

Extraction Oil & Gas

Weld County, CO (NAD83)

Sec 10-T01S-R68W Interchange Pad

Interchange B N35-20-3N

Wellbore #1

Plan #2

Anticollision Report

01 May, 2019

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Interchange B N35-20-3N
Project:	Weld County, CO (NAD83)	TVD Reference:	kb @ 5241.0usft (Patterson 901)
Reference Site:	Sec 10-T01S-R68W Interchange Pad	MD Reference:	kb @ 5241.0usft (Patterson 901)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Interchange B N35-20-3N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	5/1/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
122.3	1,576.3	Surface Surveys (Wellbore #1)	MWD	MWD - Standard
1,576.3	18,353.3	Plan #2 (Wellbore #1)	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
Offset Well - Wellbore - Design						
Sec 10-T01S-R68W Interchange Pad						
EXIST DD KATS 31-34 - Wellbore #1 - Wellbore #1	18,155.8	7,758.8	155.0	-103.2	0.600	Level 1, CC, ES, SF
EXIST DD KATS 41-34 - Wellbore #1 - Wellbore #1	18,305.2	7,859.8	1,465.6	1,201.5	5.549	CC
EXIST DD KATS 41-34 - Wellbore #1 - Wellbore #1	18,354.0	7,860.2	1,466.1	1,200.1	5.511	ES, SF
EXIST DD KATS 42-34 - Wellbore #1 - Wellbore #1	16,683.3	7,762.7	1,467.8	1,241.8	6.496	CC
EXIST DD KATS 42-34 - Wellbore #1 - Wellbore #1	16,700.0	7,762.8	1,467.9	1,241.5	6.483	ES
EXIST DD KATS 42-34 - Wellbore #1 - Wellbore #1	16,800.0	7,762.8	1,472.4	1,243.9	6.443	SF
EXIST DD KATS 6-4-34 - Wellbore #1 - Wellbore #1	16,247.6	7,731.2	607.0	386.5	2.752	CC, ES
EXIST DD KATS 6-4-34 - Wellbore #1 - Wellbore #1	16,300.0	7,731.4	609.3	387.0	2.741	SF
EXIST DD KATS 8-2-34 - Wellbore #1 - Wellbore #1	17,519.1	7,856.4	1,905.6	1,663.0	7.858	CC
EXIST DD KATS 8-2-34 - Wellbore #1 - Wellbore #1	17,600.0	7,855.8	1,907.3	1,662.2	7.782	ES
EXIST DD KATS 8-2-34 - Wellbore #1 - Wellbore #1	17,800.0	7,854.5	1,926.1	1,676.3	7.709	SF
EXIST DD LARKRIDGE MA 03-15D - Wellbore #1 - Well	9,178.2	7,971.6	653.2	555.7	6.697	CC
EXIST DD LARKRIDGE MA 03-15D - Wellbore #1 - Well	9,200.0	7,971.8	653.6	554.4	6.591	ES
EXIST DD LARKRIDGE MA 03-15D - Wellbore #1 - Well	9,400.0	7,973.7	689.9	579.9	6.276	SF
EXIST DD LARKRIDGE MA 03-23D - Wellbore #1 - Well	9,869.1	7,872.4	1,047.9	947.9	10.478	CC
EXIST DD LARKRIDGE MA 03-23D - Wellbore #1 - Well	9,900.0	7,872.1	1,048.4	946.9	10.335	ES
EXIST DD LARKRIDGE MA 03-23D - Wellbore #1 - Well	10,100.0	7,870.0	1,073.0	964.0	9.838	SF
Interchange B N35-20-1N - Wellbore #1 - Plan #1	674.5	698.6	34.3	31.8	13.355	CC, ES
Interchange B N35-20-1N - Wellbore #1 - Plan #1	18,354.0	18,446.8	610.1	137.4	1.291	Level 3, SF
Interchange B N35-20-1N - Wellbore #1 - Wellbore #1	674.5	698.6	34.3	31.8	13.355	CC, ES
Interchange B N35-20-1N - Wellbore #1 - Wellbore #1	18,313.0	18,380.0	611.2	150.0	1.325	Level 3, SF
Interchange B N35-20-2C - Wellbore #1 - Plan #2	532.9	532.8	14.5	12.6	7.561	CC
Interchange B N35-20-2C - Wellbore #1 - Plan #2	600.0	599.9	14.8	12.6	6.705	ES
Interchange B N35-20-2C - Wellbore #1 - Plan #2	18,354.0	18,653.1	479.4	124.6	1.351	Level 3, SF
Interchange B N35-20-2C - Wellbore #1 - Wellbore #1	532.9	532.8	14.5	12.6	7.561	CC
Interchange B N35-20-2C - Wellbore #1 - Wellbore #1	600.0	599.9	14.8	12.6	6.705	ES
Interchange B N35-20-2C - Wellbore #1 - Wellbore #1	18,300.0	18,604.1	488.9	125.0	1.344	Level 3, SF
Interchange B N35-20-3N - Wellbore #1 - Wellbore #1	1,900.0	1,600.3	299.6	299.4	1,607.201	CC, ES
Interchange B N35-20-3N - Wellbore #1 - Wellbore #1	2,800.0	1,600.3	1,196.1	1,193.4	430.637	SF
Interchange B N35-20-4N - Wellbore #1 - Plan #1	0.0	24.0	18.2			
Interchange B N35-20-4N - Wellbore #1 - Plan #1	18,354.0	18,502.1	201.5	-222.0	0.476	Level 1, ES, SF
Interchange B N35-20-4N - Wellbore #1 - Wellbore #1	0.0	24.0	18.2			
Interchange B N35-20-4N - Wellbore #1 - Wellbore #1	1,000.0	1,022.3	27.2	23.3	6.901	SF
Interchange B N35-20-5C - Wellbore #1 - Plan #1	454.7	478.7	34.7	33.0	20.935	CC, ES
Interchange B N35-20-5C - Wellbore #1 - Plan #1	18,354.0	18,786.4	566.3	189.4	1.503	SF
Interchange B N35-20-5C - Wellbore #1 - Wellbore #1	454.7	478.7	34.7	33.0	20.935	CC, ES

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

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Site Error:	0.0 usft	North Reference:	True
Reference Well:	Interchange B N35-20-3N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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 10-T01S-R68W Interchange Pad						
Interchange B N35-20-5C - Wellbore #1 - Wellbore #1	900.0	920.2	48.0	44.5	13.604	SF
Sec 28-T1N-R68W Coyote Trails						
ABND VERT K & R LIVESTOCK COMM 1 - - AC Plan	15,497.5	7,660.0	1,130.1	929.3	5.630	CC
ABND VERT K & R LIVESTOCK COMM 1 - - AC Plan	15,500.0	7,660.0	1,130.1	929.2	5.628	ES
ABND VERT K & R LIVESTOCK COMM 1 - - AC Plan	15,600.0	7,660.0	1,134.7	931.0	5.570	SF
ABND VERT KATS B UNIT 1 - - AC Plan	14,509.1	7,634.0	963.2	781.4	5.296	CC, ES
ABND VERT KATS B UNIT 1 - - AC Plan	14,600.0	7,634.0	967.5	782.8	5.237	SF
ABND VERT NIVEN GAYLE B 1 - - AC Plan	18,163.9	7,673.0	12.2	-239.3	0.049	Level 1, CC, ES, SF
Bickler 23-34 - Surveys - Surveys	15,512.2	7,712.2	1,500.7	1,298.7	7.432	CC, ES, SF
Bickler 24-34 - Surveys - Surveys	13,992.9	8,032.2	1,484.6	1,292.0	7.708	CC, ES, SF
Bickler 4-4-34 - Surveys - Surveys	16,094.9	7,686.0	738.5	528.3	3.513	CC, ES, SF
Bickler 4-6-34 - Wellbore #1 - Wellbore #1	14,823.5	7,775.6	752.7	556.9	3.844	CC, ES, SF
Coyote Trails 33S-20-6N - Wellbore #1 - Plan #3	6,689.3	43,479.4	146.9	-78.5	0.652	Level 1, CC
Coyote Trails 33S-20-6N - Wellbore #1 - Plan #3	6,700.0	43,478.3	147.3	-82.2	0.642	Level 1, SF
Coyote Trails 33S-20-6N - Wellbore #1 - Plan #3	6,800.0	43,469.0	183.8	-84.5	0.685	Level 1, ES
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #1A	8,677.8	18,836.6	1,936.5	1,664.6	7.121	CC, ES
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #1A	8,700.0	18,818.5	1,936.8	1,664.8	7.119	SF
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #2	8,677.8	18,831.8	1,936.5	1,664.7	7.124	CC, ES
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #2	8,700.0	18,813.7	1,936.8	1,664.8	7.120	SF
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #3	8,677.8	18,942.9	1,936.5	1,664.6	7.122	CC, ES
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #3	8,700.0	18,927.8	1,936.9	1,664.7	7.116	SF
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #4	8,677.8	19,056.4	1,936.5	1,664.8	7.128	CC
Coyote Trails 34S-20-13N - Wellbore #1 - Plan #4	8,700.0	19,044.2	1,936.9	1,664.8	7.118	ES, SF
Coyote Trails 34S-20-14C - Wellbore #1 - Plan #1A	8,672.1	19,216.2	1,576.9	1,304.1	5.779	CC
Coyote Trails 34S-20-14C - Wellbore #1 - Plan #1A	8,700.0	19,200.9	1,577.2	1,303.7	5.767	ES, SF
Coyote Trails 34S-20-14C - Wellbore #1 - Plan #2	8,672.2	19,214.8	1,576.9	1,304.0	5.778	CC
Coyote Trails 34S-20-14C - Wellbore #1 - Plan #2	8,700.0	19,199.7	1,577.2	1,303.7	5.766	ES, SF
Coyote Trails 34S-20-14C - Wellbore #1 - Plan #3	8,672.2	19,056.1	1,576.9	1,304.0	5.778	CC
Coyote Trails 34S-20-14C - Wellbore #1 - Plan #3	8,700.0	19,039.3	1,577.2	1,303.8	5.768	ES, SF
Coyote Trails 34S-20-14C - Wellbore #1 - Wellbore #1	9,571.9	18,185.0	1,594.7	1,331.7	6.065	CC
Coyote Trails 34S-20-14C - Wellbore #1 - Wellbore #1	9,600.0	18,169.7	1,594.8	1,331.2	6.050	ES
Coyote Trails 34S-20-14C - Wellbore #1 - Wellbore #1	18,354.0	9,301.7	1,633.6	1,357.7	5.920	SF
Coyote Trails 34S-20-15N - Wellbore #1 - Plan #1A	8,864.9	19,041.5	1,204.9	937.3	4.502	CC
Coyote Trails 34S-20-15N - Wellbore #1 - Plan #1A	9,600.0	18,306.8	1,205.2	937.1	4.497	ES
Coyote Trails 34S-20-15N - Wellbore #1 - Plan #1A	18,354.0	9,557.4	1,243.4	962.2	4.422	SF
Coyote Trails 34S-20-15N - Wellbore #1 - Plan #2	10,456.1	17,513.1	1,204.2	936.2	4.493	CC
Coyote Trails 34S-20-15N - Wellbore #1 - Plan #2	12,200.0	15,769.6	1,204.9	935.6	4.474	ES
Coyote Trails 34S-20-15N - Wellbore #1 - Plan #2	18,354.0	9,616.6	1,219.4	938.0	4.334	SF
Coyote Trails 34S-20-15N - Wellbore #1 - Plan #3	8,676.2	19,600.6	1,204.5	936.4	4.492	CC, ES, SF
Coyote Trails 34S-20-15N - Wellbore #1 - Wellbore #1	8,814.5	19,349.5	1,204.1	950.2	4.742	CC
Coyote Trails 34S-20-15N - Wellbore #1 - Wellbore #1	8,900.0	19,288.5	1,205.0	949.3	4.713	ES
Coyote Trails 34S-20-15N - Wellbore #1 - Wellbore #1	17,200.0	11,116.9	1,268.9	991.8	4.580	SF
Coyote Trails 34S-20-16N - Wellbore #1 - Plan #3	8,664.1	19,378.8	785.2	513.0	2.885	CC
Coyote Trails 34S-20-16N - Wellbore #1 - Plan #3	8,700.0	19,354.7	785.5	512.1	2.873	ES, SF
Coyote Trails 34S-20-16N - Wellbore #1 - Wellbore #1	8,672.5	19,307.0	780.9	519.6	2.989	CC
Coyote Trails 34S-20-16N - Wellbore #1 - Wellbore #1	8,700.0	19,306.0	781.3	517.2	2.958	ES, SF
LARKRIDGE MA 03-10D - -	10,541.3	7,939.7	403.7	293.9	3.677	CC, ES
LARKRIDGE MA 03-10D - -	10,600.0	7,939.6	407.9	294.3	3.589	SF
Webber #23-3 - Wellbore #1 - Wellbore #1	10,400.0	7,882.7	801.7	683.5	6.784	SF
Webber #23-3 - Wellbore #1 - Wellbore #1	10,468.0	7,882.7	798.8	681.2	6.788	CC, ES

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