

EXTRACTION OIL & GAS

**WELD COUNTY, COLORADO (NAD 83)
SW SE SEC. 32 T6N R65W 6th P.M.
WAKE EAST 7N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

11 March, 2017



Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WAKE EAST 7N
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4659.0usft (Original Well Elev)
Reference Site:	SW SE SEC. 32 T6N R65W 6th P.M.	MD Reference:	KB-EST @ 4659.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	WAKE EAST 7N	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 #1	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.0usft	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 10/03/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,855.3	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NW SE SEC. 32 T6N R65W 6th P.M.						
EXIST DD THERMO #5-5-32 - Wellbore #1 - Wellbore #1	1,458.7	1,466.9	226.7	220.2	35.081	CC, ES
EXIST DD THERMO #5-5-32 - Wellbore #1 - Wellbore #1	3,700.0	3,617.3	640.1	611.9	22.708	SF
EXIST HZ ISALND GROVE #2-32 - Wellbore #1 - Wellbore #1	3,117.7	4,121.6	2,954.9	2,927.4	107.512	CC, ES
EXIST HZ ISALND GROVE #2-32 - Wellbore #1 - Wellbore #1	7,500.0	9,888.0	3,862.3	3,771.0	42.303	SF
EXIST VERT ADAMS #1 - Wellbore #1 - Design #1	8,346.4	6,985.0	936.7	747.5	4.953	CC, ES
EXIST VERT ADAMS #1 - Wellbore #1 - Design #1	8,500.0	6,985.0	949.2	756.5	4.927	SF
EXIST VERT HARVEST #1 - Wellbore #1 - Design #1	7,117.9	6,352.9	418.1	237.3	2.312	CC, ES
EXIST VERT HARVEST #1 - Wellbore #1 - Design #1	7,200.0	6,419.4	420.9	238.1	2.303	SF
EXIST VERT HUNGENBERG #13-33 - Wellbore #1 - Design #1	5,544.3	5,072.2	1,394.5	1,257.5	10.179	CC
EXIST VERT HUNGENBERG #13-33 - Wellbore #1 - Design #1	5,700.0	5,198.4	1,397.5	1,256.3	9.894	ES
EXIST VERT HUNGENBERG #13-33 - Wellbore #1 - Design #1	6,400.0	5,765.9	1,481.8	1,323.9	9.384	SF
EXIST VERT HUNGENBERG #14-33 - Wellbore #1 - Design #1	3,800.1	3,649.1	2,264.0	2,175.2	25.501	CC
EXIST VERT HUNGENBERG #14-33 - Wellbore #1 - Design #1	4,000.0	3,811.2	2,267.0	2,172.8	24.065	ES
EXIST VERT HUNGENBERG #14-33 - Wellbore #1 - Design #1	10,000.0	6,952.0	3,517.1	3,286.6	15.263	SF
EXIST VERT JOHNSON OLY #1 - Wellbore #1 - Design #1	7,469.2	6,650.6	2,320.0	2,129.3	12.162	CC, ES
EXIST VERT JOHNSON OLY #1 - Wellbore #1 - Design #1	7,500.0	6,675.1	2,320.8	2,129.5	12.128	SF
EXIST VERT JOZ A #5-7-32 - Wellbore #1 - Design #1	1,700.0	1,697.0	244.2	206.7	6.513	CC
EXIST VERT JOZ A #5-7-32 - Wellbore #1 - Design #1	1,800.0	1,797.0	245.7	206.0	6.189	ES
EXIST VERT JOZ A #5-7-32 - Wellbore #1 - Design #1	2,100.0	2,095.7	269.4	223.3	5.852	SF
WAKE NORTH 1 - ORIGINAL WELLBORE - PROPOSAL #1	7,880.8	7,121.5	1,494.0	1,401.3	16.120	CC
WAKE NORTH 1 - ORIGINAL WELLBORE - PROPOSAL #1	7,900.0	7,130.2	1,494.1	1,401.2	16.076	ES
WAKE NORTH 1 - ORIGINAL WELLBORE - PROPOSAL #1	7,950.0	7,150.0	1,496.0	1,402.7	16.024	SF
WAKE NORTH 10 - ORIGINAL WELLBORE - PROPOSAL #1	7,449.8	7,270.8	202.0	108.4	2.158	SF
WAKE NORTH 10 - ORIGINAL WELLBORE - PROPOSAL #1	7,492.7	7,294.5	199.1	108.4	2.195	CC, ES
WAKE NORTH 11 - ORIGINAL WELLBORE - PROPOSAL #1	6,152.9	5,866.1	248.6	200.1	5.124	CC
WAKE NORTH 11 - ORIGINAL WELLBORE - PROPOSAL #1	6,200.0	5,908.0	249.5	199.1	4.949	ES
WAKE NORTH 11 - ORIGINAL WELLBORE - PROPOSAL #1	6,500.0	6,175.6	294.0	227.1	4.391	SF
WAKE NORTH 12 - ORIGINAL WELLBORE - PROPOSAL #1	5,939.9	5,692.8	151.4	104.8	3.252	CC
WAKE NORTH 12 - ORIGINAL WELLBORE - PROPOSAL #1	6,000.0	5,745.8	154.0	103.9	3.075	ES
WAKE NORTH 12 - ORIGINAL WELLBORE - PROPOSAL #1	6,100.0	5,833.8	169.3	111.8	2.943	SF
WAKE NORTH 13 - ORIGINAL WELLBORE - PROPOSAL #1	5,675.5	5,470.6	174.8	131.0	3.998	CC
WAKE NORTH 13 - ORIGINAL WELLBORE - PROPOSAL #1	5,700.0	5,491.7	175.2	130.6	3.933	ES
WAKE NORTH 13 - ORIGINAL WELLBORE - PROPOSAL #1	5,800.0	5,578.2	185.6	136.5	3.778	SF
WAKE NORTH 14 - ORIGINAL WELLBORE - PROPOSAL #1	5,297.2	5,125.7	171.4	129.9	4.124	CC
WAKE NORTH 14 - ORIGINAL WELLBORE - PROPOSAL #1	5,300.0	5,128.1	171.4	129.8	4.117	ES
WAKE NORTH 14 - ORIGINAL WELLBORE - PROPOSAL #1	5,400.0	5,212.1	180.3	135.3	4.009	SF
WAKE NORTH 15 - ORIGINAL WELLBORE - PROPOSAL #1	5,143.9	4,993.4	117.0	76.4	2.886	CC, ES

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WAKE EAST 7N
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4659.0usft (Original Well Elev)
Reference Site:	SW SE SEC. 32 T6N R65W 6th P.M.	MD Reference:	KB-EST @ 4659.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	WAKE EAST 7N	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 #1	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
NW SE SEC. 32 T6N R65W 6th P.M.						
WAKE NORTH 15 - ORIGINAL WELLBORE - PROPOS/	5,200.0	5,040.0	121.1	78.5	2.844	SF
WAKE NORTH 16 - ORIGINAL WELLBORE - PROPOS/	4,939.0	4,811.7	166.9	127.7	4.253	CC, ES
WAKE NORTH 16 - ORIGINAL WELLBORE - PROPOS/	5,000.0	4,861.3	170.6	130.1	4.212	SF
WAKE NORTH 17 - ORIGINAL WELLBORE - PROPOS/	4,636.0	4,558.5	159.0	121.5	4.237	CC, ES, SF
WAKE NORTH 18 - ORIGINAL WELLBORE - PROPOS/	4,464.0	4,415.2	127.9	91.4	3.507	CC, ES, SF
WAKE NORTH 19 - ORIGINAL WELLBORE - PROPOS/	4,290.3	4,267.8	173.5	137.8	4.861	CC, ES
WAKE NORTH 19 - ORIGINAL WELLBORE - PROPOS/	4,300.0	4,275.1	173.7	137.9	4.857	SF
WAKE NORTH 2 - ORIGINAL WELLBORE - PROPOS/	7,881.4	7,165.4	1,254.2	1,161.2	13.498	CC
WAKE NORTH 2 - ORIGINAL WELLBORE - PROPOS/	7,900.0	7,171.4	1,254.3	1,161.2	13.469	ES
WAKE NORTH 2 - ORIGINAL WELLBORE - PROPOS/	7,950.0	7,184.2	1,256.7	1,163.3	13.458	SF
WAKE NORTH 20 - ORIGINAL WELLBORE - PROPOS/	4,148.9	4,149.5	185.3	150.3	5.293	CC, ES, SF
WAKE NORTH 21 - ORIGINAL WELLBORE - PROPOS/	3,941.0	3,986.5	159.6	125.7	4.703	CC, ES, SF
WAKE NORTH 22 - ORIGINAL WELLBORE - PROPOS/	3,785.9	3,860.4	202.7	169.2	6.052	CC, ES, SF
WAKE NORTH 23 - ORIGINAL WELLBORE - PROPOS/	3,622.3	3,732.2	213.3	180.3	6.476	CC, ES, SF
WAKE NORTH 24 - ORIGINAL WELLBORE - PROPOS/	3,528.9	3,655.2	202.7	170.3	6.270	CC, ES, SF
WAKE NORTH 3 - ORIGINAL WELLBORE - PROPOS/	7,890.3	7,230.2	1,053.2	958.6	11.135	CC
WAKE NORTH 3 - ORIGINAL WELLBORE - PROPOS/	7,900.0	7,234.0	1,053.2	958.5	11.121	ES
WAKE NORTH 3 - ORIGINAL WELLBORE - PROPOS/	7,950.0	7,250.0	1,055.4	960.4	11.109	SF
WAKE NORTH 4 - ORIGINAL WELLBORE - PROPOS/	7,856.2	7,216.7	965.8	872.9	10.403	CC, ES
WAKE NORTH 4 - ORIGINAL WELLBORE - PROPOS/	7,900.0	7,224.9	967.1	873.9	10.380	SF
WAKE NORTH 5 - ORIGINAL WELLBORE - PROPOS/	7,810.2	7,250.0	674.0	581.3	7.271	CC, ES
WAKE NORTH 5 - ORIGINAL WELLBORE - PROPOS/	7,850.0	7,255.6	675.5	582.4	7.257	SF
WAKE NORTH 6 - ORIGINAL WELLBORE - PROPOS/	7,831.7	7,306.7	470.8	375.9	4.961	CC, ES
WAKE NORTH 6 - ORIGINAL WELLBORE - PROPOS/	7,850.0	7,310.5	471.2	376.0	4.949	SF
WAKE NORTH 7 - ORIGINAL WELLBORE - PROPOS/	7,736.6	7,285.7	377.3	285.3	4.101	CC, ES
WAKE NORTH 7 - ORIGINAL WELLBORE - PROPOS/	7,750.0	7,287.4	377.6	285.3	4.093	SF
WAKE NORTH 8 - ORIGINAL WELLBORE - PROPOS/	7,639.3	7,301.5	88.9	-2.5	0.973	Level 1, CC
WAKE NORTH 8 - ORIGINAL WELLBORE - PROPOS/	7,650.0	7,303.5	89.6	-2.9	0.969	Level 1, ES, SF
WAKE NORTH 9 - ORIGINAL WELLBORE - PROPOS/	7,650.0	7,335.2	120.8	24.3	1.252	Level 3, ES, SF
WAKE NORTH 9 - ORIGINAL WELLBORE - PROPOS/	7,666.2	7,341.3	119.9	25.1	1.265	Level 3, CC

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Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
SW SE SEC. 32 T6N R65W 6th P.M.						
ABDN VERT DAVIS #1 - Wellbore #1 - Design #1	9,773.0	6,951.0	2,998.9	2,774.6	13.370	CC
ABDN VERT DAVIS #1 - Wellbore #1 - Design #1	9,900.0	6,951.0	3,001.6	2,774.0	13.184	ES
ABDN VERT DAVIS #1 - Wellbore #1 - Design #1	10,900.0	6,951.0	3,203.7	2,949.1	12.584	SF
ABDN VERT HOSHIKO 6-33 - Wellbore #1 - Design #1	9,864.4	6,960.0	538.9	312.1	2.376	CC, ES
ABDN VERT HOSHIKO 6-33 - Wellbore #1 - Design #1	9,900.0	6,960.0	540.1	312.3	2.371	SF
ABDN VERT KOEHLER #1 - Wellbore #1 - Design #1	12,532.9	6,950.0	3,064.9	2,765.4	10.234	CC
ABDN VERT KOEHLER #1 - Wellbore #1 - Design #1	12,600.0	6,950.0	3,065.7	2,764.3	10.173	ES
ABDN VERT KOEHLER #1 - Wellbore #1 - Design #1	13,400.0	6,950.0	3,185.2	2,861.7	9.845	SF
ABDN VERT MT BICKLING 1-34 (NOBLE) - Wellbore #1	14,992.4	6,949.0	905.4	537.4	2.461	CC
ABDN VERT MT BICKLING 1-34 (NOBLE) - Wellbore #1	15,000.0	6,949.0	905.4	537.2	2.459	ES
ABDN VERT MT BICKLING 1-34 (NOBLE) - Wellbore #1	15,100.0	6,949.0	911.7	540.8	2.458	SF
EXIST DD KOEHLER E 33-09D (NOBLE) - Wellbore #1	12,429.3	7,216.0	1,729.4	1,554.5	9.888	CC
EXIST DD KOEHLER E 33-09D (NOBLE) - Wellbore #1	12,500.0	7,215.5	1,730.9	1,554.0	9.787	ES
EXIST DD KOEHLER E 33-09D (NOBLE) - Wellbore #1	12,900.0	7,214.0	1,792.3	1,604.4	9.537	SF
EXIST DD KOEHLER E 33-23D (NOBLE) - Wellbore #1	11,788.5	7,146.3	2,409.0	2,251.6	15.308	CC
EXIST DD KOEHLER E 33-23D (NOBLE) - Wellbore #1	11,900.0	7,144.7	2,411.5	2,251.1	15.032	ES
EXIST DD KOEHLER E 33-23D (NOBLE) - Wellbore #1	12,800.0	7,132.1	2,612.7	2,427.4	14.102	SF
EXIST DD KOEHLER E 34-32D (NOBLE) - Wellbore #1	13,173.9	7,464.7	1,199.5	997.3	5.930	CC
EXIST DD KOEHLER E 34-32D (NOBLE) - Wellbore #1	13,200.0	7,466.2	1,199.8	996.8	5.911	ES
EXIST DD KOEHLER E 34-32D (NOBLE) - Wellbore #1	13,400.0	7,477.7	1,220.6	1,012.3	5.859	SF
EXIST DD KOEHLER E 34-33D (NOBLE) - Wellbore #1	13,207.3	7,220.8	2,267.5	2,066.0	11.257	CC
EXIST DD KOEHLER E 34-33D (NOBLE) - Wellbore #1	13,300.0	7,225.7	2,269.4	2,065.3	11.124	ES
EXIST DD KOEHLER E 34-33D (NOBLE) - Wellbore #1	13,900.0	7,257.6	2,370.7	2,149.9	10.740	SF
EXIST HZ HEALY E34-69HN (NOBLE) - Wellbore #1 - V	16,151.5	13,770.0	1,468.1	1,008.5	3.195	CC
EXIST HZ HEALY E34-69HN (NOBLE) - Wellbore #1 - V	16,200.0	13,765.7	1,468.9	1,008.1	3.188	ES, SF
EXIST HZ LDS E35-79HC (NOBLE) - Wellbore #1 - Well	17,855.3	8,255.8	396.9	91.4	1.299	Level 3, CC, ES, SF
EXIST VERT BLISS 10-33 - Wellbore #1 - Design #1	11,212.5	6,957.0	1,689.9	1,426.7	6.421	CC
EXIST VERT BLISS 10-33 - Wellbore #1 - Design #1	11,300.0	6,957.0	1,692.2	1,426.6	6.372	ES
EXIST VERT BLISS 10-33 - Wellbore #1 - Design #1	11,500.0	6,957.0	1,714.2	1,443.2	6.324	SF
EXIST VERT BLISS 13-34 (NOBLE) - Wellbore #1 - Wel	13,769.0	6,950.0	2,904.7	2,708.4	14.796	CC
EXIST VERT BLISS 13-34 (NOBLE) - Wellbore #1 - Wel	13,800.0	6,950.0	2,904.8	2,707.7	14.732	ES
EXIST VERT BLISS 13-34 (NOBLE) - Wellbore #1 - Wel	15,000.0	6,950.0	3,154.7	2,924.1	13.678	SF
EXIST VERT BLISS 15-33 (NOBLE) - Wellbore #1 - Wel	11,214.1	7,026.4	3,044.5	2,918.7	24.199	CC
EXIST VERT BLISS 15-33 (NOBLE) - Wellbore #1 - Wel	11,300.0	7,026.0	3,045.7	2,917.5	23.765	ES
EXIST VERT BLISS 15-33 (NOBLE) - Wellbore #1 - Wel	13,300.0	7,017.8	3,690.5	3,507.1	20.124	SF
EXIST VERT FLOS E34-6 (NOBLE) - Wellbore #1 - Well	15,035.3	6,950.0	540.1	308.3	2.331	CC, ES
EXIST VERT FLOS E34-6 (NOBLE) - Wellbore #1 - Well	15,100.0	6,950.0	543.9	310.4	2.329	SF
EXIST VERT HOSHIKO #1 - Wellbore #1 - Design #1	16,251.7	6,955.0	1,309.2	906.0	3.247	CC
EXIST VERT HOSHIKO #1 - Wellbore #1 - Design #1	16,300.0	6,955.0	1,310.1	905.6	3.238	ES
EXIST VERT HOSHIKO #1 - Wellbore #1 - Design #1	16,400.0	6,955.0	1,317.6	910.2	3.234	SF
EXIST VERT HOSHIKO 1-33 - Wellbore #1 - Design #1	12,473.8	6,963.0	759.1	461.2	2.548	CC
EXIST VERT HOSHIKO 1-33 - Wellbore #1 - Design #1	12,500.0	6,963.0	759.6	460.9	2.543	ES, SF
EXIST VERT HOSHIKO 2-33 - Wellbore #1 - Design #1	11,029.4	6,965.0	900.7	642.4	3.488	CC, ES
EXIST VERT HOSHIKO 2-33 - Wellbore #1 - Design #1	11,100.0	6,965.0	903.5	643.3	3.472	SF
EXIST VERT HOSHIKO 31-34 - Wellbore #1 - Design #1	16,311.1	6,960.0	767.0	362.1	1.894	CC, ES, SF
EXIST VERT HOSHIKO 3-33 (NOBLE) - Wellbore #1 - D	9,813.0	6,970.0	818.3	592.7	3.628	CC, ES
EXIST VERT HOSHIKO 3-33 (NOBLE) - Wellbore #1 - D	9,900.0	6,970.0	822.9	595.0	3.611	SF
EXIST VERT HOSHIKO 8-33 - Wellbore #1 - Design #1	12,541.6	6,956.0	569.1	269.3	1.898	CC, ES
EXIST VERT HOSHIKO 8-33 - Wellbore #1 - Design #1	12,600.0	6,956.0	572.1	270.7	1.898	SF
EXIST VERT HUNGENBERG 7-33 - Wellbore #1 - Desig	10,926.4	6,961.0	248.9	-6.5	0.974	Level 1, CC, ES, SF
EXIST VERT MININGER 1 - Wellbore #1 - Design #1	16,325.5	7,045.0	3,049.1	2,644.0	7.525	CC
EXIST VERT MININGER 1 - Wellbore #1 - Design #1	16,400.0	7,045.0	3,050.1	2,642.8	7.489	ES
EXIST VERT MININGER 1 - Wellbore #1 - Design #1	17,000.0	7,045.0	3,122.9	2,698.8	7.364	SF

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Anticollision Report



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Reference Well:	WAKE EAST 7N	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #1	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 SE SEC. 32 T6N R65W 6th P.M.						
EXIST VERT MININGER 33-34 - Wellbore #1 - Design #	16,295.9	6,949.0	1,705.1	1,300.7	4.216	CC
EXIST VERT MININGER 33-34 - Wellbore #1 - Design #	16,300.0	6,949.0	1,705.1	1,300.5	4.215	ES
EXIST VERT MININGER 33-34 - Wellbore #1 - Design #	16,500.0	6,949.0	1,717.2	1,307.1	4.187	SF
EXIST VERT MININGER-BICKLING #1 - Wellbore #1 - C	15,106.4	6,944.0	3,092.9	2,721.8	8.335	CC
EXIST VERT MININGER-BICKLING #1 - Wellbore #1 - C	15,200.0	6,944.0	3,094.3	2,720.6	8.281	ES
EXIST VERT MININGER-BICKLING #1 - Wellbore #1 - C	15,800.0	6,944.0	3,169.7	2,779.2	8.118	SF
EXIST VERT SINGER E 34-1 (NOBLE) - Wellbore #1 - C	17,799.2	6,955.0	802.2	355.6	1.796	CC
EXIST VERT SINGER E 34-1 (NOBLE) - Wellbore #1 - C	17,800.0	6,955.0	802.2	355.6	1.796	ES
EXIST VERT SINGER E 34-1 (NOBLE) - Wellbore #1 - C	17,855.3	6,955.0	804.2	356.0	1.794	SF
EXIST VERT SINGER E 34-16 (NOBLE) - Wellbore #1 -	17,855.3	6,850.0	3,166.5	2,856.1	10.202	CC, ES, SF
EXIST VERT SINGER E 34-8 (NOBLE) - Wellbore #1 - C	17,855.3	6,948.0	517.5	69.4	1.155	Level 2, CC, ES, SF
EXIST VERT SINGER E 34-9 (NOBLE) - Wellbore #1 - C	17,855.3	6,949.0	1,803.4	1,355.3	4.024	CC, ES, SF
EXIST VERT UHRICH E 34-4 (NOBLE) - Wellbore #1 - C	13,588.0	6,959.0	914.0	585.1	2.779	CC
EXIST VERT UHRICH E 34-4 (NOBLE) - Wellbore #1 - C	13,600.0	6,959.0	914.1	584.9	2.777	ES
EXIST VERT UHRICH E 34-4 (NOBLE) - Wellbore #1 - C	13,700.0	6,959.0	920.8	588.8	2.774	SF
EXIST VERT UHRICH E 34-5 (NOBLE) - Wellbore #1 - C	13,904.8	6,955.0	420.6	83.0	1.246	Level 2, CC, ES, SF
EXIST VERT WINTERS 12-34 - Wellbore #1 - Design #1	13,902.0	6,951.0	1,604.7	1,267.2	4.754	CC, ES
EXIST VERT WINTERS 12-34 - Wellbore #1 - Design #1	14,100.0	6,951.0	1,616.9	1,273.8	4.713	SF
WAKE EAST 10N - ORIGINAL WELLBORE - PROPOSAL	1,266.3	1,267.3	55.7	50.2	10.245	CC
WAKE EAST 10N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,475.7	658.9	42.2	1.068	Level 2, ES, SF
WAKE EAST 11N - ORIGINAL WELLBORE - PROPOSAL	1,200.0	1,200.0	72.4	67.2	14.098	CC, ES
WAKE EAST 11N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,336.1	990.2	373.9	1.607	SF
WAKE EAST 12C - ORIGINAL WELLBORE - PROPOSAL	1,100.0	1,100.0	91.9	87.2	19.626	CC, ES
WAKE EAST 12C - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,435.1	1,168.0	557.8	1.914	SF
WAKE EAST 13N - ORIGINAL WELLBORE - PROPOSAL	1,000.0	1,000.0	108.6	104.4	25.651	CC, ES
WAKE EAST 13N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,210.0	1,317.9	702.5	2.142	SF
WAKE EAST 14N - ORIGINAL WELLBORE - PROPOSAL	900.0	899.0	125.3	121.5	33.128	CC, ES
WAKE EAST 14N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,117.9	1,649.1	1,034.2	2.682	SF
WAKE EAST 15C - ORIGINAL WELLBORE - PROPOSAL	800.0	799.0	144.8	141.5	43.439	CC, ES
WAKE EAST 15C - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,250.1	1,822.0	1,209.7	2.976	SF
WAKE EAST 16N - ORIGINAL WELLBORE - PROPOSAL	700.0	699.0	161.5	158.6	56.000	CC, ES
WAKE EAST 16N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,040.7	1,980.4	1,366.4	3.225	SF
WAKE EAST 17N - ORIGINAL WELLBORE - PROPOSAL	600.0	598.0	181.0	178.5	74.414	CC, ES
WAKE EAST 17N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	16,991.0	2,308.0	1,694.5	3.762	SF
WAKE EAST 18C - ORIGINAL WELLBORE - PROPOSAL	200.0	198.0	253.3	252.7	399.683	CC, ES
WAKE EAST 18C - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,127.5	2,482.2	1,871.6	4.065	SF
WAKE EAST 19N - ORIGINAL WELLBORE - PROPOSAL	100.0	98.0	270.0	269.8	1,444.689	CC, ES
WAKE EAST 19N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	16,935.9	2,639.2	2,027.9	4.317	SF
WAKE EAST 1N - ORIGINAL WELLBORE - PROPOSAL	1,700.0	1,697.0	108.6	101.2	14.721	CC, ES
WAKE EAST 1N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	18,782.5	1,322.5	704.1	2.139	SF
WAKE EAST 20N - ORIGINAL WELLBORE - PROPOSAL	300.0	298.0	233.9	232.8	215.855	CC, ES
WAKE EAST 20N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	16,940.5	2,970.5	2,358.5	4.853	SF
WAKE EAST 21C - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	217.2	215.6	141.453	CC, ES
WAKE EAST 21C - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,126.8	3,139.6	2,528.0	5.133	SF
WAKE EAST 22N - ORIGINAL WELLBORE - PROPOSAL	500.0	498.0	197.7	195.7	99.711	CC, ES
WAKE EAST 22N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	16,967.9	3,298.2	2,685.3	5.381	SF
WAKE EAST 2N - ORIGINAL WELLBORE - PROPOSAL	1,700.0	1,698.0	89.1	81.7	12.075	CC, ES
WAKE EAST 2N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	18,521.4	991.0	372.6	1.602	SF
WAKE EAST 3C - ORIGINAL WELLBORE - PROPOSAL	1,700.0	1,699.0	72.4	65.0	9.808	CC, ES
WAKE EAST 3C - ORIGINAL WELLBORE - PROPOSAL	17,855.3	18,582.7	846.6	243.8	1.404	Level 3, SF
WAKE EAST 4N - ORIGINAL WELLBORE - PROPOSAL	1,700.0	1,700.0	52.9	45.5	7.165	CC
WAKE EAST 4N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	18,316.6	659.4	41.1	1.067	Level 2, ES, SF
WAKE EAST 5N - ORIGINAL WELLBORE - PROPOSAL	1,700.0	1,700.0	36.2	28.8	4.903	CC

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

Anticollision Report



Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WAKE EAST 7N
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4659.0usft (Original Well Elev)
Reference Site:	SW SE SEC. 32 T6N R65W 6th P.M.	MD Reference:	KB-EST @ 4659.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	WAKE EAST 7N	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 #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SW SE SEC. 32 T6N R65W 6th P.M.						
WAKE EAST 5N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	18,083.0	331.5	-286.8	0.536	Level 1, ES, SF
WAKE EAST 6C - ORIGINAL WELLBORE - PROPOSAL	1,700.0	1,700.0	16.7	9.3	2.263	CC
WAKE EAST 6C - ORIGINAL WELLBORE - PROPOSAL	17,855.3	18,107.9	243.5	-184.4	0.569	Level 1, ES, SF
WAKE EAST 8N - ORIGINAL WELLBORE - PROPOSAL	1,466.3	1,467.3	19.5	13.2	3.077	CC
WAKE EAST 8N - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,660.8	331.2	-286.3	0.536	Level 1, ES, SF
WAKE EAST 9C - ORIGINAL WELLBORE - PROPOSAL	1,366.3	1,367.3	36.2	30.3	6.150	CC
WAKE EAST 9C - ORIGINAL WELLBORE - PROPOSAL	17,855.3	17,721.3	526.4	-60.0	0.898	Level 1, ES, SF

Offset Design NW SE SEC. 32 T6N R65W 6th P.M. - EXIST DD THERMO #5-5-32 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 549-MWD												Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	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	-123.81	-142.4	-212.7	256.0				
100.0	100.0	97.0	97.0	0.1	0.1	-123.78	-142.3	-212.8	256.0	255.8	0.20	1,259.621	
200.0	200.0	197.0	197.0	0.3	0.2	-123.66	-141.9	-213.1	256.0	255.4	0.54	473.911	
300.0	300.0	296.9	296.9	0.5	0.3	-123.47	-141.2	-213.6	256.0	255.1	0.88	291.884	
400.0	400.0	396.9	396.9	0.8	0.4	-123.20	-140.2	-214.3	256.0	254.8	1.21	210.909	
500.0	500.0	496.8	496.8	1.0	0.6	-122.85	-138.9	-215.2	256.1	254.6	1.55	165.130	
600.0	600.0	596.4	596.3	1.2	0.7	-122.43	-137.4	-216.3	256.2	254.3	1.94	132.416	
700.0	700.0	697.7	697.7	1.4	0.9	-121.92	-135.6	-217.7	256.4	254.1	2.38	107.883	
800.0	800.0	804.5	804.3	1.7	1.2	-120.76	-130.4	-219.1	255.1	252.3	2.84	89.728	
900.0	900.0	909.4	908.7	1.9	1.4	-118.86	-121.1	-219.7	251.2	247.9	3.32	75.664	
1,000.0	1,000.0	1,009.0	1,007.6	2.1	1.7	-116.39	-109.5	-220.7	246.6	242.8	3.80	64.944	
1,100.0	1,100.0	1,110.4	1,108.0	2.3	2.0	-113.10	-94.9	-222.6	242.2	237.9	4.30	56.280	
1,200.0	1,200.0	1,216.8	1,212.6	2.6	2.4	-108.70	-75.6	-223.3	236.2	231.4	4.86	48.624	
1,300.0	1,300.0	1,313.9	1,307.5	2.8	2.8	-103.76	-54.8	-223.8	230.7	225.2	5.43	42.482	
1,400.0	1,400.0	1,410.8	1,401.5	3.0	3.2	-97.94	-31.4	-225.1	227.3	221.2	6.06	37.480	
1,458.7	1,458.7	1,466.9	1,455.7	3.1	3.5	-94.30	-17.0	-226.1	226.7	220.2	6.46	35.081	CC, ES
1,500.0	1,500.0	1,506.2	1,493.6	3.2	3.7	-91.67	-6.6	-226.9	227.0	220.2	6.76	33.594	
1,600.0	1,600.0	1,601.2	1,584.8	3.5	4.2	-85.08	19.7	-229.2	230.4	222.9	7.51	30.695	
1,700.0	1,700.0	1,696.1	1,675.6	3.7	4.7	-78.51	47.1	-231.8	237.5	229.3	8.28	28.688	
1,800.0	1,800.0	1,792.0	1,767.5	3.9	5.1	-104.33	74.7	-234.9	248.7	239.8	8.84	28.131	
1,900.0	1,899.8	1,889.7	1,861.3	4.1	5.6	-99.59	101.9	-237.9	262.4	253.0	9.39	27.949	
2,000.0	1,999.5	1,987.9	1,955.6	4.4	6.1	-96.01	129.0	-241.0	277.8	267.9	9.95	27.912	
2,100.0	2,098.7	2,083.4	2,047.0	4.6	6.6	-93.22	156.4	-243.4	294.3	283.7	10.55	27.883	
2,200.0	2,197.5	2,177.7	2,137.0	4.8	7.1	-91.25	184.4	-246.8	312.7	301.5	11.18	27.968	
2,300.0	2,295.6	2,280.8	2,235.7	5.1	7.6	-90.22	213.8	-251.3	331.5	319.6	11.87	27.933	
2,400.0	2,393.1	2,379.0	2,330.1	5.4	8.2	-89.95	240.8	-254.5	348.7	336.1	12.59	27.694	
2,500.0	2,489.6	2,476.8	2,423.6	5.8	8.7	-89.92	269.5	-257.3	366.6	353.2	13.41	27.344	
2,600.0	2,585.3	2,580.4	2,522.2	6.2	9.3	-90.17	301.1	-258.8	383.9	369.6	14.33	26.796	
2,700.0	2,679.8	2,675.7	2,612.7	6.7	9.8	-90.69	330.7	-259.3	400.8	385.5	15.30	26.203	
2,800.0	2,773.2	2,769.4	2,701.4	7.2	10.4	-91.43	361.1	-260.1	418.9	402.5	16.37	25.597	
2,900.0	2,865.2	2,868.0	2,794.9	7.8	11.0	-92.71	392.4	-261.8	437.6	420.1	17.52	24.976	
3,000.0	2,955.8	2,963.4	2,885.8	8.4	11.5	-94.43	421.2	-264.1	457.0	438.3	18.72	24.415	
3,100.0	3,044.9	3,059.0	2,977.0	9.2	12.0	-96.43	449.8	-266.8	477.6	457.6	19.99	23.896	
3,200.0	3,132.4	3,156.5	3,070.3	10.0	12.5	-98.79	477.7	-269.7	499.2	477.9	21.31	23.425	
3,300.0	3,218.1	3,244.4	3,154.7	10.8	13.0	-101.07	502.3	-272.9	523.0	500.4	22.62	23.116	
3,400.0	3,302.0	3,337.8	3,244.4	11.8	13.5	-103.63	528.0	-276.7	549.2	525.2	23.99	22.890	

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