

EXTRACTION OIL & GAS

Weld County

Sec 28-T1N-R68W

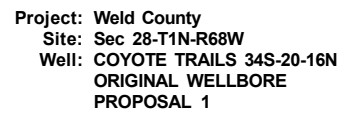
COYOTE TRAILS 34S-20-11C

ORIGINAL WELLBORE

PROPOSAL 1

Anticollision Report

17 August, 2017



Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well COYOTE TRAILS 34S-20-11C
Project:	Weld County	TVD Reference:	KB 25' @ 5269.00usft
Reference Site:	Sec 28-T1N-R68W	MD Reference:	KB 25' @ 5269.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	COYOTE TRAILS 34S-20-11C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 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 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	8/17/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	18,716.07	PROPOSAL 1 (ORIGINAL WELLBORE)	MWD OWSG	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 28-T1N-R68W						
COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE -	600.00	600.00	287.92	284.06	74.715	CC, ES
COYOTE TRAILS 33S-20-1N - ORIGINAL WELLBORE -	18,685.99	17,878.90	3,188.96	2,790.43	8.002	SF
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	600.00	600.00	251.93	248.08	65.376	CC, ES
COYOTE TRAILS 33S-20-2C - ORIGINAL WELLBORE -	18,716.07	18,124.67	2,888.27	2,487.71	7.211	SF
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	600.00	600.00	215.94	212.09	56.036	CC, ES
COYOTE TRAILS 33S-20-3N - ORIGINAL WELLBORE -	18,695.77	17,881.62	2,611.02	2,213.18	6.563	SF
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	600.00	600.00	179.95	176.10	46.697	CC, ES
COYOTE TRAILS 33S-20-4N - ORIGINAL WELLBORE -	18,705.86	17,907.57	2,322.65	1,925.42	5.847	SF
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	600.00	600.00	143.96	140.11	37.358	CC, ES
COYOTE TRAILS 33S-20-5C - ORIGINAL WELLBORE -	18,700.00	18,185.28	2,017.93	1,617.68	5.042	SF
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	600.00	600.00	107.97	104.12	28.018	CC, ES
COYOTE TRAILS 33S-20-6N - ORIGINAL WELLBORE -	18,701.55	17,970.87	1,747.21	1,352.93	4.431	SF
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	600.00	600.00	71.98	68.13	18.679	CC, ES
COYOTE TRAILS 33S-20-7N - ORIGINAL WELLBORE -	18,716.07	18,026.73	1,461.10	1,069.23	3.728	SF
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	600.00	600.00	18.00	14.14	4.670	CC, ES
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	18,713.57	18,343.87	461.11	124.57	1.370	Level 3, SF
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	500.00	500.00	17.99	14.86	5.736	CC, ES
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	18,716.07	18,649.94	460.99	104.18	1.292	Level 3, SF
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	400.00	400.00	35.99	33.57	14.873	CC, ES
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	18,716.07	18,825.14	803.79	412.86	2.056	SF
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	300.00	300.00	53.98	52.28	31.704	CC, ES
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	18,700.00	20,420.69	1,140.19	717.28	2.696	SF
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	200.00	200.00	71.98	70.99	73.016	CC, ES
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	18,716.07	19,213.74	1,542.66	1,141.31	3.844	SF
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	100.00	100.00	89.97	89.71	334.659	CC, ES
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	18,716.07	19,425.34	1,918.47	1,515.88	4.765	SF
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	600.00	600.00	53.99	50.13	14.009	CC, ES
COYOTE TRAILS 34S-20-8C - ORIGINAL WELLBORE -	18,700.00	18,343.06	1,147.65	747.25	2.866	SF
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	600.00	600.00	35.99	32.14	9.340	CC, ES
COYOTE TRAILS 34S-20-9N - ORIGINAL WELLBORE -	18,712.75	18,183.62	896.08	513.92	2.345	SF
EXIST VERT CARR 1 - Wellbore #1 - Design #1	600.00	600.00	3,878.32	3,864.73	285.443	CC
EXIST VERT CARR 1 - Wellbore #1 - Design #1	700.00	700.02	3,879.75	3,863.79	243.177	ES
EXIST VERT CARR 1 - Wellbore #1 - Design #1	8,600.00	7,903.78	6,530.98	6,334.82	33.293	SF
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	600.00	619.00	888.43	874.52	63.867	CC
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	900.00	918.45	892.11	871.12	42.487	ES
EXIST VERT DUMP UU 28-10 - Wellbore #1 - Design #1	8,500.00	7,846.85	3,229.75	3,036.34	16.699	SF
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	600.00	608.00	2,882.26	2,868.54	210.101	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 COYOTE TRAILS 34S-20-11C
Project:	Weld County	TVD Reference:	KB 25' @ 5269.00usft
Reference Site:	Sec 28-T1N-R68W	MD Reference:	KB 25' @ 5269.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	COYOTE TRAILS 34S-20-11C	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 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 28-T1N-R68W						
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	700.00	708.02	2,884.01	2,867.92	179.293	ES
EXIST VERT DUMP UU 28-12 - Wellbore #1 - Design #1	8,800.00	8,008.45	5,846.01	5,651.25	30.016	SF
EXIST VERT DUMP UU 28-16 - Wellbore #1 - Design #1	4,496.33	4,167.20	23.90	-92.58	0.205	Level 1, CC, ES, SF
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	600.00	572.00	3,779.86	3,766.87	290.971	CC
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	800.00	771.84	3,781.82	3,764.10	213.458	ES
EXIST VERT DUMP UU 28-2 - Wellbore #1 - Design #1	8,450.00	7,757.94	5,397.37	5,193.29	26.448	SF
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	600.00	623.00	3,637.18	3,623.16	259.403	CC
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	700.00	722.98	3,638.81	3,622.43	222.050	ES
EXIST VERT DUMP UU 28-5 - Wellbore #1 - Design #1	8,700.00	8,009.71	6,515.28	6,319.72	33.316	SF
EXIST VERT MEIKLE 2 - Wellbore #1 - Design #1	2,209.66	2,133.24	143.40	89.85	2.678	CC, ES, SF
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,788.13	1,737.36	372.07	330.04	8.853	CC
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	1,800.00	1,748.21	372.10	329.77	8.791	ES
EXIST VERT MEIKLE 28-1 - Wellbore #1 - Design #1	2,200.00	2,104.70	415.98	363.62	7.945	SF
Sec 33-T1N-R68W						
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	10,500.00	7,178.00	1,539.09	1,363.31	8.756	SF
ABND VERT GRAEBER 33-33D - Wellbore #1 - Design	10,770.95	7,178.00	1,515.05	1,344.06	8.860	CC, ES
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	10,700.00	8,029.96	1,236.18	1,007.31	5.401	SF
EXIST VERT GRAEBER 42-33 - Wellbore #1 - Design #1	10,771.76	8,029.96	1,234.09	1,006.36	5.419	CC, ES
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	4,871.17	4,886.48	1,995.23	1,930.74	30.938	CC
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	4,900.00	4,904.99	1,995.34	1,930.44	30.744	ES
GRAEBER 31-33D - Wellbore #1 - Wellbore #1	5,900.00	5,625.63	2,121.54	2,045.32	27.837	SF
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	12,012.70	8,321.75	2,410.04	2,287.86	19.727	CC, ES
GRAEBER 33-33DX - Wellbore #1 - Wellbore #1	12,100.00	8,321.74	2,411.62	2,289.11	19.686	SF

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Well Error:	0.00 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 34-T1N-R68W						
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,421.48	8,007.92	398.48	145.06	1.572	CC
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	12,500.00	8,007.92	406.14	144.85	1.554	ES, SF
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	11,926.78	5,503.00	4,598.58	4,426.30	26.694	CC
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	12,000.00	5,503.00	4,599.16	4,425.31	26.454	ES
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	13,800.00	5,503.00	4,965.47	4,756.15	23.722	SF
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	12,913.63	7,963.91	3,692.88	3,432.22	14.167	CC
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	13,000.00	7,963.91	3,693.89	3,430.84	14.042	ES
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	13,900.00	7,963.89	3,822.34	3,537.76	13.431	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	6,800.00	5,145.00	3,294.53	3,166.36	25.705	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	7,000.00	5,145.00	3,281.23	3,154.03	25.797	ES
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	7,002.08	5,145.00	3,281.23	3,154.05	25.800	CC
BICKLER 23-34 - Wellbore #1 - Wellbore #1	11,906.59	7,998.49	1,233.16	1,119.20	10.821	CC
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,000.00	7,999.11	1,236.69	1,118.51	10.465	ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	12,300.00	8,001.08	1,294.39	1,165.62	10.053	SF
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,412.03	8,286.79	1,255.28	1,101.93	8.186	CC
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,500.00	8,287.19	1,258.36	1,101.37	8.016	ES
BICKLER 24-34 - Wellbore #1 - Wellbore #1	13,700.00	8,288.09	1,287.89	1,124.87	7.901	SF
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	11,316.19	7,961.91	2,011.27	1,910.01	19.863	CC
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	11,400.00	7,962.08	2,013.02	1,908.82	19.320	ES
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	12,100.00	7,963.46	2,158.61	2,034.68	17.418	SF
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	12,591.08	8,045.27	1,991.09	1,861.17	15.325	CC
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	12,700.00	8,045.23	1,994.07	1,860.17	14.893	ES
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	13,200.00	8,045.05	2,082.13	1,933.97	14.053	SF
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	10,724.96	8,070.96	263.72	35.84	1.157	Level 2, CC, ES
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	10,800.00	8,070.96	274.19	35.97	1.151	Level 2, SF
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	16,877.27	8,255.12	3,098.65	2,899.87	15.589	CC
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,000.00	8,255.17	3,101.08	2,898.68	15.322	ES
LARKRIDGE MA 03-10D - Wellbore #1 - Wellbore #1	17,700.00	8,255.45	3,206.01	2,987.34	14.662	SF
Sec 3-T1S-R68W						
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,235.69	8,032.78	1,435.52	1,082.24	4.063	CC
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,300.00	8,032.78	1,436.96	1,080.84	4.035	ES
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	18,400.00	8,032.78	1,444.89	1,085.12	4.016	SF
Sec 4-T1N-R68W						
ABND VERT ASHER 1 - Wellbore #1 - Design #1	14,852.02	5,625.00	4,358.13	4,154.53	21.406	CC, ES
ABND VERT ASHER 1 - Wellbore #1 - Design #1	15,200.00	5,625.00	4,372.00	4,166.95	21.322	SF
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	15,600.00	8,014.85	662.58	351.70	2.131	SF
ABND VERT HULSTROM G UNIT 1 - Wellbore #1 - Des	15,667.85	8,014.84	659.10	350.68	2.137	CC, ES
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	18,169.31	8,076.79	4,700.31	4,347.30	13.315	CC
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	18,200.00	8,076.78	4,700.41	4,347.15	13.306	ES
EXIST VERT NORDSTROM 2-4 - Wellbore #1 - Design #	18,500.00	8,076.78	4,711.93	4,356.59	13.260	SF
EXIST VERT NORDSTROM 5-4 - Wellbore #1 - Design #	17,181.39	8,040.81	2,183.99	1,848.91	6.518	CC, ES, SF

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-89.68	1.60	-287.91	287.92					
100.00	100.00	100.00	100.00	0.13	0.13	-89.68	1.60	-287.91	287.92	287.65	0.27	1,070.910		