

EXTRACTION OIL & GAS

Weld County

Sec 21-T5N-R65W

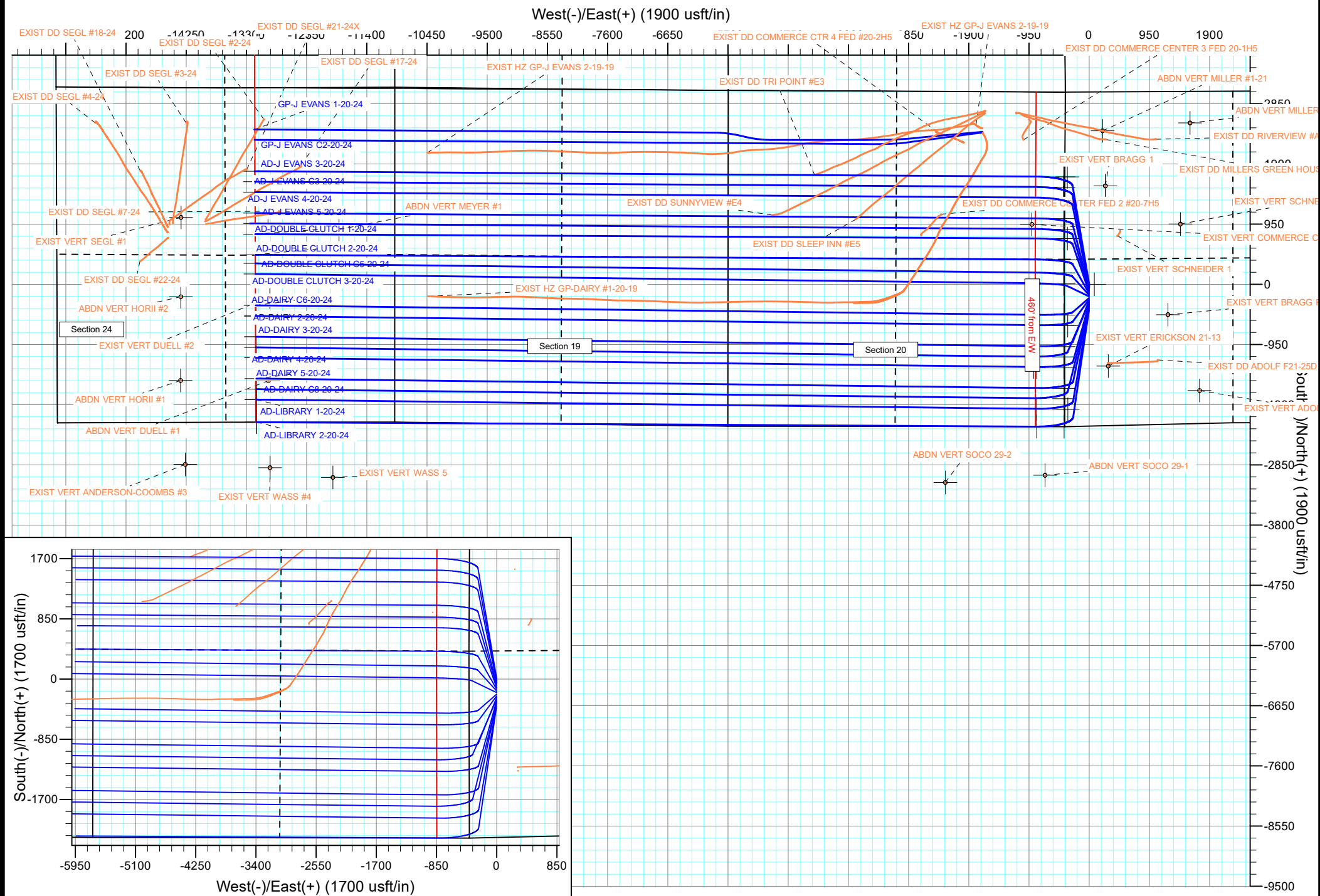
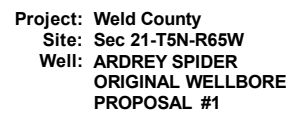
AD-DOUBLE CLUTCH 1-20-24

ORIGINAL WELLBORE

PROPOSAL #1

Anticollision Report

09 February, 2017



Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well AD-DOUBLE CLUTCH 1-20-24
Project:	Weld County	TVD Reference:	KB-EST @ 4654.0usft (Original Well Elev)
Reference Site:	Sec 21-T5N-R65W	MD Reference:	KB-EST @ 4654.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	AD-DOUBLE CLUTCH 1-20-24	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDT_32Bit_ODBC
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 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	2/9/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	19,742.3	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	OWSG MWD - Standard

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						
Sec 20-T5N-R65W						
ABDN VERT MEYER #1 - Wellbore #1 - Design #1	18,419.5	7,145.0	81.4	-375.6	0.178	Level 1, CC, ES, SF
EXIST DD COMMERCE CENTER 3 FED 20-1H5 - Wellb	7,628.1	7,090.6	1,555.4	1,506.5	31.851	CC, ES
EXIST DD COMMERCE CENTER 3 FED 20-1H5 - Wellb	8,400.0	7,085.7	1,736.4	1,671.4	26.738	SF
EXIST DD COMMERCE CENTER FED 2 #20-7H5 - Wel	8,916.6	7,057.6	372.2	293.9	4.752	CC, ES
EXIST DD COMMERCE CENTER FED 2 #20-7H5 - Wel	9,000.0	7,058.5	381.4	300.8	4.729	SF
EXIST DD COMMERCE CTR 4 FED #20-2H5 - Wellbore	8,984.3	7,122.2	1,672.3	1,591.7	20.748	CC
EXIST DD COMMERCE CTR 4 FED #20-2H5 - Wellbore	9,000.0	7,121.9	1,672.3	1,591.2	20.625	ES
EXIST DD COMMERCE CTR 4 FED #20-2H5 - Wellbore	9,500.0	7,113.3	1,749.9	1,656.4	18.713	SF
EXIST DD MILLERS GREEN HOUSE #A10 - Wellbore #	6,764.4	6,919.7	1,720.8	1,664.1	30.339	CC, ES
EXIST DD MILLERS GREEN HOUSE #A10 - Wellbore #	7,100.0	7,164.2	1,769.2	1,709.5	29.636	SF
EXIST DD RIVERVIEW #A9 - Wellbore #1 - Wellbore #1	6,624.1	7,056.8	2,115.9	2,046.8	30.604	CC, ES
EXIST DD RIVERVIEW #A9 - Wellbore #1 - Wellbore #1	6,700.0	7,136.7	2,119.1	2,049.7	30.526	SF
EXIST DD SLEEP INN #E5 - Wellbore #1 - Wellbore #1	10,246.1	7,655.5	305.2	167.6	2.218	CC, ES, SF
EXIST DD SUNNYVIEW #E4 - Wellbore #1 - Wellbore #	11,548.6	8,083.4	352.3	152.3	1.762	CC, ES, SF
EXIST DD TRI POINT #E3 - Wellbore #1 - Wellbore #1	10,889.4	7,748.2	996.7	829.3	5.953	CC
EXIST DD TRI POINT #E3 - Wellbore #1 - Wellbore #1	10,900.0	7,750.1	996.8	829.2	5.947	ES, SF
EXIST HZ GP-DAIRY #1-20-19 - ORIGINAL WELLBORE	9,546.4	7,354.1	977.8	876.8	9.682	CC
EXIST HZ GP-DAIRY #1-20-19 - ORIGINAL WELLBORE	9,600.0	7,373.4	979.0	875.3	9.437	ES
EXIST HZ GP-DAIRY #1-20-19 - ORIGINAL WELLBORE	10,500.0	8,205.0	1,069.5	917.3	7.026	SF
EXIST HZ GP-DAIRY #1-20-19 - SIDETRACK - SIDETR	9,604.9	7,527.0	939.5	830.5	8.620	CC
EXIST HZ GP-DAIRY #1-20-19 - SIDETRACK - SIDETR	17,007.9	15,000.0	975.9	472.7	1.940	ES
EXIST HZ GP-DAIRY #1-20-19 - SIDETRACK - SIDETR	17,100.0	15,000.0	980.2	474.1	1.937	SF
EXIST HZ GP-J EVANS 2-19-19 - MWD SURVEYS - MW	17,030.2	13,082.0	1,299.5	801.6	2.610	CC, ES
EXIST HZ GP-J EVANS 2-19-19 - MWD SURVEYS - MW	17,100.0	13,082.0	1,301.4	802.4	2.608	SF
EXIST HZ GP-J EVANS 2-19-19 - SURFACE GYROS - S	0.0	18.6	3,084.1			
EXIST HZ GP-J EVANS 2-19-19 - SURFACE GYROS - S	13,100.0	1,163.0	7,747.5	7,683.4	120.764	SF
EXIST VERT COMMERCE CENTER #1 - Wellbore #1 - D	7,486.8	7,016.0	222.2	49.9	1.290	Level 3, CC
EXIST VERT COMMERCE CENTER #1 - Wellbore #1 - D	7,500.0	7,016.0	222.6	49.7	1.288	Level 3, ES, SF
GP-J EVANS 1-20-24 - ORIGINAL WELLBORE - PROPO	11,598.1	8,945.8	1,538.1	1,325.6	7.238	CC
GP-J EVANS 1-20-24 - ORIGINAL WELLBORE - PROPO	19,742.3	17,097.3	1,656.9	999.9	2.522	ES, SF
GP-J EVANS C2-20-24 - ORIGINAL WELLBORE - PROP	10,044.8	7,570.5	1,475.9	1,343.8	11.168	CC
GP-J EVANS C2-20-24 - ORIGINAL WELLBORE - PROP	19,742.3	17,266.3	1,486.9	828.6	2.259	ES, SF

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

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well AD-DOUBLE CLUTCH 1-20-24
Project:	Weld County	TVD Reference:	KB-EST @ 4654.0usft (Original Well Elev)
Reference Site:	Sec 21-T5N-R65W	MD Reference:	KB-EST @ 4654.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	AD-DOUBLE CLUTCH 1-20-24	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDT_32Bit_ODBC
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						
Sec 21-T5N-R65W						
ABDN VERT MILLER #1-21 - Wellbore #1 - Design #1	6,796.8	6,717.7	1,833.2	1,672.9	11.437	CC
ABDN VERT MILLER #1-21 - Wellbore #1 - Design #1	6,850.0	6,762.7	1,834.2	1,672.6	11.352	ES
ABDN VERT MILLER #1-21 - Wellbore #1 - Design #1	7,100.0	6,931.9	1,870.6	1,703.2	11.176	SF
ABDN VERT MILLER F 21-3 - Wellbore #1 - Design #1	6,609.0	6,530.4	2,661.9	2,505.0	16.960	CC, ES
ABDN VERT MILLER F 21-3 - Wellbore #1 - Design #1	6,900.0	6,789.5	2,715.3	2,551.3	16.559	SF
ABDN VERT SOCO 29-1 - Wellbore #1 - Design #1	1,700.0	1,703.0	2,974.5	2,935.2	75.583	CC
ABDN VERT SOCO 29-1 - Wellbore #1 - Design #1	1,800.0	1,803.0	2,976.0	2,934.3	71.324	ES
ABDN VERT SOCO 29-1 - Wellbore #1 - Design #1	8,600.0	7,007.0	3,971.5	3,781.5	20.912	SF
ABDN VERT SOCO 29-2 - Wellbore #1 - Design #1	1,700.0	1,702.0	3,765.0	3,725.7	95.840	CC
ABDN VERT SOCO 29-2 - Wellbore #1 - Design #1	8,900.0	7,012.0	3,859.2	3,656.7	19.064	ES
ABDN VERT SOCO 29-2 - Wellbore #1 - Design #1	10,000.0	7,012.0	4,032.4	3,808.0	17.969	SF
AD-DAIRY 2-20-24 - ORIGINAL WELLBORE - PROPOS	1,700.0	1,701.0	120.2	108.4	10.209	CC, ES
AD-DAIRY 2-20-24 - ORIGINAL WELLBORE - PROPOS	19,726.1	19,705.7	1,293.1	589.1	1.837	SF
AD-DAIRY 3-20-24 - ORIGINAL WELLBORE - PROPOS	1,700.0	1,701.0	142.1	130.3	12.065	CC, ES
AD-DAIRY 3-20-24 - ORIGINAL WELLBORE - PROPOS	19,742.3	19,719.6	1,621.2	917.3	2.303	SF
AD-DAIRY 4-20-24 - ORIGINAL WELLBORE - PROPOS	700.0	701.0	189.4	184.8	41.140	CC, ES
AD-DAIRY 4-20-24 - ORIGINAL WELLBORE - PROPOS	19,742.3	19,741.5	1,952.7	1,249.0	2.775	SF
AD-DAIRY 5-20-24 - ORIGINAL WELLBORE - PROPOS	400.0	401.0	214.9	212.5	87.595	CC, ES
AD-DAIRY 5-20-24 - ORIGINAL WELLBORE - PROPOS	19,742.3	19,791.8	2,280.6	1,576.9	3.241	SF
AD-DAIRY C6-20-24 - ORIGINAL WELLBORE - PROPO	1,700.0	1,700.0	94.7	82.9	8.046	CC, ES
AD-DAIRY C6-20-24 - ORIGINAL WELLBORE - PROPO	19,730.5	19,908.2	1,145.0	451.0	1.650	SF
AD-DAIRY C7-20-24 - ORIGINAL WELLBORE - PROPO	1,700.0	1,701.0	167.6	155.8	14.230	CC, ES
AD-DAIRY C7-20-24 - ORIGINAL WELLBORE - PROPO	19,742.3	19,866.3	1,800.9	1,102.5	2.579	SF
AD-DAIRY C8-20-24 - ORIGINAL WELLBORE - PROPO	300.0	301.0	236.8	235.1	136.207	CC, ES
AD-DAIRY C8-20-24 - ORIGINAL WELLBORE - PROPO	19,742.3	19,943.7	2,457.0	1,757.0	3.510	SF
AD-DOUBLE CLUTCH 2-20-24 - ORIGINAL WELLBORE	1,700.0	1,700.0	21.9	10.1	1.856	CC
AD-DOUBLE CLUTCH 2-20-24 - ORIGINAL WELLBORE	19,737.6	19,710.4	327.8	-376.5	0.465	Level 1, ES, SF
AD-DOUBLE CLUTCH 3-20-24 - ORIGINAL WELLBORE	1,700.0	1,701.0	69.2	57.4	5.878	CC
AD-DOUBLE CLUTCH 3-20-24 - ORIGINAL WELLBORE	19,733.5	19,614.5	630.2	-73.1	0.896	Level 1, ES, SF
AD-DOUBLE CLUTCH C5-20-24 - ORIGINAL WELLBOR	1,700.0	1,700.0	47.4	35.6	4.023	CC
AD-DOUBLE CLUTCH C5-20-24 - ORIGINAL WELLBOR	19,742.3	19,914.4	508.0	-141.2	0.783	Level 1, ES, SF
AD-J EVANS 3-20-24 - ORIGINAL WELLBORE - PROPO	100.0	100.0	120.3	120.0	399.360	CC, ES
AD-J EVANS 3-20-24 - ORIGINAL WELLBORE - PROPO	19,742.3	19,876.0	990.8	286.1	1.406	Level 3, SF
AD-J EVANS 4-20-24 - ORIGINAL WELLBORE - PROPO	300.0	300.0	72.9	71.2	42.024	CC
AD-J EVANS 4-20-24 - ORIGINAL WELLBORE - PROPO	19,742.3	19,817.9	662.9	-41.7	0.941	Level 1, ES, SF
AD-J EVANS 5-20-24 - ORIGINAL WELLBORE - PROPO	400.0	400.0	51.0	48.5	20.800	CC
AD-J EVANS 5-20-24 - ORIGINAL WELLBORE - PROPO	19,742.3	19,764.8	331.4	-373.1	0.470	Level 1, ES, SF
AD-J EVANS C3-20-24 - ORIGINAL WELLBORE - PROP	200.0	200.0	98.4	97.4	96.658	CC, ES
AD-J EVANS C3-20-24 - ORIGINAL WELLBORE - PROP	19,742.3	20,050.0	853.1	170.0	1.249	Level 2, SF
AD-J EVANS C4-20-24 - ORIGINAL WELLBORE - PROP	1,100.0	1,100.0	25.5	18.0	3.414	CC
AD-J EVANS C4-20-24 - ORIGINAL WELLBORE - PROP	19,742.3	19,959.3	268.7	-194.7	0.580	Level 1, ES, SF
AD-LIBRARY 1-20-24 - ORIGINAL WELLBORE - PROP	200.0	201.0	262.3	261.3	256.750	CC, ES
AD-LIBRARY 1-20-24 - ORIGINAL WELLBORE - PROP	19,742.3	19,845.8	2,612.1	1,908.5	3.712	SF
AD-LIBRARY 2-20-24 - ORIGINAL WELLBORE - PROP	100.0	101.0	287.8	287.5	951.044	CC, ES
AD-LIBRARY 2-20-24 - ORIGINAL WELLBORE - PROP	19,742.3	19,903.3	2,969.1	2,265.7	4.221	SF
EXIST DD ADOLF F21-25D - Wellbore #1 - Wellbore #1	779.9	775.9	1,160.5	1,156.5	284.383	CC
EXIST DD ADOLF F21-25D - Wellbore #1 - Wellbore #1	900.0	887.2	1,161.0	1,156.3	244.440	ES
EXIST DD ADOLF F21-25D - Wellbore #1 - Wellbore #1	6,650.0	6,670.6	2,292.6	2,249.8	53.544	SF
EXIST VERT ADOLF F 21-14 - Wellbore #1 - Design #1	1,700.0	1,710.0	2,336.9	2,297.3	59.065	CC
EXIST VERT ADOLF F 21-14 - Wellbore #1 - Design #1	1,800.0	1,790.0	2,338.4	2,296.9	56.304	ES
EXIST VERT ADOLF F 21-14 - Wellbore #1 - Design #1	6,800.0	6,706.5	3,132.4	2,973.3	19.695	SF
EXIST VERT BRAGG 1 - Wellbore #1 - Design #1	6,668.7	6,577.9	1,049.5	891.8	6.655	CC
EXIST VERT BRAGG 1 - Wellbore #1 - Design #1	6,700.0	6,607.4	1,050.0	891.5	6.625	ES

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Anticollision Report

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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						
Sec 21-T5N-R65W						
EXIST VERT BRAGG 1 - Wellbore #1 - Design #1	6,800.0	6,702.5	1,058.7	897.6	6.571	SF
EXIST VERT BRAGG PM F 21-11 - Wellbore #1 - Design	1,700.0	1,689.0	1,295.2	1,255.6	32.753	CC
EXIST VERT BRAGG PM F 21-11 - Wellbore #1 - Design	1,800.0	1,789.0	1,296.2	1,254.2	30.926	ES
EXIST VERT BRAGG PM F 21-11 - Wellbore #1 - Design	6,650.0	6,568.0	1,891.7	1,735.0	12.072	SF
EXIST VERT ERICKSON 21-13 - Wellbore #1 - Design #	1,700.0	1,689.0	1,208.2	1,169.0	30.858	CC
EXIST VERT ERICKSON 21-13 - Wellbore #1 - Design #	1,800.0	1,789.0	1,209.9	1,168.4	29.139	ES
EXIST VERT ERICKSON 21-13 - Wellbore #1 - Design #	6,800.0	6,705.5	2,062.2	1,903.4	12.988	SF
EXIST VERT SCHNEIDER 1 - Wellbore #1 - Wellbore #1	5,993.2	5,935.4	709.7	683.9	27.506	CC
EXIST VERT SCHNEIDER 1 - Wellbore #1 - Wellbore #1	6,100.0	6,038.5	710.1	683.8	27.027	ES
EXIST VERT SCHNEIDER 1 - Wellbore #1 - Wellbore #1	6,600.0	6,529.4	721.6	693.2	25.389	SF
EXIST VERT SCHNEIDER 22-21 - Wellbore #1 - Design	5,102.7	5,045.2	1,712.3	1,591.5	14.171	CC
EXIST VERT SCHNEIDER 22-21 - Wellbore #1 - Design	6,500.0	6,421.4	1,729.4	1,574.7	11.179	ES
EXIST VERT SCHNEIDER 22-21 - Wellbore #1 - Design	6,700.0	6,615.4	1,754.9	1,595.4	11.003	SF
EXIST VERT WASS 5 - Wellbore #1 - Design #1	18,494.1	7,070.0	3,833.4	3,375.2	8.366	CC
EXIST VERT WASS 5 - Wellbore #1 - Design #1	18,600.0	7,070.0	3,834.9	3,374.2	8.324	ES
EXIST VERT WASS 5 - Wellbore #1 - Design #1	19,000.0	7,070.0	3,866.6	3,398.8	8.264	SF
EXIST VERT WASS 6 - Wellbore #1 - Design #1	18,175.4	7,070.0	5,143.3	4,693.7	11.440	CC
EXIST VERT WASS 6 - Wellbore #1 - Design #1	18,300.0	7,070.0	5,144.8	4,692.1	11.366	ES
EXIST VERT WASS 6 - Wellbore #1 - Design #1	19,000.0	7,070.0	5,208.9	4,742.6	11.171	SF
SW NE SEC. 26 T5N R66W 6th P.M.						
ABDN VERT DUELL #1 - Wellbore #1 - Design #1	19,521.6	7,103.0	2,314.1	1,825.7	4.739	CC
ABDN VERT DUELL #1 - Wellbore #1 - Design #1	19,600.0	7,103.0	2,315.4	1,825.4	4.726	ES
ABDN VERT DUELL #1 - Wellbore #1 - Design #1	19,700.0	7,103.0	2,320.9	1,829.5	4.723	SF
ABDN VERT HORII #1 - Wellbore #1 - Design #1	19,742.3	7,155.0	2,593.3	2,132.4	5.627	CC, ES, SF
ABDN VERT HORII #2 - Wellbore #1 - Design #1	19,742.3	7,144.0	1,534.2	1,154.8	4.044	CC, ES, SF
ABDN VERT RKW #1 - Wellbore #1 - Design #1	19,540.4	7,147.0	297.9	-191.4	0.609	Level 1, CC, ES, SF
EXIST DD SEGL #17-24 - Wellbore #1 - Wellbore #1	19,023.1	7,417.2	1,082.5	717.8	2.968	CC, ES
EXIST DD SEGL #17-24 - Wellbore #1 - Wellbore #1	19,100.0	7,417.3	1,085.2	719.5	2.967	SF
EXIST DD SEGL #18-24 - Wellbore #1 - Wellbore #1	19,742.3	7,315.4	2,073.1	1,891.9	11.440	CC, ES, SF
EXIST DD SEGL #21-24X - Wellbore #1 - Wellbore #1	19,742.3	7,449.2	1,031.6	655.5	2.743	CC, ES, SF
EXIST DD SEGL #22-24 - Wellbore #1 - Wellbore #1	19,742.3	7,214.9	1,870.6	1,757.1	16.483	CC, ES, SF
EXIST DD SEGL #2-24 - Wellbore #1 - Wellbore #1	19,615.0	7,520.4	1,812.2	1,439.6	4.863	CC, ES
EXIST DD SEGL #2-24 - Wellbore #1 - Wellbore #1	19,700.0	7,520.7	1,814.2	1,440.0	4.848	SF
EXIST DD SEGL #3-24 - Wellbore #1 - Wellbore #1	19,742.3	7,540.3	2,072.8	1,754.2	6.506	CC, ES, SF
EXIST DD SEGL #4-24 - Wellbore #1 - Wellbore #1	19,742.3	7,703.0	3,076.7	2,859.0	14.134	CC, ES, SF
EXIST DD SEGL #7-24 - Wellbore #1 - Wellbore #1	19,368.0	7,367.6	363.0	-5.2	0.986	Level 1, CC, ES, SF
EXIST VERT ANDERSON-COOMBS #2 - Wellbore #1 -	19,742.3	7,100.0	5,069.8	4,722.9	14.615	CC, ES, SF
EXIST VERT ANDERSON-COOMBS #3 - Wellbore #1 -	19,742.3	7,140.0	3,798.6	3,315.7	7.867	CC, ES, SF
EXIST VERT DUELL #2 - Wellbore #1 - Design #1	19,506.3	7,126.0	993.8	505.6	2.036	CC, ES, SF
EXIST VERT SEGL #1 - Wellbore #1 - Design #1	19,742.3	7,164.0	1,199.0	983.3	5.557	CC, ES, SF
EXIST VERT WASS #2 - Wellbore #1 - Design #1	19,494.2	7,106.0	4,956.9	4,469.3	10.165	CC
EXIST VERT WASS #2 - Wellbore #1 - Design #1	19,600.0	7,106.0	4,958.0	4,467.8	10.114	ES
EXIST VERT WASS #2 - Wellbore #1 - Design #1	19,742.3	7,106.0	4,963.1	4,469.7	10.058	SF
EXIST VERT WASS #4 - Wellbore #1 - Design #1	19,486.8	7,102.3	3,685.5	3,198.1	7.562	CC
EXIST VERT WASS #4 - Wellbore #1 - Design #1	19,600.0	7,102.3	3,687.2	3,197.2	7.525	ES
EXIST VERT WASS #4 - Wellbore #1 - Design #1	19,742.3	7,102.3	3,694.3	3,201.5	7.496	SF

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