3	0.437	Level 1, CC
CARLSON F-15-16HN - Wellbore #1 - Design #1	7,835.7	14,438.6	119.6	-160.0	0.428	Level 1, SF
CARLSON F-15-16HN - Wellbore #1 - Design #1	7,874.0	14,470.3	125.3	-162.1	0.436	Level 1, ES
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,676.3	14,336.9	518.7	242.5	1.878	CC
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,700.0	14,352.9	519.1	241.6	1.871	ES
CARLSON G-15-16HN - Wellbore #1 - Design #1	7,750.0	14,388.7	523.0	242.6	1.865	SF
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,703.6	14,451.1	698.8	423.5	2.538	CC
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,750.0	14,484.5	700.2	422.7	2.523	ES
CARLSON H-15-16HC - Wellbore #1 - Design #1	7,874.0	14,583.6	715.7	431.0	2.514	SF
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,612.4	14,345.6	889.2	612.4	3.213	CC
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,650.0	14,368.3	890.1	612.3	3.204	ES
CARLSON I-15-16HN - Wellbore #1 - Design #1	7,700.0	14,401.2	894.0	614.5	3.199	SF
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,572.7	14,388.6	1,213.5	936.9	4.386	CC
CARLSON J-15-16HN - Wellbore #1 - Design #1	7,578.7	14,391.7	1,213.6	936.8	4.385	ES
CARLSON J-15-16HN - Wellbore #1 - Design #1	8,267.7	14,901.4	1,339.4	1,032.0	4.358	SF
CARLSON K-15-16HC - Wellbore #1 - Design #1	7,601.0	14,515.9	1,390.3	1,114.0	5.031	CC, ES
CARLSON K-15-16HC - Wellbore #1 - Design #1	8,350.0	15,013.6	1,507.2	1,196.3	4.848	SF
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,511.0	14,432.1	1,538.9	1,263.9	5.596	CC
CARLSON L-15-16HN - Wellbore #1 - Design #1	7,568.5	14,461.8	1,539.7	1,262.8	5.561	ES
CARLSON L-15-16HN - Wellbore #1 - Design #1	8,400.0	14,977.0	1,682.8	1,371.6	5.408	SF
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,431.1	7,240.0	3,895.3	3,674.8	17.670	CC
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	12,500.0	7,239.6	3,895.9	3,673.6	17.522	ES

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

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Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD BMC #B8 - Wellbore #1 - Wellbore #1	14,370.0	7,230.2	4,351.2	4,077.1	15.876	SF
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	9,834.3	7,407.2	3,776.1	3,620.0	24.184	CC
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	9,940.9	7,405.7	3,777.6	3,618.7	23.760	ES
EXIST DD BUS BARN #A5 - Wellbore #1 - Wellbore #1	12,400.0	7,371.9	4,565.2	4,339.3	20.210	SF
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	13,155.3	7,356.9	4,404.7	4,158.2	17.870	CC
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	13,287.4	7,356.9	4,406.7	4,156.6	17.617	ES
EXIST DD CDOT 2 #D7 - Wellbore #1 - Wellbore #1	15,354.3	7,355.8	4,923.1	4,615.6	16.009	SF
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,752.5	7,065.7	4,408.2	4,216.4	22.978	CC
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	11,900.0	7,065.2	4,410.7	4,214.8	22.516	ES
EXIST DD CDOT 3 # D2 - Wellbore #1 - Wellbore #1	14,566.9	7,055.4	5,230.0	4,960.4	19.400	SF
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,436.6	7,950.0	2,869.8	2,705.2	17.438	CC
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	10,500.0	7,950.0	2,870.5	2,704.2	17.263	ES
EXIST DD CLARK #A1 - Wellbore #1 - Wellbore #1	11,811.0	7,950.0	3,181.9	2,979.9	15.753	SF
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,765.7	7,877.9	2,470.3	2,190.6	8.832	CC
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	13,800.0	7,878.8	2,470.5	2,189.9	8.803	ES
EXIST DD CLASSIC LANES #C9 - Wellbore #1 - Wellbo	14,370.0	7,895.0	2,543.1	2,246.6	8.578	SF
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,620.7	7,886.9	1,779.6	1,604.1	10.138	CC
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	10,700.0	7,889.6	1,781.4	1,603.7	10.024	ES
EXIST DD COUNTRYSIDE CENTER C3 - Wellbore #1 -	11,122.0	7,903.5	1,848.8	1,659.6	9.771	SF
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,793.2	7,850.0	2,450.7	2,293.0	15.539	CC
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	9,842.5	7,850.0	2,451.2	2,292.2	15.413	ES
EXIST DD DELTA PARK #A2 - Wellbore #1 - Wellbore #	10,826.7	7,850.0	2,659.7	2,474.2	14.339	SF
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,559.8	8,175.1	1,198.5	967.9	5.198	CC
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,598.4	8,175.9	1,199.1	967.4	5.176	ES
EXIST DD DISTRICT SIX #C6 - Wellbore #1 - Wellbore #	12,700.0	8,178.3	1,206.6	972.2	5.146	SF
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	13,006.9	7,376.4	3,192.2	2,949.0	13.123	CC
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	13,090.5	7,371.5	3,193.3	2,947.8	13.005	ES
EXIST DD DRIFTWOOD #D1 - Wellbore #1 - Wellbore #	14,173.2	7,307.5	3,397.8	3,122.6	12.347	SF
EXIST DD EHRLICH MOTORS #D8 - Wellbore #1 - Well	14,385.7	7,757.5	4,425.9	4,121.1	14.519	CC
EXIST DD EHRLICH MOTORS #D8 - Wellbore #1 - Well	14,500.0	7,773.1	4,427.4	4,119.3	14.373	ES
EXIST DD EHRLICH MOTORS #D8 - Wellbore #1 - Well	16,200.0	7,840.0	4,779.8	4,424.3	13.449	SF
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,835.7	7,699.0	3,729.1	3,450.3	13.374	CC
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	13,976.3	7,699.0	3,731.8	3,449.0	13.199	ES
EXIST DD GARDEN CITY #D5 - Wellbore #1 - Wellbore	15,200.0	7,699.0	3,970.8	3,654.1	12.538	SF
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - W	12,539.0	7,750.0	2,580.0	2,352.0	11.312	CC
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - W	12,600.0	7,750.0	2,580.8	2,351.0	11.233	ES
EXIST DD GREELEY IND SOUTH #B9 - Wellbore #1 - W	13,385.8	7,750.0	2,715.5	2,464.1	10.802	SF
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,412.2	7,102.2	4,496.7	4,334.8	27.771	CC
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	10,531.5	7,102.2	4,498.3	4,333.1	27.238	ES
EXIST DD HWY 34-1 #A-7 - Wellbore #1 - Wellbore #1	13,900.0	7,102.4	5,690.8	5,433.1	22.083	SF
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	9,189.4	7,461.1	4,479.3	4,327.6	29.528	CC
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	9,300.0	7,460.0	4,480.7	4,326.1	28.983	ES
EXIST DD HWY 34-2 #A-8 - Wellbore #1 - Wellbore #1	12,893.7	7,428.8	5,812.4	5,560.3	23.050	SF
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	11,047.3	7,137.8	3,821.1	3,647.1	21.959	CC
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	11,122.0	7,137.5	3,821.9	3,645.8	21.710	ES
EXIST DD HWY 85-1 #B-12 - Wellbore #1 - Wellbore #1	13,385.8	7,130.8	4,479.9	4,241.6	18.801	SF
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,281.4	7,915.0	2,412.6	2,228.1	13.078	CC
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	11,318.9	7,915.0	2,412.9	2,227.4	13.009	ES
EXIST DD HWY 85-2 #B11 - Wellbore #1 - Wellbore #1	12,106.3	7,915.0	2,549.7	2,343.1	12.337	SF
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	11,127.9	8,054.6	1,243.1	1,055.4	6.624	CC, ES
EXIST DD HWY 85-3 #C4 - Wellbore #1 - Wellbore #1	11,318.9	8,055.4	1,257.7	1,064.8	6.521	SF
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,817.8	4,185.0	1,793.7	1,759.7	52.737	CC
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	3,900.0	4,252.0	1,794.3	1,759.4	51.396	ES

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

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
EXIST DD KUETTEL #11-15 - Wellbore #1 - Wellbore #1	8,366.1	7,193.2	3,658.3	3,553.5	34.922	SF
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	2,310.9	2,556.4	2,218.9	2,201.7	128.955	CC
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	2,362.2	2,610.0	2,219.2	2,201.2	122.908	ES
EXIST DD KUETTEL #21-15 - Wellbore #1 - Wellbore #1	13,200.0	7,318.0	9,959.3	9,717.6	41.208	SF
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,760.0	3,180.3	1,864.3	1,839.8	75.959	CC
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	2,800.0	3,201.0	1,864.6	1,839.5	74.414	ES
EXIST DD KUETTEL #CNW-15 - Wellbore #1 - Wellbore	11,811.0	7,250.0	7,893.6	7,699.7	40.702	SF
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,651.9	8,140.0	2,308.0	2,159.6	15.555	CC
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	8,700.0	8,140.0	2,308.5	2,158.9	15.430	ES
EXIST DD PARKVIEW AOUTH #A3 - Wellbore #1 - Well	9,600.0	8,140.0	2,495.2	2,322.1	14.414	SF
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	7,706.9	7,818.1	3,662.7	3,534.2	28.510	CC
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	7,750.0	7,834.5	3,663.1	3,534.0	28.364	ES
EXIST DD SAM PAK #A6 - Wellbore #1 - Wellbore #1	10,728.3	7,467.5	4,346.5	4,141.3	21.181	SF
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	9,246.8	7,752.0	3,228.8	3,077.6	21.351	CC
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	9,350.4	7,752.0	3,230.5	3,076.5	20.984	ES
EXIST DD SMITH 5 SPOT #A4 - Wellbore #1 - Wellbore	11,122.0	7,601.5	3,730.1	3,528.9	18.544	SF
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,486.7	7,321.0	1,198.7	1,079.4	10.050	CC
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,500.0	7,321.0	1,198.8	1,079.2	10.022	ES
EXIST DD STATE #16-6B - Wellbore #1 - Wellbore #1	8,800.0	7,321.0	1,239.0	1,111.7	9.734	SF
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbor	11,859.9	7,785.3	1,822.2	1,618.1	8.926	CC
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbor	11,909.4	7,787.3	1,822.9	1,617.4	8.870	ES
EXIST DD UNION PACIFIC #C5 - Wellbore #1 - Wellbor	12,303.1	7,803.3	1,875.2	1,658.8	8.665	SF
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,415.8	7,990.7	3,172.3	2,861.6	10.210	CC
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	14,500.0	7,992.6	3,173.4	2,860.3	10.137	ES
EXIST DD UNIVERSITY 5 SPOT #D4 - Wellbore #1 - W	15,300.0	8,027.0	3,293.2	2,957.9	9.823	SF
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,212.8	8,199.0	3,801.3	3,452.8	10.907	CC
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	15,300.0	8,199.0	3,802.3	3,451.4	10.835	ES
EXIST DD UNIVERSITY SQUARE #D6 - Wellbore #1 - V	16,338.5	8,199.0	3,964.5	3,584.7	10.437	SF
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	13,113.8	7,930.1	1,865.3	1,614.0	7.422	CC
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	13,188.9	7,930.1	1,866.8	1,613.4	7.367	ES
EXIST DD VOLK #C7 - Wellbore #1 - Wellbore #1	13,500.0	7,930.1	1,904.9	1,642.9	7.270	SF
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,037.8	8,325.1	2,591.0	2,248.1	7.557	CC
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,100.0	8,326.8	2,591.7	2,247.1	7.521	ES
EXIST DD WHEELER #D3 - Wellbore #1 - Wellbore #1	15,600.0	8,339.8	2,651.3	2,292.7	7.395	SF
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	816.0	806.7	1,558.9	1,556.6	693.370	CC, ES
EXIST VERT EISENMAN #22-15 - Wellbore #1 - Wellbor	13,000.0	6,600.0	9,999.0	9,797.3	49.575	SF
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,255.7	5,577.6	801.9	634.1	4.779	CC
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,300.0	5,615.0	802.3	633.2	4.745	ES
EXIST VERT FAY #1 - Wellbore #1 - Design #1	6,500.0	5,783.7	812.6	638.4	4.664	SF
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	800.0	762.0	1,261.1	1,244.7	76.675	CC
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	1,082.7	1,044.2	1,264.2	1,241.5	55.573	ES
EXIST VERT HARRINGTON #1 - Wellbore #1 - Design #	8,350.0	7,020.7	4,291.9	4,064.4	18.869	SF
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1	98.4	81.4	61.9	61.8	440.472	CC
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1	295.3	278.0	62.3	61.5	76.802	ES
EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1	1,279.5	1,260.9	74.7	71.1	21.177	SF
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	98.6	99.6	194.7	194.5	1,042.585	CC, ES
VETTING 12 - ORIGINAL WELLBORE - PROPOSAL #2	13,700.0	15,072.1	1,828.4	1,362.5	3.924	SF
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	197.5	198.5	173.2	172.6	275.309	CC
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	200.0	200.0	173.2	172.6	271.361	ES
VETTING 13 - ORIGINAL WELLBORE - PROPOSAL #2	13,700.0	15,280.6	1,999.5	1,530.9	4.267	SF
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	296.0	297.0	154.8	153.7	144.360	CC
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	154.8	153.7	142.276	ES
VETTING 14 - ORIGINAL WELLBORE - PROPOSAL #2	13,779.5	15,100.4	2,180.6	1,711.4	4.647	SF

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NW SEC. 15 T5N R65W 6th P.M.						
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	394.5	395.5	135.9	134.4	89.709	CC
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	400.0	400.0	135.9	134.4	88.401	ES
VETTING 15 - ORIGINAL WELLBORE - PROPOSAL #2	13,877.9	15,171.7	2,522.5	2,048.8	5.325	SF
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	493.0	494.0	124.0	122.0	63.318	CC
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	500.0	500.0	124.0	122.0	62.388	ES
VETTING 16 - ORIGINAL WELLBORE - PROPOSAL #2	13,900.0	15,409.8	2,680.5	2,204.6	5.632	SF
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	591.5	592.5	110.8	108.4	46.162	CC
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	600.0	600.0	110.8	108.4	45.480	ES
VETTING 17 - ORIGINAL WELLBORE - PROPOSAL #2	13,976.3	15,284.8	2,861.6	2,384.3	5.995	SF
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	691.0	692.0	102.6	99.8	36.034	CC
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	102.6	99.7	35.556	ES
VETTING 18 - ORIGINAL WELLBORE - PROPOSAL #2	14,074.8	15,420.3	3,205.6	2,725.3	6.673	SF
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	790.4	791.4	99.3	96.0	30.161	CC
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	800.0	99.3	96.0	29.794	ES
VETTING 19 - ORIGINAL WELLBORE - PROPOSAL #2	14,100.0	15,682.9	3,365.8	2,883.6	6.980	SF
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	801.0	101.4	98.1	30.380	CC, ES
VETTING 20 - ORIGINAL WELLBORE - PROPOSAL #2	14,200.0	15,616.6	3,551.7	3,066.9	7.327	SF
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	801.0	109.8	106.4	32.886	CC, ES
VETTING 21 - ORIGINAL WELLBORE - PROPOSAL #2	14,300.0	15,843.4	3,897.4	3,409.7	7.990	SF
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	801.0	120.9	117.6	36.233	CC, ES
VETTING 22 - ORIGINAL WELLBORE - PROPOSAL #2	14,400.0	16,129.6	4,074.9	3,583.6	8.295	SF
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	801.0	137.2	133.9	41.102	CC, ES
VETTING 23 - ORIGINAL WELLBORE - PROPOSAL #2	14,468.5	16,069.4	4,255.6	3,762.4	8.628	SF
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	800.0	801.0	155.4	152.1	46.564	CC, ES
VETTING 24 - ORIGINAL WELLBORE - PROPOSAL #2	14,665.3	16,281.8	4,626.0	4,127.1	9.272	SF
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	100.0	100.0	168.5	168.3	892.635	CC, ES
VT-ALLES 1-16-18 - ORIGINAL WELLBORE - PROPOS	20,658.8	20,226.0	1,520.8	684.9	1.819	SF
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	800.0	800.0	47.9	44.6	14.362	CC
VT-GLENMERE 3-16-18 - ORIGINAL WELLBORE - PRC	20,658.8	20,699.3	532.4	-268.0	0.665	Level 1, ES, SF
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	800.0	800.0	73.2	69.9	21.956	CC
VT-GLENMERE C1-16-18 - ORIGINAL WELLBORE - PF	20,658.8	20,872.3	659.4	-194.8	0.772	Level 1, ES, SF
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	800.0	801.0	22.6	19.2	6.764	CC
VT-LDS 1-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,658.8	20,548.9	254.8	-321.5	0.442	Level 1, ES, SF
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	691.0	692.0	25.3	22.5	8.895	CC
VT-LDS 2-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,658.8	20,471.3	254.8	-313.2	0.449	Level 1, ES, SF
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	591.5	592.5	47.9	45.5	19.957	CC
VT-LDS 3-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,658.8	20,403.6	532.5	-260.0	0.672	Level 1, ES, SF
VT-LDS 4-16-18 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	95.3	93.8	62.003	CC
VT-LDS 4-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,658.8	20,287.9	867.4	42.1	1.051	Level 2, ES, SF
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	296.0	297.0	120.6	119.6	112.527	CC
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	120.6	119.6	110.904	ES
VT-LDS 5-16-18 - ORIGINAL WELLBORE - PROPOSAL	20,658.8	20,298.7	1,192.8	358.7	1.430	Level 3, SF
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSA	493.0	494.0	72.8	70.8	37.176	CC
VT-LDS C3-16-18 - ORIGINAL WELLBORE - PROPOSA	20,658.8	20,510.3	684.9	-162.1	0.809	Level 1, ES, SF
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSA	200.0	200.0	143.2	142.6	223.948	CC, ES
VT-LDS C4-16-18 - ORIGINAL WELLBORE - PROPOSA	20,658.8	20,473.7	1,340.7	497.1	1.589	SF

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	78.69	869.3	4,346.6	4,432.8				
98.4	98.4	78.9	78.9	0.1	0.1	78.69	869.3	4,346.6	4,432.7	4,432.6	0.14	N/A	
100.0	100.0	80.5	80.5	0.1	0.1	78.69	869.3	4,346.6	4,432.7	4,432.6	0.15	N/A	
196.8	196.8	177.3	177.3	0.3	0.2	78.69	869.3	4,346.6	4,432.7	4,432.2	0.55	8,067.679	
200.0	200.0	180.5	180.5	0.3	0.2	78.69	869.3	4,346.6	4,432.7	4,432.1	0.56	7,864.982	
295.3	295.3	275.8	275.8	0.5	0.5	78.69	869.3	4,346.6	4,432.7	4,431.7	0.99	4,468.943	
300.0	300.0	280.5	280.5	0.5	0.5	78.69	869.3	4,346.6	4,432.7	4,431.7	1.01	4,375.251	
393.7	393.7	374.2	374.2	0.8	0.7	78.69	869.3	4,346.6	4,432.7	4,431.3	1.43	3,090.409	
400.0	400.0	380.5	380.5	0.8	0.7	78.69	869.3	4,346.6	4,432.7	4,431.2	1.46	3,030.572	
492.1	492.1	472.6	472.6	1.0	0.9	78.69	869.3	4,346.6	4,432.7	4,430.8	1.88	2,361.850	
500.0	500.0	480.5	480.5	1.0	0.9	78.69	869.3	4,346.6	4,432.7	4,430.8	1.91	2,318.125	
590.5	590.5	571.0	571.0	1.2	1.1	78.69	869.3	4,346.6	4,432.7	4,430.4	2.32	1,911.271	
600.0	600.0	580.5	580.5	1.2	1.1	78.69	869.3	4,346.6	4,432.7	4,430.4	2.36	1,876.892	
689.0	689.0	669.5	669.5	1.4	1.3	78.69	869.3	4,346.6	4,432.7	4,430.0	2.76	1,605.066	
700.0	700.0	680.5	680.5	1.4	1.4	78.69	869.3	4,346.6	4,432.7	4,429.9	2.81	1,576.770	
787.4	787.4	767.9	767.9	1.6	1.6	78.69	869.3	4,346.6	4,432.7	4,429.5	3.20	1,383.427	
800.0	800.0	780.5	780.5	1.7	1.6	78.69	869.3	4,346.6	4,432.7	4,429.5	3.26	1,359.397	
885.8	885.8	866.3	866.3	1.9	1.8	153.31	869.3	4,346.6	4,433.9	4,430.2	3.64	1,218.635	
900.0	900.0	880.5	880.5	1.9	1.8	153.31	869.3	4,346.6	4,434.3	4,430.6	3.70	1,198.291	
984.2	984.1	964.6	964.6	2.1	2.0	153.30	869.3	4,346.6	4,438.0	4,433.9	4.06	1,091.800	
1,000.0	999.8	980.3	980.3	2.1	2.0	153.30	869.3	4,346.6	4,438.9	4,434.8	4.13	1,074.185	
1,082.7	1,082.2	1,029.1	1,029.1	2.3	2.1	153.26	869.3	4,346.8	4,445.4	4,441.0	4.41	1,007.120	
1,100.0	1,099.5	1,037.0	1,037.0	2.3	2.2	153.25	869.3	4,346.8	4,447.1	4,442.7	4.47	995.429	
1,181.1	1,180.0	1,100.0	1,100.0	2.5	2.3	153.20	869.6	4,347.9	4,457.1	4,452.3	4.78	932.320	
1,200.0	1,198.7	1,100.0	1,100.0	2.6	2.3	153.18	869.6	4,347.9	4,459.6	4,454.8	4.82	924.942	
1,279.5	1,277.3	1,100.0	1,100.0	2.8	2.3	153.06	869.6	4,347.9	4,472.6	4,467.6	5.00	894.191	
1,300.0	1,297.5	1,128.3	1,128.3	2.9	2.4	153.05	869.9	4,348.7	4,476.3	4,471.2	5.11	876.395	
1,377.9	1,374.0	1,163.4	1,163.4	3.1	2.4	152.94	870.3	4,350.0	4,492.2	4,486.9	5.37	836.916	
1,400.0	1,395.6	1,200.0	1,199.9	3.2	2.5	152.94	870.8	4,351.7	4,497.4	4,491.9	5.50	818.086	
1,476.4	1,470.1	1,200.0	1,199.9	3.5	2.5	152.76	870.8	4,351.7	4,516.0	4,510.3	5.69	793.418	
1,500.0	1,493.1	1,200.0	1,199.9	3.6	2.5	152.70	870.8	4,351.7	4,522.4	4,516.6	5.75	786.231	
1,574.8	1,565.4	1,250.2	1,250.1	3.9	2.6	152.57	871.6	4,354.5	4,543.8	4,537.7	6.06	749.484	
1,600.0	1,589.6	1,261.1	1,260.9	4.0	2.6	152.51	871.8	4,355.2	4,551.5	4,545.4	6.15	739.557	
1,610.8	1,600.0	1,265.8	1,265.6	4.1	2.7	152.49	871.9	4,355.5	4,554.9	4,548.7	6.19	735.257	
1,673.2	1,660.0	1,300.0	1,299.7	4.4	2.7	152.54	872.6	4,357.9	4,574.9	4,568.5	6.46	708.348	
1,675.8	1,662.4	1,300.0	1,299.7	4.4	2.7	152.54	872.6	4,357.9	4,575.7	4,569.3	6.47	707.618	
1,700.0	1,685.6	1,300.0	1,299.7	4.5	2.7	152.46	872.6	4,357.9	4,583.7	4,577.2	6.54	700.976	
1,771.6	1,754.0	1,334.4	1,334.0	4.9	2.8	152.28	873.5	4,360.7	4,608.6	4,601.8	6.84	673.670	
1,800.0	1,780.9	1,361.3	1,360.8	5.1	2.9	152.22	874.2	4,363.0	4,619.1	4,612.1	6.98	661.294	
1,870.1	1,847.0	1,392.1	1,391.4	5.5	2.9	152.01	875.0	4,365.8	4,646.0	4,638.7	7.29	637.622	
1,900.0	1,875.0	1,419.2	1,418.4	5.7	3.0	151.94	875.7	4,368.2	4,658.0	4,650.6	7.44	625.784	
1,968.5	1,938.8	1,480.7	1,479.6	6.2	3.2	151.78	877.4	4,373.8	4,686.4	4,678.6	7.81	599.755	
2,000.0	1,968.0	1,508.7	1,507.5	6.4	3.2	151.71	878.2	4,376.3	4,700.0	4,692.0	7.98	588.600	
2,066.9	2,029.4	1,567.7	1,566.3	6.9	3.4	151.54	879.8	4,381.7	4,729.6	4,721.2	8.37	565.274	
2,100.0	2,059.5	1,596.6	1,595.0	7.2	3.4	151.45	880.6	4,384.3	4,744.7	4,736.2	8.56	554.529	
2,165.3	2,118.6	1,653.2	1,651.3	7.7	3.6	151.26	882.1	4,389.4	4,775.5	4,766.5	8.95	533.535	
2,200.0	2,149.6	1,682.9	1,680.9	8.0	3.7	151.16	882.9	4,392.1	4,792.3	4,783.1	9.16	523.134	
2,263.8	2,206.3	1,736.9	1,734.7	8.6	3.8	150.96	884.4	4,397.0	4,824.0	4,814.5	9.57	504.139	
2,300.0	2,238.2	11,614.8	6,958.5	9.0	135.1	159.34	913.9	-361.6	4,809.5	4,777.0	32.54	147.821	
2,362.2	2,292.4	11,644.2	6,958.5	9.6	135.9	160.12	913.7	-390.9	4,754.7	4,722.3	32.40	146.764	
2,400.0	2,325.0	11,662.5	6,958.5	10.0	136.4	160.56	913.6	-409.3	4,721.6	4,689.3	32.39	145.787	
2,460.6	2,376.8	11,692.9	6,958.5	10.6	137.2	161.24	913.4	-439.6	4,669.2	4,636.7	32.49	143.701	

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

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,490.0	2,401.7	11,707.9	6,958.5	11.0	137.6	161.55	913.3	-454.7	4,643.9	4,611.4	32.59	142.518	
2,500.0	2,410.1	11,713.1	6,958.5	11.1	137.8	161.55	913.3	-459.8	4,635.4	4,602.7	32.65	141.952	
2,559.0	2,459.9	11,743.6	6,958.5	11.8	138.6	161.55	913.1	-490.4	4,584.8	4,551.8	33.07	138.646	
2,600.0	2,494.4	11,764.8	6,958.5	12.2	139.2	161.55	913.0	-511.6	4,549.8	4,516.4	33.36	136.398	
2,657.5	2,542.9	11,794.5	6,958.5	12.9	140.1	161.55	912.8	-541.3	4,500.6	4,466.8	33.77	133.290	
2,700.0	2,578.8	11,816.5	6,958.5	13.4	140.7	161.55	912.7	-563.3	4,464.2	4,430.1	34.07	131.036	
2,755.9	2,625.9	11,845.5	6,958.5	14.1	141.5	161.55	912.5	-592.2	4,416.4	4,381.9	34.47	128.119	
2,800.0	2,663.1	11,868.3	6,958.5	14.6	142.1	161.55	912.4	-615.0	4,378.6	4,343.8	34.79	125.864	
2,854.3	2,708.9	11,896.4	6,958.5	15.2	142.9	161.55	912.2	-643.1	4,332.1	4,296.9	35.18	123.131	
2,900.0	2,747.5	11,920.0	6,958.5	15.8	143.6	161.55	912.1	-666.7	4,293.0	4,257.5	35.52	120.879	
2,952.7	2,791.9	11,947.3	6,958.5	16.4	144.3	161.55	911.9	-694.0	4,247.9	4,212.0	35.90	118.322	
3,000.0	2,831.8	11,971.7	6,958.5	16.9	145.0	161.55	911.8	-718.4	4,207.5	4,171.2	36.25	116.076	
3,051.2	2,875.0	11,998.2	6,958.5	17.6	145.8	161.55	911.6	-744.9	4,163.7	4,127.0	36.62	113.686	
3,100.0	2,916.1	12,023.4	6,958.5	18.1	146.5	161.55	911.5	-770.2	4,121.9	4,084.9	36.98	111.449	
3,149.6	2,958.0	12,049.1	6,958.5	18.7	147.2	161.55	911.3	-795.8	4,079.4	4,042.1	37.35	109.216	
3,200.0	3,000.5	12,075.2	6,958.5	19.3	147.9	161.55	911.2	-821.9	4,036.3	3,998.6	37.73	106.991	
3,248.0	3,041.0	12,100.0	6,958.5	19.9	148.6	161.55	911.0	-846.7	3,995.2	3,957.1	38.08	104.908	
3,300.0	3,084.8	12,126.9	6,958.5	20.5	149.3	161.55	910.9	-873.6	3,950.7	3,912.2	38.47	102.696	
3,346.4	3,124.0	12,150.9	6,958.5	21.1	150.0	161.55	910.7	-897.6	3,910.9	3,872.1	38.82	100.753	
3,400.0	3,169.2	12,178.6	6,958.5	21.7	150.8	161.55	910.6	-925.3	3,865.1	3,825.9	39.22	98.556	
3,444.9	3,207.0	12,201.8	6,958.5	22.3	151.4	161.55	910.4	-948.5	3,826.7	3,787.2	39.55	96.747	
3,500.0	3,253.5	12,230.3	6,958.5	22.9	152.2	161.55	910.3	-977.1	3,779.5	3,739.6	39.97	94.565	
3,543.3	3,290.0	12,252.7	6,958.5	23.5	152.9	161.55	910.2	-999.4	3,742.5	3,702.2	40.29	92.880	
3,600.0	3,337.8	12,282.0	6,958.5	24.2	153.7	161.55	910.0	-1,028.8	3,693.9	3,653.2	40.72	90.715	
3,641.7	3,373.0	12,303.6	6,958.5	24.7	154.3	161.55	909.9	-1,050.4	3,658.2	3,617.2	41.04	89.149	
3,700.0	3,422.2	12,333.8	6,958.5	25.4	155.1	161.55	909.7	-1,080.5	3,608.4	3,566.9	41.47	87.001	
3,740.1	3,456.0	12,354.5	6,958.5	25.9	155.7	161.55	909.6	-1,101.3	3,574.0	3,532.2	41.78	85.546	
3,800.0	3,506.5	12,385.5	6,958.5	26.6	156.6	161.55	909.4	-1,132.2	3,522.8	3,480.5	42.23	83.416	
3,838.6	3,539.0	12,405.4	6,958.5	27.0	157.1	161.55	909.3	-1,152.2	3,489.8	3,447.2	42.52	82.066	
3,900.0	3,590.8	12,437.2	6,958.5	27.8	158.0	161.55	909.1	-1,183.9	3,437.2	3,394.2	42.99	79.953	
3,937.0	3,622.1	12,456.4	6,958.5	28.2	158.6	161.55	909.0	-1,203.1	3,405.5	3,362.3	43.27	78.702	
4,000.0	3,675.2	12,488.9	6,958.5	29.0	159.5	161.55	908.8	-1,235.7	3,351.6	3,307.9	43.75	76.608	
4,035.4	3,705.1	12,507.3	6,958.5	29.4	160.0	161.55	908.7	-1,254.0	3,321.3	3,277.3	44.02	75.450	
4,100.0	3,759.5	12,540.7	6,958.5	30.2	160.9	161.55	908.5	-1,287.4	3,266.0	3,221.5	44.51	73.375	
4,133.8	3,788.1	12,558.2	6,958.5	30.6	161.4	161.55	908.4	-1,304.9	3,237.0	3,192.3	44.77	72.305	
4,200.0	3,843.9	12,592.4	6,958.5	31.4	162.4	161.55	908.2	-1,339.1	3,180.4	3,135.2	45.27	70.249	
4,232.3	3,871.1	12,609.1	6,958.5	31.8	162.8	161.55	908.1	-1,355.8	3,152.8	3,107.3	45.52	69.262	
4,300.0	3,928.2	12,644.1	6,958.5	32.6	163.8	161.55	907.9	-1,390.8	3,094.8	3,048.8	46.04	67.224	
4,330.7	3,954.1	12,660.0	6,958.5	33.0	164.2	161.55	907.8	-1,406.7	3,068.6	3,022.3	46.27	66.315	
4,400.0	4,012.5	12,695.8	6,958.5	33.9	165.2	161.55	907.6	-1,442.5	3,009.3	2,962.5	46.80	64.297	
4,429.1	4,037.1	12,710.9	6,958.5	34.2	165.7	161.55	907.5	-1,457.6	2,984.3	2,937.3	47.03	63.462	
4,500.0	4,096.9	12,747.5	6,958.5	35.1	166.7	161.55	907.3	-1,494.3	2,923.7	2,876.1	47.57	61.462	
4,527.5	4,120.1	12,761.8	6,958.5	35.4	167.1	161.55	907.2	-1,508.5	2,900.1	2,852.3	47.78	60.697	
4,600.0	4,181.2	12,799.3	6,958.5	36.3	168.1	161.55	907.0	-1,546.0	2,838.1	2,789.8	48.34	58.716	
4,626.0	4,203.1	12,812.7	6,958.5	36.6	168.5	161.55	906.9	-1,559.4	2,815.9	2,767.3	48.54	58.017	
4,700.0	4,265.6	12,851.0	6,958.5	37.5	169.6	161.55	906.7	-1,597.7	2,752.5	2,703.4	49.10	56.055	
4,724.4	4,286.1	12,863.6	6,958.5	37.8	169.9	161.55	906.6	-1,610.3	2,731.6	2,682.3	49.29	55.418	
4,800.0	4,349.9	12,902.7	6,958.5	38.7	171.0	161.55	906.4	-1,649.4	2,666.9	2,617.1	49.87	53.475	
4,822.8	4,369.1	12,914.5	6,958.5	39.0	171.4	161.55	906.3	-1,661.2	2,647.4	2,597.3	50.05	52.897	
4,900.0	4,434.2	12,954.4	6,958.5	40.0	172.5	161.55	906.1	-1,701.2	2,581.3	2,530.7	50.64	50.972	
4,921.2	4,452.2	12,965.4	6,958.5	40.2	172.8	161.55	906.0	-1,712.1	2,563.2	2,512.3	50.81	50.450	
5,000.0	4,518.6	13,006.2	6,958.5	41.2	173.9	161.55	905.8	-1,752.9	2,495.8	2,444.3	51.41	48.544	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,019.7	4,535.2	13,016.3	6,958.5	41.4	174.2	161.55	905.7	-1,763.1	2,478.9	2,427.4	51.56	48.075	
5,100.0	4,602.9	13,057.9	6,958.5	42.4	175.4	161.55	905.5	-1,804.6	2,410.2	2,358.0	52.18	46.187	
5,118.1	4,618.2	13,067.2	6,958.5	42.6	175.6	161.55	905.4	-1,814.0	2,394.7	2,342.4	52.32	45.768	
5,200.0	4,687.3	13,109.6	6,958.5	43.6	176.8	161.55	905.2	-1,856.3	2,324.6	2,271.6	52.95	43.898	
5,216.5	4,701.2	13,118.2	6,958.5	43.8	177.1	161.55	905.1	-1,864.9	2,310.4	2,257.4	53.08	43.526	
5,300.0	4,771.6	13,161.3	6,958.5	44.8	178.3	161.55	904.9	-1,908.0	2,239.0	2,185.3	53.73	41.674	
5,314.9	4,784.2	13,169.1	6,958.5	45.0	178.5	161.55	904.8	-1,915.8	2,226.2	2,172.4	53.84	41.347	
5,400.0	4,855.9	13,213.0	6,958.5	46.1	179.7	161.55	904.6	-1,959.8	2,153.4	2,098.9	54.50	39.512	
5,413.4	4,867.2	13,220.0	6,958.5	46.2	179.9	161.55	904.5	-1,966.7	2,142.0	2,087.4	54.60	39.228	
5,500.0	4,940.3	13,264.8	6,958.5	47.3	181.2	161.55	904.3	-2,011.5	2,067.8	2,012.6	55.27	37.411	
5,511.8	4,950.2	13,270.9	6,958.5	47.4	181.3	161.55	904.2	-2,017.6	2,057.7	2,002.4	55.36	37.167	
5,600.0	5,024.6	13,316.5	6,958.5	48.5	182.6	161.55	904.0	-2,063.2	1,982.2	1,926.2	56.05	35.368	
5,610.2	5,033.2	13,321.8	6,958.5	48.6	182.8	161.55	903.9	-2,068.5	1,973.5	1,917.4	56.13	35.162	
5,700.0	5,109.0	13,368.2	6,958.5	49.7	184.1	161.55	903.7	-2,114.9	1,896.7	1,839.8	56.82	33.379	
5,708.6	5,116.2	13,372.7	6,958.5	49.8	184.2	161.55	903.6	-2,119.4	1,889.3	1,832.4	56.89	33.210	
5,800.0	5,193.3	13,419.9	6,958.5	50.9	185.5	161.55	903.4	-2,166.6	1,811.1	1,753.5	57.60	31.444	
5,807.1	5,199.3	13,423.6	6,958.5	51.0	185.6	161.55	903.3	-2,170.3	1,805.0	1,747.4	57.65	31.309	
5,900.0	5,277.6	13,471.7	6,958.5	52.2	187.0	161.55	903.1	-2,218.4	1,725.5	1,667.1	58.37	29.560	
5,905.5	5,282.3	13,474.5	6,958.5	52.2	187.0	161.55	903.1	-2,221.2	1,720.8	1,662.4	58.41	29.458	
6,000.0	5,362.0	13,523.4	6,958.5	53.4	188.4	161.55	902.8	-2,270.1	1,639.9	1,580.8	59.15	27.726	
6,003.9	5,365.3	13,525.4	6,958.5	53.4	188.5	161.55	902.8	-2,272.1	1,636.5	1,577.4	59.18	27.655	
6,100.0	5,446.3	13,575.1	6,958.5	54.6	189.8	161.55	902.5	-2,321.8	1,554.3	1,494.4	59.92	25.938	
6,102.3	5,448.3	13,576.3	6,958.5	54.6	189.9	161.55	902.5	-2,323.0	1,552.3	1,492.4	59.94	25.897	
6,200.0	5,530.6	13,626.8	6,958.5	55.8	191.3	161.55	902.2	-2,373.5	1,468.7	1,408.0	60.70	24.196	
6,200.8	5,531.3	13,627.2	6,958.5	55.8	191.3	161.55	902.2	-2,373.9	1,468.1	1,407.4	60.71	24.183	
6,299.2	5,614.3	13,678.1	6,958.5	57.1	192.7	161.56	901.9	-2,424.8	1,383.8	1,322.4	61.47	22.512	
6,300.0	5,615.0	13,678.5	6,958.5	57.1	192.7	161.56	901.9	-2,425.3	1,383.1	1,321.7	61.48	22.499	
6,397.6	5,697.3	13,729.0	6,958.5	58.3	194.2	161.56	901.6	-2,475.7	1,299.6	1,237.4	62.24	20.882	
6,400.0	5,699.3	13,730.3	6,958.5	58.3	194.2	161.56	901.6	-2,477.0	1,297.6	1,235.3	62.25	20.843	
6,496.0	5,780.3	13,780.0	6,958.5	59.5	195.6	161.56	901.3	-2,526.7	1,215.4	1,152.4	63.00	19.291	
6,500.0	5,783.7	13,782.0	6,958.5	59.5	195.6	161.56	901.3	-2,528.7	1,212.0	1,148.9	63.03	19.228	
6,594.5	5,863.3	13,830.9	6,958.5	60.7	197.0	161.56	901.0	-2,577.6	1,131.1	1,067.4	63.77	17.738	
6,600.0	5,868.0	13,833.7	6,958.5	60.7	197.1	161.56	901.0	-2,580.4	1,126.4	1,062.6	63.81	17.652	
6,692.9	5,946.4	13,881.8	6,958.5	61.9	198.4	161.56	900.7	-2,628.5	1,046.9	982.3	64.53	16.222	
6,700.0	5,952.3	13,885.4	6,958.5	62.0	198.5	161.56	900.7	-2,632.1	1,040.8	976.2	64.59	16.114	
6,791.3	6,029.4	13,932.7	6,958.5	63.1	199.9	161.56	900.4	-2,679.4	962.6	897.3	65.30	14.742	
6,800.0	6,036.7	13,937.2	6,958.5	63.2	200.0	161.56	900.4	-2,683.9	955.2	889.9	65.37	14.613	
6,889.7	6,112.4	13,983.6	6,958.5	64.3	201.3	161.56	900.1	-2,730.3	878.4	812.3	66.07	13.296	
6,900.0	6,121.0	13,988.9	6,958.5	64.4	201.4	161.56	900.1	-2,735.6	869.6	803.5	66.15	13.147	
6,988.2	6,195.4	14,034.5	6,958.5	65.5	202.7	161.56	899.8	-2,781.2	794.2	727.3	66.83	11.883	
7,000.0	6,205.4	14,040.6	6,958.5	65.6	202.9	161.56	899.8	-2,787.3	784.0	717.1	66.92	11.716	
7,086.6	6,278.4	14,085.4	6,958.5	66.7	204.1	161.56	899.5	-2,832.1	709.9	642.3	67.60	10.502	
7,100.0	6,289.7	14,092.3	6,958.5	66.8	204.3	161.56	899.5	-2,839.0	698.5	630.8	67.70	10.317	
7,185.0	6,361.4	14,136.3	6,958.5	67.9	205.6	161.56	899.2	-2,883.0	625.7	557.3	68.36	9.152	
7,200.0	6,374.0	14,144.0	6,958.5	68.1	205.8	161.56	899.2	-2,890.7	612.9	544.4	68.48	8.950	
7,283.4	6,444.4	14,187.2	6,958.5	69.1	207.0	161.56	898.9	-2,933.9	541.5	472.3	69.13	7.832	
7,300.0	6,458.4	14,195.8	6,958.5	69.3	207.2	161.56	898.9	-2,942.5	527.3	458.0	69.26	7.613	
7,381.9	6,527.4	14,238.1	6,958.5	70.3	208.4	161.56	898.6	-2,984.8	457.2	387.3	69.90	6.541	
7,400.0	6,542.7	14,247.5	6,958.5	70.5	208.7	161.56	898.6	-2,994.2	441.7	371.7	70.04	6.307	
7,480.3	6,610.4	14,289.0	6,958.5	71.5	209.8	161.56	898.3	-3,035.7	373.0	302.3	70.66	5.279	
7,500.0	6,627.1	14,299.2	6,958.5	71.7	210.1	161.56	898.3	-3,045.9	356.1	285.3	70.81	5.029	
7,568.5	6,684.8	14,334.6	6,958.5	72.6	211.1	161.57	898.0	-3,081.3	297.5	226.2	71.34	4.170	

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

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,578.7	6,693.4	14,340.0	6,958.5	72.7	211.3	162.09	898.0	-3,086.7	288.8	217.8	70.99	4.068	
7,600.0	6,710.9	14,351.6	6,958.5	73.0	211.6	163.16	897.9	-3,098.3	271.0	200.4	70.55	3.841	
7,650.0	6,750.2	14,381.4	6,958.5	73.7	212.4	165.65	897.8	-3,128.0	230.8	160.2	70.59	3.270	
7,677.1	6,770.4	14,398.8	6,958.5	74.2	212.9	167.07	897.7	-3,145.5	210.1	139.1	71.02	2.959	
7,700.0	6,786.7	14,414.3	6,958.5	74.5	213.3	168.36	897.6	-3,161.0	193.4	121.8	71.55	2.702	
7,750.0	6,820.0	14,450.1	6,958.5	75.4	214.3	171.69	897.4	-3,196.8	159.0	85.5	73.51	2.163	
7,775.6	6,835.8	14,469.5	6,958.5	76.0	214.9	173.81	897.3	-3,216.2	142.7	67.4	75.30	1.896	
7,800.0	6,850.0	14,488.6	6,958.5	76.4	215.4	176.19	897.2	-3,235.3	128.2	50.2	77.97	1.644	
7,835.7	6,869.2	14,517.6	6,958.5	77.2	216.2	-179.45	897.0	-3,264.3	108.8	23.9	84.87	1.282	Level 3
7,874.0	6,888.8	14,549.2	6,958.5	78.0	217.1	-173.08	896.8	-3,295.9	89.7	-12.0	101.75	0.882	Level 1
7,900.0	6,902.1	14,570.7	6,958.5	78.6	217.7	-167.21	896.7	-3,317.4	77.5	-43.9	121.39	0.639	Level 1
7,972.4	6,939.2	14,630.6	6,958.5	80.2	219.4	-140.24	896.3	-3,377.3	50.8	-168.2	218.94	0.232	Level 1
8,000.0	6,953.3	14,653.4	6,958.5	80.8	220.0	-125.25	896.2	-3,400.1	46.3	-214.8	261.10	0.177	Level 1
8,011.2	6,959.0	14,662.7	6,958.5	81.0	220.3	-118.81	896.1	-3,409.4	45.9	-228.8	274.70	0.167	Level 1, CC
8,032.1	6,969.7	14,680.0	6,958.5	81.5	220.8	-106.82	896.0	-3,426.7	47.4	-244.3	291.61	0.162	Level 1, SF
8,050.0	6,978.7	14,694.9	6,958.5	81.9	221.2	-96.65	896.0	-3,441.6	50.7	-246.7	297.37	0.171	Level 1, ES
8,070.8	6,988.5	14,712.7	6,958.5	82.4	221.7	-86.41	895.8	-3,459.4	56.2	-239.7	295.91	0.190	Level 1
8,100.0	7,001.3	14,738.3	6,958.5	83.0	222.4	-75.21	895.7	-3,485.0	65.4	-221.0	286.39	0.228	Level 1
8,150.0	7,020.4	14,783.6	6,958.5	84.2	223.7	-62.66	895.4	-3,530.3	81.8	-185.6	267.44	0.306	Level 1
8,169.3	7,026.8	14,801.5	6,958.5	84.7	224.2	-59.40	895.3	-3,548.2	87.8	-173.6	261.42	0.336	Level 1
8,200.0	7,035.8	14,830.6	6,958.5	85.4	225.0	-55.40	895.2	-3,577.3	96.5	-157.2	253.71	0.380	Level 1
8,250.0	7,047.4	14,848.6	6,958.5	86.7	225.5	-52.67	895.1	-3,595.3	112.3	-137.1	249.39	0.450	Level 1
8,267.7	7,050.5	14,848.6	6,958.5	87.1	225.5	-52.05	895.1	-3,595.3	121.2	-127.2	248.36	0.488	Level 1
8,300.0	7,055.0	14,848.6	6,958.5	87.9	225.5	-50.72	895.1	-3,595.3	140.8	-104.5	245.34	0.574	Level 1
8,350.0	7,058.7	14,848.6	6,958.5	89.1	225.5	-48.30	895.1	-3,595.3	176.7	-61.4	238.10	0.742	Level 1
8,366.1	7,059.0	14,848.6	6,958.5	89.5	225.5	-47.47	895.1	-3,595.3	189.1	-46.1	235.21	0.804	Level 1
8,370.8	7,059.0	14,848.6	6,958.5	89.7	225.5	-47.23	895.1	-3,595.3	192.7	-41.6	234.34	0.823	Level 1
8,400.0	7,059.0	14,848.6	6,958.5	90.4	225.5	-47.23	895.1	-3,595.3	216.5	-18.4	234.89	0.922	Level 1
8,464.5	7,059.0	14,848.6	6,958.5	92.0	225.5	-47.23	895.1	-3,595.3	272.7	36.5	236.11	1.155	Level 2
8,500.0	7,059.0	14,848.6	6,958.5	92.8	225.5	-47.23	895.1	-3,595.3	304.9	68.1	236.79	1.288	Level 3
8,563.0	7,059.0	14,848.6	6,958.5	94.4	225.5	-47.23	895.1	-3,595.3	363.7	125.7	237.99	1.528	
8,600.0	7,059.0	14,848.6	6,958.5	95.3	225.5	-47.23	895.1	-3,595.3	398.9	160.2	238.70	1.671	
8,661.4	7,059.0	14,848.6	6,958.5	96.9	225.5	-47.23	895.1	-3,595.3	457.8	218.0	239.88	1.909	
8,700.0	7,059.0	14,848.6	6,958.5	97.8	225.5	-47.23	895.1	-3,595.3	495.2	254.6	240.62	2.058	
8,759.8	7,059.0	14,848.6	6,958.5	99.3	225.5	-47.23	895.1	-3,595.3	553.5	311.7	241.78	2.289	
8,800.0	7,059.0	14,848.6	6,958.5	100.3	225.5	-47.23	895.1	-3,595.3	592.8	350.2	242.56	2.444	
8,858.2	7,059.0	14,848.6	6,958.5	101.8	225.5	-47.23	895.1	-3,595.3	649.9	406.2	243.69	2.667	
8,900.0	7,059.0	14,848.6	6,958.5	102.9	225.5	-47.23	895.1	-3,595.3	691.0	446.5	244.50	2.826	
8,956.7	7,059.0	14,848.6	6,958.5	104.3	225.5	-47.23	895.1	-3,595.3	746.9	501.3	245.61	3.041	
9,000.0	7,059.0	14,848.6	6,958.5	105.4	225.5	-47.23	895.1	-3,595.3	789.7	543.2	246.45	3.204	
9,055.1	7,059.0	14,848.6	6,958.5	106.8	225.5	-47.23	895.1	-3,595.3	844.2	596.7	247.53	3.410	
9,100.0	7,059.0	14,848.6	6,958.5	108.0	225.5	-47.23	895.1	-3,595.3	888.7	640.3	248.41	3.577	
9,153.5	7,059.0	14,848.6	6,958.5	109.4	225.5	-47.23	895.1	-3,595.3	941.7	692.3	249.47	3.775	
9,200.0	7,059.0	14,848.6	6,958.5	110.6	225.5	-47.23	895.1	-3,595.3	987.9	737.5	250.38	3.945	
9,251.9	7,059.0	14,848.6	6,958.5	111.9	225.5	-47.23	895.1	-3,595.3	1,039.4	788.0	251.41	4.134	
9,300.0	7,059.0	14,848.6	6,958.5	113.1	225.5	-47.23	895.1	-3,595.3	1,087.2	834.8	252.36	4.308	
9,350.4	7,059.0	14,848.6	6,958.5	114.4	225.5	-47.23	895.1	-3,595.3	1,137.3	883.9	253.36	4.489	
9,400.0	7,059.0	14,848.6	6,958.5	115.7	225.5	-47.23	895.1	-3,595.3	1,186.6	932.3	254.35	4.665	
9,448.8	7,059.0	14,848.6	6,958.5	117.0	225.5	-47.23	895.1	-3,595.3	1,235.2	979.9	255.32	4.838	
9,500.0	7,059.0	14,848.6	6,958.5	118.3	225.5	-47.23	895.1	-3,595.3	1,286.2	1,029.8	256.34	5.017	
9,547.2	7,059.0	14,848.6	6,958.5	119.6	225.5	-47.23	895.1	-3,595.3	1,333.2	1,075.9	257.28	5.182	
9,600.0	7,059.0	14,848.6	6,958.5	120.9	225.5	-47.23	895.1	-3,595.3	1,385.8	1,127.4	258.33	5.364	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,645.6	7,059.0	14,848.6	6,958.5	122.1	225.5	-47.23	895.1	-3,595.3	1,431.3	1,172.0	259.25	5.521	
9,700.0	7,059.0	14,848.6	6,958.5	123.6	225.5	-47.23	895.1	-3,595.3	1,485.4	1,225.1	260.34	5.706	
9,744.1	7,059.0	14,848.6	6,958.5	124.7	225.5	-47.23	895.1	-3,595.3	1,529.4	1,268.1	261.22	5.855	
9,800.0	7,059.0	14,848.6	6,958.5	126.2	225.5	-47.23	895.1	-3,595.3	1,585.1	1,322.8	262.34	6.042	
9,842.5	7,059.0	14,848.6	6,958.5	127.3	225.5	-47.23	895.1	-3,595.3	1,627.5	1,364.3	263.20	6.184	
9,900.0	7,059.0	14,848.6	6,958.5	128.8	225.5	-47.23	895.1	-3,595.3	1,684.9	1,420.5	264.36	6.373	
9,940.9	7,059.0	14,848.6	6,958.5	129.9	225.5	-47.23	895.1	-3,595.3	1,725.7	1,460.5	265.18	6.508	
10,000.0	7,059.0	14,848.6	6,958.5	131.5	225.5	-47.23	895.1	-3,595.3	1,784.6	1,518.2	266.37	6.700	
10,039.3	7,059.0	14,848.6	6,958.5	132.5	225.5	-47.23	895.1	-3,595.3	1,823.9	1,556.7	267.17	6.827	
10,100.0	7,059.0	14,848.6	6,958.5	134.1	225.5	-47.23	895.1	-3,595.3	1,884.4	1,616.0	268.40	7.021	
10,137.8	7,059.0	14,848.6	6,958.5	135.1	225.5	-47.23	895.1	-3,595.3	1,922.1	1,652.9	269.16	7.141	
10,200.0	7,059.0	14,848.6	6,958.5	136.8	225.5	-47.23	895.1	-3,595.3	1,984.2	1,713.8	270.42	7.338	
10,236.2	7,059.0	14,848.6	6,958.5	137.7	225.5	-47.23	895.1	-3,595.3	2,020.4	1,749.2	271.16	7.451	
10,300.0	7,059.0	14,848.6	6,958.5	139.4	225.5	-47.23	895.1	-3,595.3	2,084.0	1,811.6	272.45	7.649	
10,334.6	7,059.0	14,848.6	6,958.5	140.4	225.5	-47.23	895.1	-3,595.3	2,118.6	1,845.5	273.15	7.756	
10,400.0	7,059.0	14,848.6	6,958.5	142.1	225.5	-47.23	895.1	-3,595.3	2,183.9	1,909.4	274.48	7.956	
10,433.0	7,059.0	14,848.6	6,958.5	143.0	225.5	-47.23	895.1	-3,595.3	2,216.9	1,941.7	275.16	8.057	
10,500.0	7,059.0	14,848.6	6,958.5	144.8	225.5	-47.23	895.1	-3,595.3	2,283.7	2,007.2	276.52	8.259	
10,531.5	7,059.0	14,848.6	6,958.5	145.6	225.5	-47.23	895.1	-3,595.3	2,315.2	2,038.0	277.16	8.353	
10,600.0	7,059.0	14,848.6	6,958.5	147.5	225.5	-47.23	895.1	-3,595.3	2,383.6	2,105.1	278.56	8.557	
10,629.9	7,059.0	14,848.6	6,958.5	148.3	225.5	-47.23	895.1	-3,595.3	2,413.5	2,134.3	279.17	8.645	
10,700.0	7,059.0	14,848.6	6,958.5	150.2	225.5	-47.23	895.1	-3,595.3	2,483.5	2,202.9	280.60	8.851	
10,728.3	7,059.0	14,848.6	6,958.5	150.9	225.5	-47.23	895.1	-3,595.3	2,511.8	2,230.6	281.18	8.933	
10,800.0	7,059.0	14,848.6	6,958.5	152.8	225.5	-47.23	895.1	-3,595.3	2,583.4	2,300.7	282.65	9.140	
10,826.7	7,059.0	14,848.6	6,958.5	153.6	225.5	-47.23	895.1	-3,595.3	2,610.1	2,326.9	283.20	9.217	
10,900.0	7,059.0	14,848.6	6,958.5	155.5	225.5	-47.23	895.1	-3,595.3	2,683.3	2,398.6	284.70	9.425	
10,925.2	7,059.0	14,848.6	6,958.5	156.2	225.5	-47.23	895.1	-3,595.3	2,708.4	2,423.2	285.21	9.496	
11,000.0	7,059.0	14,848.6	6,958.5	158.2	225.5	-47.23	895.1	-3,595.3	2,783.2	2,496.4	286.75	9.706	
11,023.6	7,059.0	14,848.6	6,958.5	158.9	225.5	-47.23	895.1	-3,595.3	2,806.8	2,519.5	287.23	9.772	
11,100.0	7,059.0	14,848.6	6,958.5	160.9	225.5	-47.23	895.1	-3,595.3	2,883.1	2,594.3	288.80	9.983	
11,122.0	7,059.0	14,848.6	6,958.5	161.5	225.5	-47.23	895.1	-3,595.3	2,905.1	2,615.9	289.25	10.043	
11,200.0	7,059.0	14,848.6	6,958.5	163.6	225.5	-47.23	895.1	-3,595.3	2,983.0	2,692.2	290.86	10.256	
11,220.4	7,059.0	14,848.6	6,958.5	164.2	225.5	-47.23	895.1	-3,595.3	3,003.4	2,712.2	291.28	10.311	
11,300.0	7,059.0	14,848.6	6,958.5	166.4	225.5	-47.23	895.1	-3,595.3	3,082.9	2,790.0	292.91	10.525	
11,318.9	7,059.0	14,848.6	6,958.5	166.9	225.5	-47.23	895.1	-3,595.3	3,101.8	2,808.5	293.30	10.575	
11,400.0	7,059.0	14,848.6	6,958.5	169.1	225.5	-47.23	895.1	-3,595.3	3,182.9	2,887.9	294.97	10.790	
11,417.3	7,059.0	14,848.6	6,958.5	169.5	225.5	-47.23	895.1	-3,595.3	3,200.2	2,904.8	295.33	10.836	
11,500.0	7,059.0	14,848.6	6,958.5	171.8	225.5	-47.23	895.1	-3,595.3	3,282.8	2,985.8	297.03	11.052	
11,515.7	7,059.0	14,848.6	6,958.5	172.2	225.5	-47.23	895.1	-3,595.3	3,298.5	3,001.2	297.36	11.093	
11,600.0	7,059.0	14,848.6	6,958.5	174.5	225.5	-47.23	895.1	-3,595.3	3,382.7	3,083.6	299.10	11.310	
11,614.1	7,059.0	14,848.6	6,958.5	174.9	225.5	-47.23	895.1	-3,595.3	3,396.9	3,097.5	299.39	11.346	
11,700.0	7,059.0	14,848.6	6,958.5	177.2	225.5	-47.23	895.1	-3,595.3	3,482.7	3,181.5	301.16	11.564	
11,712.6	7,059.0	14,848.6	6,958.5	177.6	225.5	-47.23	895.1	-3,595.3	3,495.2	3,193.8	301.42	11.596	
11,800.0	7,059.0	14,848.6	6,958.5	179.9	225.5	-47.23	895.1	-3,595.3	3,582.6	3,279.4	303.23	11.815	
11,811.0	7,059.0	14,848.6	6,958.5	180.2	225.5	-47.23	895.1	-3,595.3	3,593.6	3,290.2	303.46	11.842	
11,900.0	7,059.0	14,848.6	6,958.5	182.7	225.5	-47.23	895.1	-3,595.3	3,682.6	3,377.3	305.30	12.062	
11,909.4	7,059.0	14,848.6	6,958.5	182.9	225.5	-47.23	895.1	-3,595.3	3,692.0	3,386.5	305.49	12.085	
12,000.0	7,059.0	14,848.6	6,958.5	185.4	225.5	-47.23	895.1	-3,595.3	3,782.5	3,475.1	307.37	12.306	
12,007.8	7,059.0	14,848.6	6,958.5	185.6	225.5	-47.23	895.1	-3,595.3	3,790.4	3,482.8	307.53	12.325	
12,100.0	7,059.0	14,848.6	6,958.5	188.1	225.5	-47.23	895.1	-3,595.3	3,882.5	3,573.0	309.44	12.547	
12,106.3	7,059.0	14,848.6	6,958.5	188.3	225.5	-47.23	895.1	-3,595.3	3,888.7	3,579.2	309.57	12.562	
12,200.0	7,059.0	14,848.6	6,958.5	190.9	225.5	-47.23	895.1	-3,595.3	3,982.4	3,670.9	311.51	12.784	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,204.7	7,059.0	14,848.6	6,958.5	191.0	225.5	-47.23	895.1	-3,595.3	3,987.1	3,675.5	311.61	12.795	
12,300.0	7,059.0	14,848.6	6,958.5	193.6	225.5	-47.23	895.1	-3,595.3	4,082.4	3,768.8	313.59	13.018	
12,303.1	7,059.0	14,848.6	6,958.5	193.7	225.5	-47.23	895.1	-3,595.3	4,085.5	3,771.8	313.65	13.025	
12,400.0	7,059.0	14,848.6	6,958.5	196.3	225.5	-47.23	895.1	-3,595.3	4,182.3	3,866.7	315.67	13.249	
12,401.5	7,059.0	14,848.6	6,958.5	196.4	225.5	-47.23	895.1	-3,595.3	4,183.9	3,868.2	315.70	13.253	
12,500.0	7,059.0	14,848.6	6,958.5	199.1	225.5	-47.23	895.1	-3,595.3	4,282.3	3,964.5	317.74	13.477	
12,598.4	7,059.0	14,848.6	6,958.5	201.8	225.5	-47.23	895.1	-3,595.3	4,380.7	4,060.9	319.79	13.699	
12,600.0	7,059.0	14,848.6	6,958.5	201.8	225.5	-47.23	895.1	-3,595.3	4,382.3	4,062.4	319.82	13.702	
12,696.8	7,059.0	14,848.6	6,958.5	204.5	225.5	-47.23	895.1	-3,595.3	4,479.0	4,157.2	321.83	13.917	
12,700.0	7,059.0	14,848.6	6,958.5	204.6	225.5	-47.23	895.1	-3,595.3	4,482.2	4,160.3	321.90	13.924	
12,795.2	7,059.0	14,848.6	6,958.5	207.2	225.5	-47.23	895.1	-3,595.3	4,577.4	4,253.6	323.88	14.133	
12,800.0	7,059.0	14,848.6	6,958.5	207.3	225.5	-47.23	895.1	-3,595.3	4,582.2	4,258.2	323.98	14.143	
12,893.7	7,059.0	14,848.6	6,958.5	209.9	225.5	-47.23	895.1	-3,595.3	4,675.8	4,349.9	325.93	14.346	
12,900.0	7,059.0	14,848.6	6,958.5	210.1	225.5	-47.23	895.1	-3,595.3	4,682.1	4,356.1	326.06	14.360	
12,992.1	7,059.0	14,848.6	6,958.5	212.6	225.5	-47.23	895.1	-3,595.3	4,774.2	4,446.2	327.98	14.556	
13,000.0	7,059.0	14,848.6	6,958.5	212.8	225.5	-47.23	895.1	-3,595.3	4,782.1	4,454.0	328.14	14.573	
13,090.5	7,059.0	14,848.6	6,958.5	215.3	225.5	-47.23	895.1	-3,595.3	4,872.6	4,542.6	330.03	14.764	
13,100.0	7,059.0	14,848.6	6,958.5	215.6	225.5	-47.23	895.1	-3,595.3	4,882.1	4,551.9	330.23	14.784	
13,188.9	7,059.0	14,848.6	6,958.5	218.0	225.5	-47.23	895.1	-3,595.3	4,971.0	4,638.9	332.08	14.969	
13,200.0	7,059.0	14,848.6	6,958.5	218.3	225.5	-47.23	895.1	-3,595.3	4,982.1	4,649.7	332.31	14.992	
13,287.4	7,059.0	14,848.6	6,958.5	220.7	225.5	-47.23	895.1	-3,595.3	5,069.4	4,735.3	334.14	15.172	
13,300.0	7,059.0	14,848.6	6,958.5	221.1	225.5	-47.23	895.1	-3,595.3	5,082.0	4,747.6	334.40	15.198	
13,385.8	7,059.0	14,848.6	6,958.5	223.4	225.5	-47.23	895.1	-3,595.3	5,167.8	4,831.6	336.19	15.372	
13,400.0	7,059.0	14,848.6	6,958.5	223.8	225.5	-47.23	895.1	-3,595.3	5,182.0	4,845.5	336.49	15.400	
13,484.2	7,059.0	14,848.6	6,958.5	226.2	225.5	-47.23	895.1	-3,595.3	5,266.2	4,928.0	338.24	15.569	
13,500.0	7,059.0	14,848.6	6,958.5	226.6	225.5	-47.23	895.1	-3,595.3	5,282.0	4,943.4	338.57	15.601	
13,582.6	7,059.0	14,848.6	6,958.5	228.9	225.5	-47.23	895.1	-3,595.3	5,364.6	5,024.3	340.30	15.764	
13,600.0	7,059.0	14,848.6	6,958.5	229.3	225.5	-47.23	895.1	-3,595.3	5,382.0	5,041.3	340.66	15.799	
13,681.1	7,059.0	14,848.6	6,958.5	231.6	225.5	-47.23	895.1	-3,595.3	5,463.0	5,120.7	342.35	15.957	
13,700.0	7,059.0	14,848.6	6,958.5	232.1	225.5	-47.23	895.1	-3,595.3	5,481.9	5,139.2	342.75	15.994	
13,779.5	7,059.0	14,848.6	6,958.5	234.3	225.5	-47.23	895.1	-3,595.3	5,561.4	5,217.0	344.41	16.148	
13,800.0	7,059.0	14,848.6	6,958.5	234.9	225.5	-47.23	895.1	-3,595.3	5,581.9	5,237.1	344.84	16.187	
13,877.9	7,059.0	14,848.6	6,958.5	237.0	225.5	-47.23	895.1	-3,595.3	5,659.8	5,313.3	346.47	16.336	
13,900.0	7,059.0	14,848.6	6,958.5	237.6	225.5	-47.23	895.1	-3,595.3	5,681.9	5,335.0	346.93	16.378	
13,976.3	7,059.0	14,848.6	6,958.5	239.7	225.5	-47.23	895.1	-3,595.3	5,758.2	5,409.7	348.53	16.522	
14,000.0	7,059.0	14,848.6	6,958.5	240.4	225.5	-47.23	895.1	-3,595.3	5,781.9	5,432.8	349.02	16.566	
14,074.8	7,059.0	14,848.6	6,958.5	242.5	225.5	-47.23	895.1	-3,595.3	5,856.6	5,506.0	350.58	16.705	
14,100.0	7,059.0	14,848.6	6,958.5	243.2	225.5	-47.23	895.1	-3,595.3	5,881.8	5,530.7	351.11	16.752	
14,173.2	7,059.0	14,848.6	6,958.5	245.2	225.5	-47.23	895.1	-3,595.3	5,955.0	5,602.4	352.64	16.887	
14,200.0	7,059.0	14,848.6	6,958.5	245.9	225.5	-47.23	895.1	-3,595.3	5,981.8	5,628.6	353.20	16.936	
14,271.6	7,059.0	14,848.6	6,958.5	247.9	225.5	-47.23	895.1	-3,595.3	6,053.4	5,698.7	354.70	17.066	
14,300.0	7,059.0	14,848.6	6,958.5	248.7	225.5	-47.23	895.1	-3,595.3	6,081.8	5,726.5	355.30	17.118	
14,370.0	7,059.0	14,848.6	6,958.5	250.6	225.5	-47.23	895.1	-3,595.3	6,151.8	5,795.1	356.76	17.243	
14,400.0	7,059.0	14,848.6	6,958.5	251.5	225.5	-47.23	895.1	-3,595.3	6,181.8	5,824.4	357.39	17.297	
14,468.5	7,059.0	14,848.6	6,958.5	253.4	225.5	-47.23	895.1	-3,595.3	6,250.2	5,891.4	358.82	17.419	
14,500.0	7,059.0	14,848.6	6,958.5	254.2	225.5	-47.23	895.1	-3,595.3	6,281.8	5,922.3	359.48	17.474	
14,566.9	7,059.0	14,848.6	6,958.5	256.1	225.5	-47.23	895.1	-3,595.3	6,348.6	5,987.8	360.89	17.592	
14,600.0	7,059.0	14,848.6	6,958.5	257.0	225.5	-47.23	895.1	-3,595.3	6,381.7	6,020.2	361.58	17.650	
14,665.3	7,059.0	14,848.6	6,958.5	258.8	225.5	-47.23	895.1	-3,595.3	6,447.1	6,084.1	362.95	17.763	
14,700.0	7,059.0	14,848.6	6,958.5	259.8	225.5	-47.23	895.1	-3,595.3	6,481.7	6,118.1	363.67	17.823	
14,763.7	7,059.0	14,848.6	6,958.5	261.5	225.5	-47.23	895.1	-3,595.3	6,545.5	6,180.5	365.01	17.932	
14,800.0	7,059.0	14,848.6	6,958.5	262.5	225.5	-47.23	895.1	-3,595.3	6,581.7	6,215.9	365.77	17.994	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,862.2	7,059.0	14,848.6	6,958.5	264.3	225.5	-47.23	895.1	-3,595.3	6,643.9	6,276.8	367.07	18.100	
14,900.0	7,059.0	14,848.6	6,958.5	265.3	225.5	-47.23	895.1	-3,595.3	6,681.7	6,313.8	367.87	18.163	
14,960.6	7,059.0	14,848.6	6,958.5	267.0	225.5	-47.23	895.1	-3,595.3	6,742.3	6,373.1	369.14	18.265	
15,000.0	7,059.0	14,848.6	6,958.5	268.1	225.5	-47.23	895.1	-3,595.3	6,781.7	6,411.7	369.96	18.331	
15,059.0	7,059.0	14,848.6	6,958.5	269.7	225.5	-47.23	895.1	-3,595.3	6,840.7	6,469.5	371.20	18.429	
15,100.0	7,059.0	14,848.6	6,958.5	270.9	225.5	-47.23	895.1	-3,595.3	6,881.7	6,509.6	372.06	18.496	
15,157.4	7,059.0	14,848.6	6,958.5	272.5	225.5	-47.23	895.1	-3,595.3	6,939.1	6,565.8	373.27	18.590	
15,200.0	7,059.0	14,848.6	6,958.5	273.6	225.5	-47.23	895.1	-3,595.3	6,981.6	6,607.5	374.16	18.660	
15,255.9	7,059.0	14,848.6	6,958.5	275.2	225.5	-47.23	895.1	-3,595.3	7,037.5	6,662.2	375.33	18.750	
15,300.0	7,059.0	14,848.6	6,958.5	276.4	225.5	-47.23	895.1	-3,595.3	7,081.6	6,705.4	376.26	18.821	
15,354.3	7,059.0	14,848.6	6,958.5	277.9	225.5	-47.23	895.1	-3,595.3	7,135.9	6,758.5	377.40	18.908	
15,400.0	7,059.0	14,848.6	6,958.5	279.2	225.5	-47.23	895.1	-3,595.3	7,181.6	6,803.3	378.35	18.981	
15,452.7	7,059.0	14,848.6	6,958.5	280.7	225.5	-47.23	895.1	-3,595.3	7,234.3	6,854.9	379.46	19.065	
15,500.0	7,059.0	14,848.6	6,958.5	282.0	225.5	-47.23	895.1	-3,595.3	7,281.6	6,901.2	380.45	19.139	
15,551.1	7,059.0	14,848.6	6,958.5	283.4	225.5	-47.23	895.1	-3,595.3	7,332.7	6,951.2	381.53	19.219	
15,600.0	7,059.0	14,848.6	6,958.5	284.7	225.5	-47.23	895.1	-3,595.3	7,381.6	6,999.0	382.55	19.296	
15,649.6	7,059.0	14,848.6	6,958.5	286.1	225.5	-47.23	895.1	-3,595.3	7,431.2	7,047.6	383.59	19.372	
15,700.0	7,059.0	14,848.6	6,958.5	287.5	225.5	-47.23	895.1	-3,595.3	7,481.6	7,096.9	384.65	19.450	
15,748.0	7,059.0	14,848.6	6,958.5	288.9	225.5	-47.23	895.1	-3,595.3	7,529.6	7,143.9	385.66	19.524	
15,800.0	7,059.0	14,848.6	6,958.5	290.3	225.5	-47.23	895.1	-3,595.3	7,581.6	7,194.8	386.75	19.603	
15,846.4	7,059.0	14,848.6	6,958.5	291.6	225.5	-47.23	895.1	-3,595.3	7,628.0	7,240.3	387.73	19.674	
15,900.0	7,059.0	14,848.6	6,958.5	293.1	225.5	-47.23	895.1	-3,595.3	7,681.6	7,292.7	388.85	19.754	
15,944.8	7,059.0	14,848.6	6,958.5	294.3	225.5	-47.23	895.1	-3,595.3	7,726.4	7,336.6	389.80	19.822	
16,000.0	7,059.0	14,848.6	6,958.5	295.9	225.5	-47.23	895.1	-3,595.3	7,781.5	7,390.6	390.95	19.904	
16,043.3	7,059.0	14,848.6	6,958.5	297.1	225.5	-47.23	895.1	-3,595.3	7,824.8	7,432.9	391.86	19.968	
16,100.0	7,059.0	14,848.6	6,958.5	298.6	225.5	-47.23	895.1	-3,595.3	7,881.5	7,488.5	393.06	20.052	
16,141.7	7,059.0	14,848.6	6,958.5	299.8	225.5	-47.23	895.1	-3,595.3	7,923.2	7,529.3	393.93	20.113	
16,200.0	7,059.0	14,848.6	6,958.5	301.4	225.5	-47.23	895.1	-3,595.3	7,981.5	7,586.4	395.16	20.198	
16,240.1	7,059.0	14,848.6	6,958.5	302.5	225.5	-47.23	895.1	-3,595.3	8,021.6	7,625.6	396.00	20.257	
16,300.0	7,059.0	14,848.6	6,958.5	304.2	225.5	-47.23	895.1	-3,595.3	8,081.5	7,684.2	397.26	20.343	
16,338.5	7,059.0	14,848.6	6,958.5	305.3	225.5	-47.23	895.1	-3,595.3	8,120.1	7,722.0	398.07	20.399	
16,400.0	7,059.0	14,848.6	6,958.5	307.0	225.5	-47.23	895.1	-3,595.3	8,181.5	7,782.1	399.36	20.486	
16,437.0	7,059.0	14,848.6	6,958.5	308.0	225.5	-47.23	895.1	-3,595.3	8,218.5	7,818.3	400.14	20.539	
16,500.0	7,059.0	14,848.6	6,958.5	309.8	225.5	-47.23	895.1	-3,595.3	8,281.5	7,880.0	401.46	20.628	
16,535.4	7,059.0	14,848.6	6,958.5	310.8	225.5	-47.23	895.1	-3,595.3	8,316.9	7,914.7	402.21	20.678	
16,600.0	7,059.0	14,848.6	6,958.5	312.6	225.5	-47.23	895.1	-3,595.3	8,381.5	7,977.9	403.57	20.768	
16,633.8	7,059.0	14,848.6	6,958.5	313.5	225.5	-47.23	895.1	-3,595.3	8,415.3	8,011.0	404.28	20.816	
16,700.0	7,059.0	14,848.6	6,958.5	315.3	225.5	-47.23	895.1	-3,595.3	8,481.5	8,075.8	405.67	20.907	
16,732.2	7,059.0	14,848.6	6,958.5	316.2	225.5	-47.23	895.1	-3,595.3	8,513.7	8,107.4	406.35	20.952	
16,800.0	7,059.0	14,848.6	6,958.5	318.1	225.5	-47.23	895.1	-3,595.3	8,581.5	8,173.7	407.77	21.045	
16,830.7	7,059.0	14,848.6	6,958.5	319.0	225.5	-47.23	895.1	-3,595.3	8,612.1	8,203.7	408.42	21.086	
16,900.0	7,059.0	14,848.6	6,958.5	320.9	225.5	-47.23	895.1	-3,595.3	8,681.4	8,271.6	409.88	21.181	
16,929.1	7,059.0	14,848.6	6,958.5	321.7	225.5	-47.23	895.1	-3,595.3	8,710.5	8,300.1	410.49	21.220	
17,000.0	7,059.0	14,848.6	6,958.5	323.7	225.5	-47.23	895.1	-3,595.3	8,781.4	8,369.5	411.98	21.315	
17,027.5	7,059.0	14,848.6	6,958.5	324.5	225.5	-47.23	895.1	-3,595.3	8,809.0	8,396.4	412.56	21.352	
17,100.0	7,059.0	14,848.6	6,958.5	326.5	225.5	-47.23	895.1	-3,595.3	8,881.4	8,467.3	414.09	21.448	
17,125.9	7,059.0	14,848.6	6,958.5	327.2	225.5	-47.23	895.1	-3,595.3	8,907.4	8,492.7	414.63	21.483	
17,200.0	7,059.0	14,848.6	6,958.5	329.3	225.5	-47.23	895.1	-3,595.3	8,981.4	8,565.2	416.19	21.580	
17,224.4	7,059.0	14,848.6	6,958.5	329.9	225.5	-47.23	895.1	-3,595.3	9,005.8	8,589.1	416.70	21.612	
17,300.0	7,059.0	14,848.6	6,958.5	332.1	225.5	-47.23	895.1	-3,595.3	9,081.4	8,663.1	418.30	21.710	
17,322.8	7,059.0	14,848.6	6,958.5	332.7	225.5	-47.23	895.1	-3,595.3	9,104.2	8,685.4	418.78	21.740	
17,400.0	7,059.0	14,848.6	6,958.5	334.8	225.5	-47.23	895.1	-3,595.3	9,181.4	8,761.0	420.40	21.840	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - CARLSON E-15-16HC - Wellbore #1 - Design #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,421.2	7,059.0	14,848.6	6,958.5	335.4	225.5	-47.23	895.1	-3,595.3	9,202.6	8,781.8	420.85	21.867	
17,500.0	7,059.0	14,848.6	6,958.5	337.6	225.5	-47.23	895.1	-3,595.3	9,281.4	8,858.9	422.51	21.967	
17,519.6	7,059.0	14,848.6	6,958.5	338.2	225.5	-47.23	895.1	-3,595.3	9,301.0	8,878.1	422.92	21.992	
17,600.0	7,059.0	14,848.6	6,958.5	340.4	225.5	-47.23	895.1	-3,595.3	9,381.4	8,956.8	424.61	22.094	
17,618.1	7,059.0	14,848.6	6,958.5	340.9	225.5	-47.23	895.1	-3,595.3	9,399.5	8,974.5	424.99	22.117	
17,700.0	7,059.0	14,848.6	6,958.5	343.2	225.5	-47.23	895.1	-3,595.3	9,481.4	9,054.7	426.72	22.219	
17,716.5	7,059.0	14,848.6	6,958.5	343.7	225.5	-47.23	895.1	-3,595.3	9,497.9	9,070.8	427.07	22.240	
17,800.0	7,059.0	14,848.6	6,958.5	346.0	225.5	-47.23	895.1	-3,595.3	9,581.4	9,152.5	428.82	22.343	
17,814.9	7,059.0	14,848.6	6,958.5	346.4	225.5	-47.23	895.1	-3,595.3	9,596.3	9,167.2	429.14	22.362	
17,900.0	7,059.0	14,848.6	6,958.5	348.8	225.5	-47.23	895.1	-3,595.3	9,681.4	9,250.4	430.93	22.466	
17,913.3	7,059.0	14,848.6	6,958.5	349.2	225.5	-47.23	895.1	-3,595.3	9,694.7	9,263.5	431.21	22.482	
18,000.0	7,059.0	14,848.6	6,958.5	351.6	225.5	-47.23	895.1	-3,595.3	9,781.4	9,348.3	433.04	22.588	
18,011.8	7,059.0	14,848.6	6,958.5	351.9	225.5	-47.23	895.1	-3,595.3	9,793.1	9,359.8	433.29	22.602	
18,100.0	7,059.0	14,848.6	6,958.5	354.4	225.5	-47.23	895.1	-3,595.3	9,881.3	9,446.2	435.14	22.708	
18,110.2	7,059.0	14,848.6	6,958.5	354.6	225.5	-47.23	895.1	-3,595.3	9,891.5	9,456.2	435.36	22.720	
18,200.0	7,059.0	14,848.6	6,958.5	357.2	225.5	-47.23	895.1	-3,595.3	9,981.3	9,544.1	437.25	22.827	
18,208.6	7,059.0	14,848.6	6,958.5	357.4	225.5	-47.23	895.1	-3,595.3	9,990.0	9,552.5	437.43	22.838	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-161.37	-58.7	-19.8	64.2				
98.4	98.4	81.4	81.4	0.1	0.0	-161.58	-58.8	-19.6	61.9	61.8	0.14	440.472	CC
100.0	100.0	82.9	82.9	0.1	0.0	-161.59	-58.8	-19.6	61.9	61.8	0.14	432.190	
196.8	196.8	179.7	179.7	0.3	0.2	-162.20	-59.1	-19.0	62.1	61.6	0.50	124.176	
200.0	200.0	182.9	182.9	0.3	0.2	-162.22	-59.1	-19.0	62.1	61.6	0.51	121.236	
295.3	295.3	278.0	278.0	0.5	0.3	-162.71	-59.5	-18.5	62.3	61.5	0.81	76.802	ES
300.0	300.0	282.8	282.7	0.5	0.3	-162.72	-59.5	-18.5	62.4	61.5	0.83	75.512	
393.7	393.7	376.3	376.3	0.8	0.3	-162.83	-60.0	-18.6	62.9	61.8	1.10	57.378	
400.0	400.0	382.6	382.6	0.8	0.4	-162.83	-60.1	-18.6	62.9	61.8	1.11	56.489	
492.1	492.1	474.7	474.7	1.0	0.4	-162.71	-60.7	-18.9	63.5	62.2	1.37	46.306	
500.0	500.0	482.6	482.6	1.0	0.4	-162.69	-60.7	-18.9	63.6	62.2	1.39	45.613	
590.5	590.5	573.2	573.2	1.2	0.5	-162.47	-61.2	-19.3	64.2	62.5	1.64	39.069	
600.0	600.0	582.6	582.6	1.2	0.5	-162.44	-61.3	-19.4	64.2	62.6	1.67	38.500	
689.0	689.0	671.6	671.5	1.4	0.5	-162.15	-61.7	-19.9	64.8	62.9	1.91	33.940	
700.0	700.0	682.6	682.6	1.4	0.5	-162.12	-61.8	-19.9	64.9	62.9	1.94	33.458	
787.4	787.4	770.0	769.9	1.6	0.6	-161.86	-62.2	-20.4	65.5	63.3	2.17	30.140	
800.0	800.0	782.6	782.5	1.7	0.6	-161.82	-62.3	-20.5	65.6	63.4	2.21	29.721	
885.8	885.8	868.5	868.4	1.9	0.6	-87.99	-62.7	-21.0	66.1	63.6	2.46	26.888	
900.0	900.0	882.6	882.6	1.9	0.6	-88.34	-62.8	-21.1	66.2	63.7	2.50	26.514	
984.2	984.1	966.9	966.9	2.1	0.6	-91.56	-63.0	-21.6	66.5	63.8	2.71	24.559	
1,000.0	999.8	982.6	982.6	2.1	0.7	-92.37	-63.1	-21.7	66.6	63.9	2.75	24.238	
1,082.7	1,082.2	1,065.2	1,065.1	2.3	0.7	-97.71	-63.1	-22.4	67.4	64.5	2.97	22.737	
1,100.0	1,099.5	1,082.4	1,082.4	2.3	0.7	-99.05	-63.1	-22.5	67.7	64.7	3.01	22.487	
1,181.1	1,180.0	1,163.2	1,163.1	2.5	0.7	-106.14	-63.0	-23.3	69.8	66.5	3.24	21.553	
1,200.0	1,198.7	1,181.9	1,181.9	2.6	0.7	-107.96	-63.0	-23.5	70.5	67.2	3.29	21.429	
1,279.5	1,277.3	1,260.9	1,260.9	2.8	0.8	-116.08	-62.7	-24.4	74.7	71.1	3.53	21.177	SF
1,300.0	1,297.5	1,281.2	1,281.2	2.9	0.8	-118.24	-62.6	-24.7	76.1	72.5	3.59	21.226	
1,377.9	1,374.0	1,358.4	1,358.4	3.1	0.8	-126.50	-61.8	-25.6	83.0	79.2	3.83	21.675	
1,400.0	1,395.6	1,380.3	1,380.2	3.2	0.8	-128.80	-61.5	-25.8	85.4	81.5	3.90	21.923	
1,476.4	1,470.1	1,455.3	1,455.3	3.5	0.8	-136.50	-60.1	-26.5	95.4	91.3	4.15	23.024	
1,500.0	1,493.1	1,478.4	1,478.3	3.6	0.8	-138.77	-59.5	-26.6	99.1	94.9	4.22	23.504	
1,574.8	1,565.4	1,550.7	1,550.6	3.9	0.8	-145.40	-57.6	-26.7	112.7	108.2	4.46	25.246	
1,600.0	1,589.6	1,574.9	1,574.8	4.0	0.8	-147.41	-57.0	-26.7	118.0	113.4	4.54	25.980	
1,610.8	1,600.0	1,585.3	1,585.1	4.1	0.8	-148.23	-56.7	-26.7	120.4	115.8	4.58	26.302	
1,673.2	1,660.0	1,645.1	1,645.0	4.4	0.8	-152.65	-55.1	-26.5	134.7	129.9	4.76	28.291	
1,675.8	1,662.4	1,647.6	1,647.4	4.4	0.8	-152.82	-55.0	-26.5	135.3	130.5	4.77	28.374	
1,700.0	1,685.6	1,670.7	1,670.6	4.5	0.9	-154.27	-54.3	-26.3	141.1	136.3	4.84	29.133	
1,771.6	1,754.0	1,738.7	1,738.5	4.9	0.9	-158.12	-52.3	-25.7	160.1	155.0	5.08	31.527	
1,800.0	1,780.9	1,765.4	1,765.2	5.1	0.9	-159.46	-51.5	-25.4	168.3	163.1	5.16	32.588	
1,870.1	1,847.0	1,830.6	1,830.4	5.5	0.9	-162.38	-49.6	-24.6	190.1	184.7	5.39	35.255	
1,900.0	1,875.0	1,858.1	1,857.9	5.7	0.9	-163.47	-48.9	-24.1	200.1	194.6	5.49	36.452	
1,968.5	1,938.8	1,920.7	1,920.4	6.2	0.9	-165.67	-47.2	-22.9	224.5	218.8	5.72	39.257	
2,000.0	1,968.0	1,949.2	1,949.0	6.4	0.9	-166.57	-46.4	-22.3	236.4	230.6	5.82	40.599	
2,066.9	2,029.4	2,009.2	2,008.9	6.9	0.9	-168.30	-44.7	-20.7	263.1	257.0	6.05	43.454	
2,100.0	2,059.5	2,038.2	2,037.8	7.2	0.9	-169.04	-43.9	-19.8	277.0	270.8	6.17	44.907	
2,165.3	2,118.6	2,094.8	2,094.4	7.7	0.9	-170.32	-42.6	-17.9	305.8	299.4	6.40	47.759	
2,200.0	2,149.6	2,124.8	2,124.3	8.0	0.9	-170.92	-41.9	-16.8	321.8	315.2	6.53	49.304	
2,263.8	2,206.3	2,179.4	2,178.9	8.6	1.0	-171.89	-40.9	-14.7	352.3	345.6	6.76	52.092	
2,300.0	2,238.2	2,210.2	2,209.7	9.0	1.0	-172.37	-40.3	-13.5	370.4	363.5	6.90	53.698	
2,362.2	2,292.4	2,263.0	2,262.4	9.6	1.0	-173.10	-39.5	-11.4	402.4	395.2	7.14	56.391	
2,400.0	2,325.0	2,294.6	2,294.0	10.0	1.0	-173.49	-39.1	-10.2	422.4	415.1	7.28	58.035	
2,460.6	2,376.8	2,344.2	2,343.6	10.6	1.0	-174.03	-38.6	-8.1	455.5	448.0	7.52	60.591	

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

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,490.0	2,401.7	2,367.9	2,367.3	11.0	1.0	-174.26	-38.4	-7.1	472.0	464.4	7.63	61.835	
2,500.0	2,410.1	2,376.0	2,375.3	11.1	1.0	-174.35	-38.3	-6.8	477.7	470.0	7.67	62.251	
2,559.0	2,459.9	2,423.8	2,423.1	11.8	1.0	-174.84	-38.0	-4.7	511.2	503.3	7.91	64.607	
2,600.0	2,494.4	2,457.2	2,456.5	12.2	1.0	-175.14	-37.7	-3.3	534.5	526.4	8.08	66.160	
2,657.5	2,542.9	2,504.2	2,503.4	12.9	1.0	-175.53	-37.4	-1.2	567.2	558.9	8.32	68.208	
2,700.0	2,578.8	2,539.3	2,538.5	13.4	1.0	-175.79	-37.1	0.4	591.4	582.9	8.49	69.657	
2,755.9	2,625.9	2,585.5	2,584.6	14.1	1.0	-176.11	-36.7	2.4	623.2	614.5	8.72	71.445	
2,800.0	2,663.1	2,621.4	2,620.5	14.6	1.1	-176.33	-36.4	4.0	648.3	639.4	8.91	72.785	
2,854.3	2,708.9	2,665.1	2,664.1	15.2	1.1	-176.59	-36.1	6.0	679.3	670.1	9.14	74.341	
2,900.0	2,747.5	2,701.9	2,700.9	15.8	1.1	-176.78	-35.8	7.6	705.3	696.0	9.33	75.593	
2,952.7	2,791.9	2,746.0	2,745.0	16.4	1.1	-176.99	-35.5	9.7	735.5	725.9	9.56	76.954	
3,000.0	2,831.8	2,785.6	2,784.6	16.9	1.1	-177.17	-35.2	11.4	762.4	752.7	9.76	78.114	
3,051.2	2,875.0	2,828.8	2,827.7	17.6	1.1	-177.35	-34.8	13.3	791.6	781.6	9.98	79.304	
3,100.0	2,916.1	2,870.2	2,869.1	18.1	1.1	-177.51	-34.5	15.1	819.3	809.1	10.19	80.386	
3,149.6	2,958.0	2,911.9	2,910.7	18.7	1.1	-177.66	-34.1	16.7	847.4	837.0	10.41	81.420	
3,200.0	3,000.5	2,953.1	2,951.9	19.3	1.1	-177.80	-33.8	18.4	876.0	865.4	10.63	82.417	
3,248.0	3,041.0	2,992.4	2,991.1	19.9	1.1	-177.91	-33.6	19.9	903.2	892.4	10.84	83.319	
3,300.0	3,084.8	3,037.3	3,036.0	20.5	1.2	-178.03	-33.3	21.7	932.7	921.6	11.07	84.248	
3,346.4	3,124.0	3,078.0	3,076.7	21.1	1.2	-178.14	-33.1	23.2	958.9	947.6	11.28	85.029	
3,400.0	3,169.2	3,124.7	3,123.4	21.7	1.2	-178.25	-32.7	24.8	989.0	977.5	11.52	85.887	
3,444.9	3,207.0	3,163.7	3,162.3	22.3	1.2	-178.34	-32.4	26.0	1,014.2	1,002.5	11.72	86.568	
3,500.0	3,253.5	3,211.2	3,209.8	22.9	1.2	-178.43	-32.1	27.4	1,045.0	1,033.0	11.96	87.361	
3,543.3	3,290.0	3,247.3	3,245.9	23.5	1.2	-178.50	-32.0	28.4	1,069.2	1,057.0	12.16	87.943	
3,600.0	3,337.8	3,294.7	3,293.3	24.2	1.2	-178.56	-31.9	29.7	1,100.8	1,088.4	12.41	88.675	
3,641.7	3,373.0	3,330.1	3,328.6	24.7	1.2	-178.61	-31.9	30.6	1,124.1	1,111.5	12.61	89.178	
3,700.0	3,422.2	3,379.7	3,378.2	25.4	1.2	-178.66	-32.1	31.7	1,156.6	1,143.7	12.87	89.851	
3,740.1	3,456.0	3,413.7	3,412.3	25.9	1.2	-178.69	-32.2	32.5	1,178.9	1,165.9	13.06	90.291	
3,800.0	3,506.5	3,464.2	3,462.8	26.6	1.3	-178.73	-32.4	33.6	1,212.2	1,198.9	13.33	90.918	
3,838.6	3,539.0	3,496.8	3,495.3	27.0	1.3	-178.75	-32.6	34.3	1,233.6	1,220.1	13.51	91.305	
3,900.0	3,590.8	3,547.7	3,546.2	27.8	1.3	-178.79	-32.8	35.4	1,267.7	1,253.9	13.80	91.891	
3,937.0	3,622.1	3,578.4	3,576.9	28.2	1.3	-178.81	-33.0	36.1	1,288.3	1,274.3	13.97	92.230	
4,000.0	3,675.2	3,629.0	3,627.5	29.0	1.3	-178.84	-33.3	37.2	1,323.3	1,309.1	14.26	92.785	
4,035.4	3,705.1	3,656.9	3,655.3	29.4	1.3	-178.86	-33.5	37.8	1,343.1	1,328.6	14.43	93.086	
4,100.0	3,759.5	3,707.7	3,706.1	30.2	1.3	-178.88	-33.9	39.0	1,379.1	1,364.4	14.73	93.621	
4,133.8	3,788.1	3,734.7	3,733.2	30.6	1.3	-178.89	-34.2	39.7	1,398.1	1,383.2	14.89	93.887	
4,200.0	3,843.9	3,787.6	3,786.0	31.4	1.3	-178.91	-34.7	41.1	1,435.1	1,419.9	15.20	94.395	
4,232.3	3,871.1	3,813.9	3,812.3	31.8	1.3	-178.92	-34.9	41.8	1,453.2	1,437.9	15.36	94.635	
4,300.0	3,928.2	3,870.1	3,868.5	32.6	1.4	-178.95	-35.4	43.3	1,491.3	1,475.6	15.68	95.122	
4,330.7	3,954.1	3,895.5	3,893.9	33.0	1.4	-178.96	-35.6	44.0	1,508.5	1,492.7	15.82	95.335	
4,400.0	4,012.5	3,966.1	3,964.4	33.9	1.4	-179.00	-35.9	45.7	1,547.1	1,531.0	16.15	95.775	
4,429.1	4,037.1	3,996.4	3,994.8	34.2	1.4	-179.02	-35.9	46.3	1,563.2	1,546.9	16.29	95.945	
4,500.0	4,096.9	4,072.8	4,071.1	35.1	1.4	-179.07	-35.7	47.2	1,602.0	1,585.3	16.63	96.352	
4,527.5	4,120.1	4,102.4	4,100.8	35.4	1.4	-179.09	-35.6	47.4	1,616.8	1,600.1	16.76	96.495	
4,600.0	4,181.2	4,172.5	4,170.9	36.3	1.4	-179.13	-35.0	47.4	1,655.7	1,638.6	17.09	96.857	
4,626.0	4,203.1	4,197.8	4,196.1	36.6	1.4	-179.15	-34.8	47.4	1,669.5	1,652.3	17.22	96.977	
4,700.0	4,265.6	4,262.7	4,261.0	37.5	1.4	-179.19	-34.3	47.1	1,708.9	1,691.3	17.56	97.293	
4,724.4	4,286.1	4,284.0	4,282.3	37.8	1.4	-179.20	-34.1	47.0	1,721.8	1,704.2	17.68	97.393	
4,800.0	4,349.9	4,348.1	4,346.4	38.7	1.4	-179.23	-33.5	46.6	1,762.0	1,743.9	18.04	97.682	
4,822.8	4,369.1	4,367.2	4,365.5	39.0	1.4	-179.24	-33.4	46.5	1,774.1	1,755.9	18.15	97.766	
4,900.0	4,434.2	4,433.5	4,431.9	40.0	1.5	-179.28	-32.8	46.1	1,815.0	1,796.5	18.51	98.036	
4,921.2	4,452.2	4,452.2	4,450.6	40.2	1.5	-179.29	-32.6	46.0	1,826.3	1,807.7	18.62	98.105	
5,000.0	4,518.6	4,520.0	4,518.4	41.2	1.5	-179.32	-32.1	45.5	1,868.0	1,849.0	18.99	98.354	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,019.7	4,535.2	4,536.1	4,534.4	41.4	1.5	-179.32	-32.0	45.4	1,878.4	1,859.4	19.09	98.415	
5,100.0	4,602.9	4,601.4	4,599.7	42.4	1.5	-179.35	-31.5	45.0	1,921.1	1,901.6	19.47	98.662	
5,118.1	4,618.2	4,616.5	4,614.8	42.6	1.5	-179.35	-31.5	44.9	1,930.7	1,911.1	19.56	98.714	
5,200.0	4,687.3	4,684.7	4,683.0	43.6	1.5	-179.38	-31.1	44.5	1,974.2	1,954.3	19.95	98.941	
5,216.5	4,701.2	4,698.5	4,696.8	43.8	1.5	-179.38	-31.1	44.5	1,983.0	1,963.0	20.03	98.986	
5,300.0	4,771.6	4,767.4	4,765.8	44.8	1.5	-179.40	-30.8	44.1	2,027.4	2,007.0	20.44	99.205	
5,314.9	4,784.2	4,779.8	4,778.1	45.0	1.5	-179.40	-30.7	44.1	2,035.4	2,014.9	20.51	99.243	
5,400.0	4,855.9	4,848.9	4,847.2	46.1	1.5	-179.42	-30.5	43.8	2,080.8	2,059.8	20.92	99.456	
5,413.4	4,867.2	4,859.7	4,858.0	46.2	1.5	-179.43	-30.4	43.8	2,087.9	2,066.9	20.99	99.489	
5,500.0	4,940.3	4,929.0	4,927.3	47.3	1.5	-179.44	-30.1	43.7	2,134.2	2,112.8	21.41	99.698	
5,511.8	4,950.2	4,938.3	4,936.6	47.4	1.5	-179.45	-30.1	43.6	2,140.5	2,119.1	21.46	99.726	
5,600.0	5,024.6	5,007.8	5,006.1	48.5	1.5	-179.47	-29.8	43.7	2,187.9	2,166.0	21.89	99.932	
5,610.2	5,033.2	5,015.6	5,013.9	48.6	1.5	-179.47	-29.8	43.7	2,193.4	2,171.5	21.94	99.956	
5,700.0	5,109.0	5,084.3	5,082.6	49.7	1.5	-179.48	-29.7	43.9	2,241.8	2,219.5	22.38	100.162	
5,708.6	5,116.2	5,090.9	5,089.2	49.8	1.5	-179.49	-29.7	43.9	2,246.5	2,224.1	22.42	100.182	
5,800.0	5,193.3	5,164.8	5,163.1	50.9	1.6	-179.50	-29.7	44.3	2,296.0	2,273.1	22.88	100.369	
5,807.1	5,199.3	5,170.5	5,168.9	51.0	1.6	-179.50	-29.7	44.4	2,299.8	2,276.9	22.91	100.383	
5,900.0	5,277.6	5,243.9	5,242.2	52.2	1.6	-179.51	-29.7	44.9	2,350.3	2,326.9	23.37	100.571	
5,905.5	5,282.3	5,248.1	5,246.4	52.2	1.6	-179.51	-29.7	44.9	2,353.3	2,329.9	23.40	100.582	
6,000.0	5,362.0	5,323.5	5,321.8	53.4	1.6	-179.53	-29.8	45.6	2,404.8	2,380.9	23.86	100.768	
6,003.9	5,365.3	5,326.9	5,325.2	53.4	1.6	-179.53	-29.8	45.6	2,406.9	2,383.0	23.88	100.775	
6,100.0	5,446.3	5,410.3	5,408.6	54.6	1.6	-179.55	-29.7	46.5	2,459.3	2,434.9	24.36	100.935	
6,102.3	5,448.3	5,412.3	5,410.7	54.6	1.6	-179.55	-29.7	46.5	2,460.5	2,436.2	24.38	100.938	
6,200.0	5,530.6	5,499.3	5,497.6	55.8	1.6	-179.57	-29.3	47.3	2,513.6	2,488.8	24.87	101.087	
6,200.8	5,531.3	5,500.0	5,498.3	55.8	1.6	-179.57	-29.3	47.3	2,514.0	2,489.2	24.87	101.088	
6,299.2	5,614.3	5,584.5	5,582.8	57.1	1.7	-179.60	-28.8	47.9	2,567.4	2,542.1	25.36	101.231	
6,300.0	5,615.0	5,585.2	5,583.5	57.1	1.7	-179.60	-28.8	47.9	2,567.9	2,542.5	25.37	101.232	
6,397.6	5,697.3	5,651.1	5,649.4	58.3	1.7	-179.62	-28.4	48.6	2,621.0	2,595.1	25.85	101.410	
6,400.0	5,699.3	5,652.6	5,650.9	58.3	1.7	-179.62	-28.4	48.6	2,622.3	2,596.4	25.86	101.415	
6,496.0	5,780.3	5,717.3	5,715.6	59.5	1.7	-179.64	-28.4	49.7	2,675.1	2,648.8	26.33	101.599	
6,500.0	5,783.7	5,720.6	5,718.9	59.5	1.7	-179.64	-28.4	49.7	2,677.3	2,651.0	26.35	101.604	
6,594.5	5,863.3	5,798.8	5,797.1	60.7	1.7	-179.65	-28.4	51.2	2,729.5	2,702.7	26.83	101.732	
6,600.0	5,868.0	5,803.6	5,801.9	60.7	1.7	-179.65	-28.5	51.3	2,732.5	2,705.7	26.86	101.739	
6,692.9	5,946.4	5,885.2	5,883.4	61.9	1.7	-179.66	-28.8	52.6	2,783.8	2,756.5	27.33	101.853	
6,700.0	5,952.3	5,891.4	5,889.7	62.0	1.7	-179.66	-28.8	52.7	2,787.7	2,760.4	27.37	101.861	
6,791.3	6,029.4	5,972.5	5,970.7	63.1	1.8	-179.66	-29.3	53.9	2,838.0	2,810.1	27.83	101.958	
6,800.0	6,036.7	5,980.2	5,978.4	63.2	1.8	-179.66	-29.4	54.0	2,842.7	2,814.9	27.88	101.967	
6,889.7	6,112.4	6,057.1	6,055.3	64.3	1.8	-179.67	-29.8	55.0	2,892.0	2,863.7	28.34	102.058	
6,900.0	6,121.0	6,065.8	6,064.0	64.4	1.8	-179.67	-29.8	55.1	2,897.7	2,869.3	28.39	102.068	
6,988.2	6,195.4	6,143.3	6,141.5	65.5	1.8	-179.67	-30.4	56.0	2,946.0	2,917.2	28.84	102.143	
7,000.0	6,205.4	6,154.0	6,152.2	65.6	1.8	-179.67	-30.4	56.2	2,952.5	2,923.6	28.90	102.151	
7,086.6	6,278.4	6,230.3	6,228.5	66.7	1.8	-179.67	-30.8	57.0	2,999.9	2,970.5	29.35	102.214	
7,100.0	6,289.7	6,241.5	6,239.8	66.8	1.8	-179.67	-30.8	57.1	3,007.2	2,977.8	29.42	102.224	
7,185.0	6,361.4	6,313.4	6,311.6	67.9	1.8	-179.67	-31.0	57.8	3,053.6	3,023.8	29.85	102.288	
7,200.0	6,374.0	6,326.2	6,324.5	68.1	1.8	-179.68	-31.0	58.0	3,061.8	3,031.9	29.93	102.298	
7,283.4	6,444.4	6,397.9	6,396.1	69.1	1.8	-179.68	-31.1	58.7	3,107.4	3,077.0	30.36	102.349	
7,300.0	6,458.4	6,412.3	6,410.5	69.3	1.9	-179.68	-31.1	58.9	3,116.4	3,086.0	30.45	102.358	
7,381.9	6,527.4	6,483.6	6,481.8	70.3	1.9	-179.69	-31.2	59.5	3,161.1	3,130.2	30.87	102.398	
7,400.0	6,542.7	6,499.4	6,497.6	70.5	1.9	-179.69	-31.2	59.7	3,170.9	3,140.0	30.96	102.407	
7,480.3	6,610.4	6,570.6	6,568.8	71.5	1.9	-179.70	-31.4	60.3	3,214.6	3,183.3	31.38	102.435	
7,500.0	6,627.1	6,588.1	6,586.3	71.7	1.9	-179.70	-31.4	60.4	3,225.3	3,193.9	31.48	102.442	
7,568.5	6,684.8	6,646.0	6,644.2	72.6	1.9	-179.70	-31.5	60.8	3,262.6	3,230.7	31.84	102.469	

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

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,578.7	6,693.4	6,654.5	6,652.7	72.7	1.9	-179.70	-31.5	60.8	3,268.2	3,236.2	31.96	102.270	
7,600.0	6,710.9	6,671.9	6,670.1	73.0	1.9	-179.69	-31.6	61.0	3,280.4	3,248.2	32.17	101.961	
7,650.0	6,750.2	6,700.0	6,698.2	73.7	1.9	-179.67	-31.6	61.2	3,311.6	3,279.0	32.54	101.776	
7,677.1	6,770.4	6,700.0	6,698.2	74.2	1.9	-179.66	-31.6	61.2	3,330.0	3,297.4	32.64	102.026	
7,700.0	6,786.7	6,700.0	6,698.2	74.5	1.9	-179.65	-31.6	61.2	3,346.3	3,313.7	32.67	102.416	
7,750.0	6,820.0	6,700.0	6,698.2	75.4	1.9	-179.61	-31.6	61.2	3,384.4	3,351.8	32.61	103.799	
7,775.6	6,835.8	6,700.0	6,698.2	76.0	1.9	-179.58	-31.6	61.2	3,405.1	3,372.6	32.49	104.795	
7,800.0	6,850.0	6,700.0	6,698.2	76.4	1.9	-179.56	-31.6	61.2	3,425.5	3,393.1	32.33	105.948	
7,835.7	6,869.2	6,700.0	6,698.2	77.2	1.9	-179.51	-31.6	61.2	3,456.3	3,424.3	32.01	107.973	
7,874.0	6,888.8	6,700.0	6,698.2	78.0	1.9	-179.51	-31.6	61.2	3,490.1	3,457.9	32.24	108.249	
7,900.0	6,902.1	6,700.0	6,698.2	78.6	1.9	-179.51	-31.6	61.2	3,513.1	3,480.7	32.40	108.435	
7,972.4	6,939.2	6,700.0	6,698.2	80.2	1.9	-179.51	-31.6	61.2	3,577.4	3,544.5	32.84	108.948	
8,000.0	6,953.3	6,700.0	6,698.2	80.8	1.9	-179.51	-31.6	61.2	3,601.9	3,568.9	33.00	109.143	
8,032.1	6,969.7	6,700.0	6,698.2	81.5	1.9	-179.51	-31.6	61.2	3,630.6	3,597.4	33.20	109.367	
8,050.0	6,978.7	6,700.0	6,698.2	81.9	1.9	-177.26	-31.6	61.2	3,646.7	3,613.4	33.26	109.633	
8,070.8	6,988.5	6,700.0	6,698.2	82.4	1.9	-174.36	-31.6	61.2	3,665.7	3,632.0	33.72	108.698	
8,100.0	7,001.3	6,700.0	6,698.2	83.0	1.9	-169.65	-31.6	61.2	3,692.7	3,657.3	35.47	104.121	
8,150.0	7,020.4	6,700.0	6,698.2	84.2	1.9	-158.94	-31.6	61.2	3,740.1	3,696.9	43.28	86.420	
8,169.3	7,026.8	6,700.0	6,698.2	84.7	1.9	-153.56	-31.6	61.2	3,758.7	3,710.3	48.37	77.708	
8,200.0	7,035.8	6,700.0	6,698.2	85.4	1.9	-143.12	-31.6	61.2	3,788.5	3,729.7	58.77	64.459	
8,250.0	7,047.4	6,700.0	6,698.2	86.7	1.9	-120.99	-31.6	61.2	3,837.3	3,759.7	77.63	49.428	
8,267.7	7,050.5	6,700.0	6,698.2	87.1	1.9	-112.19	-31.6	61.2	3,854.7	3,771.9	82.75	46.583	
8,300.0	7,055.0	6,700.0	6,698.2	87.9	1.9	-96.53	-31.6	61.2	3,886.3	3,798.6	87.73	44.298	
8,350.0	7,058.7	6,700.0	6,698.2	89.1	1.9	-76.87	-31.6	61.2	3,935.1	3,848.0	87.06	45.198	
8,366.1	7,059.0	6,700.0	6,698.2	89.5	1.9	-71.99	-31.6	61.2	3,950.7	3,865.1	85.54	46.186	
8,370.8	7,059.0	6,700.0	6,698.2	89.7	1.9	-70.71	-31.6	61.2	3,955.2	3,870.1	85.03	46.515	
8,400.0	7,059.0	6,700.0	6,698.2	90.4	1.9	-70.71	-31.6	61.2	3,983.4	3,897.6	85.72	46.468	
8,464.5	7,059.0	6,700.0	6,698.2	92.0	1.9	-70.71	-31.6	61.2	4,045.7	3,958.4	87.27	46.360	
8,500.0	7,059.0	6,700.0	6,698.2	92.8	1.9	-70.71	-31.6	61.2	4,080.0	3,991.9	88.11	46.303	
8,563.0	7,059.0	6,700.0	6,698.2	94.4	1.9	-70.71	-31.6	61.2	4,140.9	4,051.3	89.63	46.200	
8,600.0	7,059.0	6,700.0	6,698.2	95.3	1.9	-70.71	-31.6	61.2	4,176.7	4,086.2	90.52	46.141	
8,661.4	7,059.0	6,700.0	6,698.2	96.9	1.9	-70.71	-31.6	61.2	4,236.2	4,144.2	92.01	46.042	
8,700.0	7,059.0	6,700.0	6,698.2	97.8	1.9	-70.71	-31.6	61.2	4,273.7	4,180.7	92.94	45.981	
8,759.8	7,059.0	6,700.0	6,698.2	99.3	1.9	-70.71	-31.6	61.2	4,331.7	4,237.3	94.40	45.887	
8,800.0	7,059.0	6,700.0	6,698.2	100.3	1.9	-70.71	-31.6	61.2	4,370.7	4,275.3	95.38	45.825	
8,858.2	7,059.0	6,700.0	6,698.2	101.8	1.9	-70.71	-31.6	61.2	4,427.3	4,330.5	96.80	45.735	
8,900.0	7,059.0	6,700.0	6,698.2	102.9	1.9	-70.71	-31.6	61.2	4,467.9	4,370.1	97.83	45.672	
8,956.7	7,059.0	6,700.0	6,698.2	104.3	1.9	-70.71	-31.6	61.2	4,523.0	4,423.8	99.22	45.587	
9,000.0	7,059.0	6,700.0	6,698.2	105.4	1.9	-70.71	-31.6	61.2	4,565.2	4,464.9	100.28	45.523	
9,055.1	7,059.0	6,700.0	6,698.2	106.8	1.9	-70.71	-31.6	61.2	4,618.9	4,517.2	101.64	45.442	
9,100.0	7,059.0	6,700.0	6,698.2	108.0	1.9	-70.71	-31.6	61.2	4,662.6	4,559.9	102.75	45.377	
9,153.5	7,059.0	6,700.0	6,698.2	109.4	1.9	-70.71	-31.6	61.2	4,714.8	4,610.7	104.08	45.300	
9,200.0	7,059.0	6,700.0	6,698.2	110.6	1.9	-70.71	-31.6	61.2	4,760.2	4,654.9	105.23	45.235	
9,251.9	7,059.0	6,700.0	6,698.2	111.9	1.9	-70.71	-31.6	61.2	4,810.9	4,704.3	106.52	45.162	
9,300.0	7,059.0	6,700.0	6,698.2	113.1	1.9	-70.71	-31.6	61.2	4,857.8	4,750.1	107.72	45.097	
9,350.4	7,059.0	6,700.0	6,698.2	114.4	1.9	-70.71	-31.6	61.2	4,907.0	4,798.0	108.98	45.028	
9,400.0	7,059.0	6,700.0	6,698.2	115.7	1.9	-70.71	-31.6	61.2	4,955.5	4,845.3	110.22	44.962	
9,448.8	7,059.0	6,700.0	6,698.2	117.0	1.9	-70.71	-31.6	61.2	5,003.2	4,891.8	111.44	44.897	
9,500.0	7,059.0	6,700.0	6,698.2	118.3	1.9	-70.71	-31.6	61.2	5,053.3	4,940.6	112.72	44.831	
9,547.2	7,059.0	6,700.0	6,698.2	119.6	1.9	-70.71	-31.6	61.2	5,099.5	4,985.6	113.91	44.770	
9,600.0	7,059.0	6,700.0	6,698.2	120.9	1.9	-70.71	-31.6	61.2	5,151.2	5,036.0	115.23	44.704	
9,645.6	7,059.0	6,700.0	6,698.2	122.1	1.9	-70.71	-31.6	61.2	5,195.9	5,079.6	116.38	44.646	

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

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 100-GYD_CT — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,700.0	7,059.0	6,700.0	6,698.2	123.6	1.9	-70.71	-31.6	61.2	5,249.2	5,131.4	117.75	44.580	
9,744.1	7,059.0	6,700.0	6,698.2	124.7	1.9	-70.71	-31.6	61.2	5,292.4	5,173.5	118.86	44.526	
9,800.0	7,059.0	6,700.0	6,698.2	126.2	1.9	-70.71	-31.6	61.2	5,347.2	5,227.0	120.27	44.459	
9,842.5	7,059.0	6,700.0	6,698.2	127.3	1.9	-70.71	-31.6	61.2	5,388.9	5,267.6	121.35	44.409	
9,900.0	7,059.0	6,700.0	6,698.2	128.8	1.9	-70.71	-31.6	61.2	5,445.4	5,322.6	122.80	44.342	
9,940.9	7,059.0	6,700.0	6,698.2	129.9	1.9	-70.71	-31.6	61.2	5,485.5	5,361.7	123.84	44.295	
10,000.0	7,059.0	6,700.0	6,698.2	131.5	1.9	-70.71	-31.6	61.2	5,543.6	5,418.2	125.34	44.228	
10,039.3	7,059.0	6,700.0	6,698.2	132.5	1.9	-70.71	-31.6	61.2	5,582.2	5,455.9	126.34	44.184	
10,100.0	7,059.0	6,700.0	6,698.2	134.1	1.9	-70.71	-31.6	61.2	5,641.8	5,513.9	127.88	44.117	
10,137.8	7,059.0	6,700.0	6,698.2	135.1	1.9	-70.71	-31.6	61.2	5,678.9	5,550.1	128.84	44.076	
10,200.0	7,059.0	6,700.0	6,698.2	136.8	1.9	-70.71	-31.6	61.2	5,740.1	5,609.7	130.43	44.010	
10,236.2	7,059.0	6,700.0	6,698.2	137.7	1.9	-70.71	-31.6	61.2	5,775.7	5,644.4	131.35	43.971	
10,300.0	7,059.0	6,700.0	6,698.2	139.4	1.9	-70.71	-31.6	61.2	5,838.5	5,705.5	132.98	43.905	
10,334.6	7,059.0	6,700.0	6,698.2	140.4	1.9	-70.71	-31.6	61.2	5,872.6	5,738.7	133.86	43.869	
10,400.0	7,059.0	6,700.0	6,698.2	142.1	1.9	-70.71	-31.6	61.2	5,936.9	5,801.4	135.54	43.804	
10,433.0	7,059.0	6,700.0	6,698.2	143.0	1.9	-70.71	-31.6	61.2	5,969.5	5,833.1	136.38	43.770	
10,500.0	7,059.0	6,700.0	6,698.2	144.8	1.9	-70.71	-31.6	61.2	6,035.4	5,897.3	138.10	43.705	
10,531.5	7,059.0	6,700.0	6,698.2	145.6	1.9	-70.71	-31.6	61.2	6,066.4	5,927.5	138.90	43.674	
10,600.0	7,059.0	6,700.0	6,698.2	147.5	1.9	-70.71	-31.6	61.2	6,133.9	5,993.3	140.66	43.609	
10,629.9	7,059.0	6,700.0	6,698.2	148.3	1.9	-70.71	-31.6	61.2	6,163.4	6,022.0	141.43	43.580	
10,700.0	7,059.0	6,700.0	6,698.2	150.2	1.9	-70.71	-31.6	61.2	6,232.5	6,089.3	143.23	43.515	
10,728.3	7,059.0	6,700.0	6,698.2	150.9	1.9	-70.71	-31.6	61.2	6,260.4	6,116.5	143.95	43.489	
10,800.0	7,059.0	6,700.0	6,698.2	152.8	1.9	-70.71	-31.6	61.2	6,331.1	6,185.3	145.80	43.424	
10,826.7	7,059.0	6,700.0	6,698.2	153.6	1.9	-70.71	-31.6	61.2	6,357.5	6,211.0	146.49	43.400	
10,900.0	7,059.0	6,700.0	6,698.2	155.5	1.9	-70.71	-31.6	61.2	6,429.8	6,281.4	148.37	43.336	
10,925.2	7,059.0	6,700.0	6,698.2	156.2	1.9	-70.71	-31.6	61.2	6,454.6	6,305.6	149.02	43.314	
11,000.0	7,059.0	6,700.0	6,698.2	158.2	1.9	-70.71	-31.6	61.2	6,528.5	6,377.5	150.95	43.250	
11,023.6	7,059.0	6,700.0	6,698.2	158.9	1.9	-70.71	-31.6	61.2	6,551.8	6,400.2	151.56	43.230	
11,100.0	7,059.0	6,700.0	6,698.2	160.9	1.9	-70.71	-31.6	61.2	6,627.2	6,473.7	153.53	43.166	
11,122.0	7,059.0	6,700.0	6,698.2	161.5	1.9	-70.71	-31.6	61.2	6,649.0	6,494.9	154.10	43.148	
11,200.0	7,059.0	6,700.0	6,698.2	163.6	1.9	-70.71	-31.6	61.2	6,726.0	6,569.9	156.11	43.084	
11,220.4	7,059.0	6,700.0	6,698.2	164.2	1.9	-70.71	-31.6	61.2	6,746.2	6,589.6	156.64	43.068	
11,300.0	7,059.0	6,700.0	6,698.2	166.4	1.9	-70.71	-31.6	61.2	6,824.8	6,666.1	158.70	43.005	
11,318.9	7,059.0	6,700.0	6,698.2	166.9	1.9	-70.71	-31.6	61.2	6,843.5	6,684.3	159.19	42.990	
11,400.0	7,059.0	6,700.0	6,698.2	169.1	1.9	-70.71	-31.6	61.2	6,923.7	6,762.4	161.29	42.928	
11,417.3	7,059.0	6,700.0	6,698.2	169.5	1.9	-70.71	-31.6	61.2	6,940.8	6,779.0	161.74	42.914	
11,500.0	7,059.0	6,700.0	6,698.2	171.8	1.9	-70.71	-31.6	61.2	7,022.5	6,858.7	163.88	42.852	
11,515.7	7,059.0	6,700.0	6,698.2	172.2	1.9	-70.71	-31.6	61.2	7,038.1	6,873.8	164.29	42.841	
11,600.0	7,059.0	6,700.0	6,698.2	174.5	1.9	-70.71	-31.6	61.2	7,121.4	6,955.0	166.47	42.779	
11,614.1	7,059.0	6,700.0	6,698.2	174.9	1.9	-70.71	-31.6	61.2	7,135.4	6,968.6	166.84	42.769	
11,700.0	7,059.0	6,700.0	6,698.2	177.2	1.9	-70.71	-31.6	61.2	7,220.4	7,051.3	169.07	42.707	
11,712.6	7,059.0	6,700.0	6,698.2	177.6	1.9	-70.71	-31.6	61.2	7,232.8	7,063.4	169.39	42.698	
11,800.0	7,059.0	6,700.0	6,698.2	179.9	1.9	-70.71	-31.6	61.2	7,319.4	7,147.7	171.66	42.638	
11,811.0	7,059.0	6,700.0	6,698.2	180.2	1.9	-70.71	-31.6	61.2	7,330.2	7,158.3	171.95	42.630	
11,900.0	7,059.0	6,700.0	6,698.2	182.7	1.9	-70.71	-31.6	61.2	7,418.4	7,244.1	174.26	42.570	
11,909.4	7,059.0	6,700.0	6,698.2	182.9	1.9	-70.71	-31.6	61.2	7,427.7	7,253.2	174.51	42.563	
12,000.0	7,059.0	6,700.0	6,698.2	185.4	1.9	-70.71	-31.6	61.2	7,517.4	7,340.5	176.87	42.503	
12,007.8	7,059.0	6,700.0	6,698.2	185.6	1.9	-70.71	-31.6	61.2	7,525.2	7,348.1	177.07	42.498	
12,100.0	7,059.0	6,700.0	6,698.2	188.1	1.9	-70.71	-31.6	61.2	7,616.4	7,437.0	179.47	42.439	
12,106.3	7,059.0	6,700.0	6,698.2	188.3	1.9	-70.71	-31.6	61.2	7,622.6	7,443.0	179.63	42.435	
12,200.0	7,059.0	6,700.0	6,698.2	190.9	1.9	-70.71	-31.6	61.2	7,715.5	7,533.4	182.07	42.376	
12,204.7	7,059.0	6,700.0	6,698.2	191.0	1.9	-70.71	-31.6	61.2	7,720.2	7,538.0	182.20	42.373	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Offset Design SW NW SEC. 15 T5N R65W 6th P.M. - EXIST VERT SANDUSKY #1 - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 usft

Survey Program: 100-GYD_CT

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,300.0	7,059.0	6,700.0	6,698.2	193.6	1.9	-70.71	-31.6	61.2	7,814.6	7,629.9	184.68	42.314	
12,303.1	7,059.0	6,700.0	6,698.2	193.7	1.9	-70.71	-31.6	61.2	7,817.7	7,632.9	184.76	42.312	
12,400.0	7,059.0	6,700.0	6,698.2	196.3	1.9	-70.71	-31.6	61.2	7,913.7	7,726.4	187.29	42.254	
12,401.5	7,059.0	6,700.0	6,698.2	196.4	1.9	-70.71	-31.6	61.2	7,915.3	7,727.9	187.33	42.253	
12,500.0	7,059.0	6,700.0	6,698.2	199.1	1.9	-70.71	-31.6	61.2	8,012.9	7,823.0	189.90	42.195	
12,598.4	7,059.0	6,700.0	6,698.2	201.8	1.9	-70.71	-31.6	61.2	8,110.4	7,918.0	192.47	42.139	
12,600.0	7,059.0	6,700.0	6,698.2	201.8	1.9	-70.71	-31.6	61.2	8,112.0	7,919.5	192.51	42.138	
12,696.8	7,059.0	6,700.0	6,698.2	204.5	1.9	-70.71	-31.6	61.2	8,208.1	8,013.0	195.04	42.084	
12,700.0	7,059.0	6,700.0	6,698.2	204.6	1.9	-70.71	-31.6	61.2	8,211.2	8,016.1	195.12	42.082	
12,795.2	7,059.0	6,700.0	6,698.2	207.2	1.9	-70.71	-31.6	61.2	8,305.7	8,108.1	197.61	42.030	
12,800.0	7,059.0	6,700.0	6,698.2	207.3	1.9	-70.71	-31.6	61.2	8,310.4	8,112.7	197.74	42.027	
12,893.7	7,059.0	6,700.0	6,698.2	209.9	1.9	-70.71	-31.6	61.2	8,403.4	8,203.2	200.19	41.977	
12,900.0	7,059.0	6,700.0	6,698.2	210.1	1.9	-70.71	-31.6	61.2	8,409.6	8,209.3	200.35	41.974	
12,992.1	7,059.0	6,700.0	6,698.2	212.6	1.9	-70.71	-31.6	61.2	8,501.0	8,298.3	202.76	41.926	
13,000.0	7,059.0	6,700.0	6,698.2	212.8	1.9	-70.71	-31.6	61.2	8,508.9	8,305.9	202.97	41.922	
13,090.5	7,059.0	6,700.0	6,698.2	215.3	1.9	-70.71	-31.6	61.2	8,598.7	8,393.4	205.34	41.875	
13,100.0	7,059.0	6,700.0	6,698.2	215.6	1.9	-70.71	-31.6	61.2	8,608.1	8,402.5	205.59	41.871	
13,188.9	7,059.0	6,700.0	6,698.2	218.0	1.9	-70.71	-31.6	61.2	8,696.4	8,488.5	207.92	41.826	
13,200.0	7,059.0	6,700.0	6,698.2	218.3	1.9	-70.71	-31.6	61.2	8,707.4	8,499.2	208.21	41.821	
13,287.4	7,059.0	6,700.0	6,698.2	220.7	1.9	-70.71	-31.6	61.2	8,794.2	8,583.7	210.50	41.778	
13,300.0	7,059.0	6,700.0	6,698.2	221.1	1.9	-70.71	-31.6	61.2	8,806.7	8,595.9	210.83	41.772	
13,385.8	7,059.0	6,700.0	6,698.2	223.4	1.9	-70.71	-31.6	61.2	8,891.9	8,678.8	213.08	41.731	
13,400.0	7,059.0	6,700.0	6,698.2	223.8	1.9	-70.71	-31.6	61.2	8,906.0	8,692.6	213.45	41.724	
13,484.2	7,059.0	6,700.0	6,698.2	226.2	1.9	-70.71	-31.6	61.2	8,989.7	8,774.0	215.66	41.685	
13,500.0	7,059.0	6,700.0	6,698.2	226.6	1.9	-70.71	-31.6	61.2	9,005.3	8,789.3	216.07	41.677	
13,582.6	7,059.0	6,700.0	6,698.2	228.9	1.9	-70.71	-31.6	61.2	9,087.4	8,869.2	218.24	41.639	
13,600.0	7,059.0	6,700.0	6,698.2	229.3	1.9	-70.71	-31.6	61.2	9,104.7	8,886.0	218.70	41.632	
13,681.1	7,059.0	6,700.0	6,698.2	231.6	1.9	-70.71	-31.6	61.2	9,185.2	8,964.4	220.82	41.595	
13,700.0	7,059.0	6,700.0	6,698.2	232.1	1.9	-70.71	-31.6	61.2	9,204.0	8,982.7	221.32	41.587	
13,779.5	7,059.0	6,700.0	6,698.2	234.3	1.9	-70.71	-31.6	61.2	9,283.0	9,059.6	223.41	41.552	
13,800.0	7,059.0	6,700.0	6,698.2	234.9	1.9	-70.71	-31.6	61.2	9,303.4	9,079.4	223.95	41.543	
13,877.9	7,059.0	6,700.0	6,698.2	237.0	1.9	-70.71	-31.6	61.2	9,380.8	9,154.8	225.99	41.509	
13,900.0	7,059.0	6,700.0	6,698.2	237.6	1.9	-70.71	-31.6	61.2	9,402.8	9,176.2	226.57	41.500	
13,976.3	7,059.0	6,700.0	6,698.2	239.7	1.9	-70.71	-31.6	61.2	9,478.6	9,250.1	228.58	41.468	
14,000.0	7,059.0	6,700.0	6,698.2	240.4	1.9	-70.71	-31.6	61.2	9,502.2	9,273.0	229.20	41.458	
14,074.8	7,059.0	6,700.0	6,698.2	242.5	1.9	-70.71	-31.6	61.2	9,576.5	9,345.3	231.16	41.427	
14,100.0	7,059.0	6,700.0	6,698.2	243.2	1.9	-70.71	-31.6	61.2	9,601.6	9,369.7	231.83	41.417	
14,173.2	7,059.0	6,700.0	6,698.2	245.2	1.9	-70.71	-31.6	61.2	9,674.3	9,440.6	233.75	41.387	
14,200.0	7,059.0	6,700.0	6,698.2	245.9	1.9	-70.71	-31.6	61.2	9,701.0	9,466.5	234.46	41.376	
14,271.6	7,059.0	6,700.0	6,698.2	247.9	1.9	-70.71	-31.6	61.2	9,772.2	9,535.8	236.34	41.348	
14,300.0	7,059.0	6,700.0	6,698.2	248.7	1.9	-70.71	-31.6	61.2	9,800.4	9,563.3	237.09	41.337	
14,370.0	7,059.0	6,700.0	6,698.2	250.6	1.9	-70.71	-31.6	61.2	9,870.1	9,631.1	238.93	41.310	
14,400.0	7,059.0	6,700.0	6,698.2	251.5	1.9	-70.71	-31.6	61.2	9,899.8	9,660.1	239.72	41.298	
14,468.5	7,059.0	6,700.0	6,698.2	253.4	1.9	-70.71	-31.6	61.2	9,967.9	9,726.4	241.52	41.272	
14,500.0	7,059.0	6,700.0	6,698.2	254.2	1.9	-70.71	-31.6	61.2	9,999.3	9,756.9	242.35	41.260	

Company:	EXTRACTION OIL & GAS	**Local Co-ordinate Reference:**	Well VT-LDS C2-16-18
Project:	WELD COUNTY, COLORADO (NAD 83)	**TVD Reference:**	KB-EST @ 4663.0usft
Reference Site:	SW NW SEC. 15 T5N R65W 6th P.M.	**MD Reference:**	KB-EST @ 4663.0usft
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	VT-LDS C2-16-18	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	**Database:**	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB-EST @ 4663.0usft	Coordinates are relative to: VT-LDS C2-16-18
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000	Grid Convergence at Surface is: 0.54°