

# **EXTRACTION OIL & GAS**

**Broomfield County**

**Sec 10-T1S-R68W**

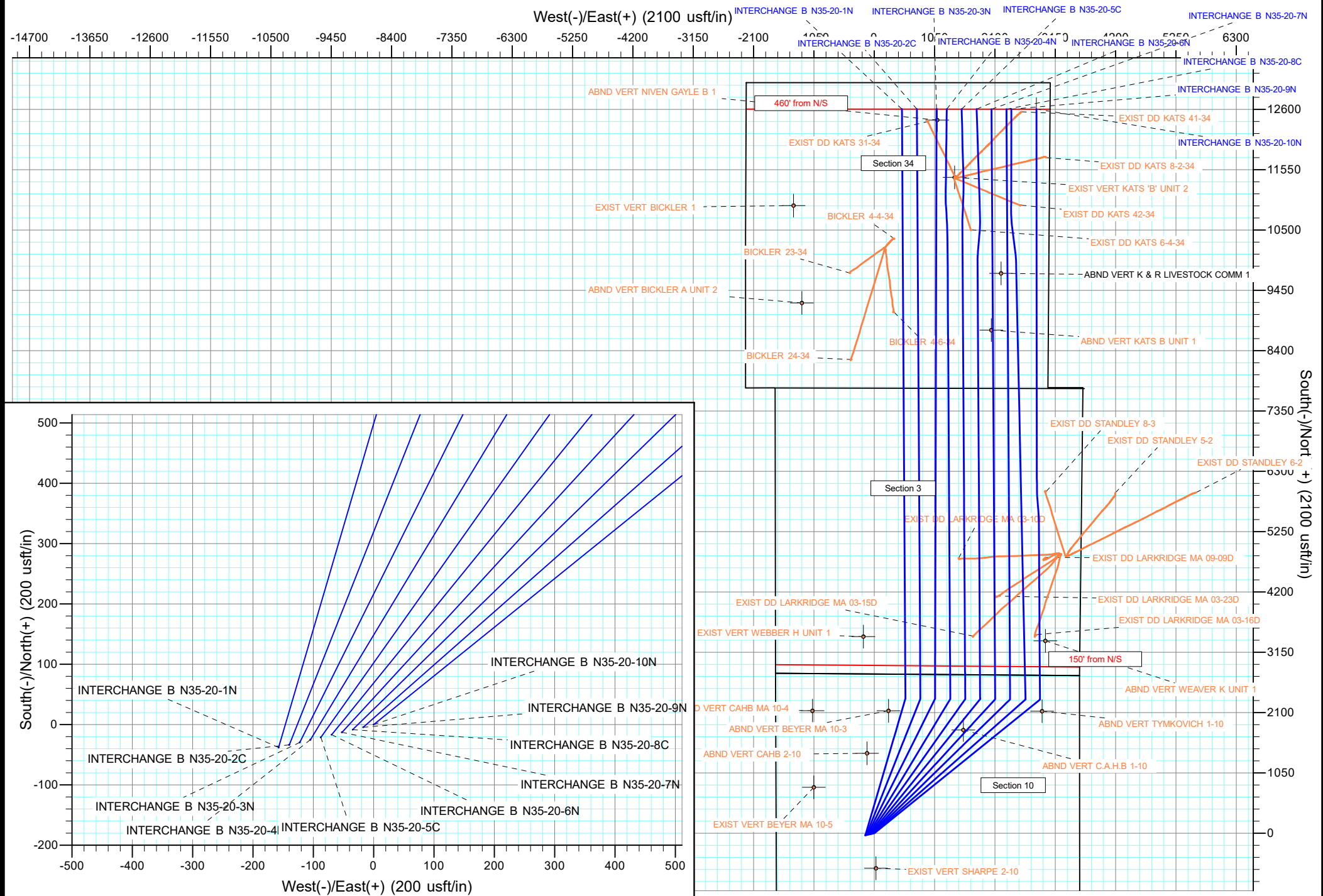
**INTERCHANGE B N35-20-9N**

**ORIGINAL WELLBORE**

**PROPOSAL 1**

## **Anticollision Report**

**13 February, 2018**



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE B N35-20-9N
<b>Project:</b>	Broomfield County	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Reference Site:</b>	Sec 10-T1S-R68W	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	INTERCHANGE B N35-20-9N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PROPOSAL 1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD + Stations Interval 100.00usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 9,999.98 usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	2/13/2018		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	18,842.08	PROPOSAL 1 (ORIGINAL WELLBORE)	MWD OWSG	OWSG MWD - Standard

<b>Summary</b>						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 10-T1S-R68W						
ABND VERT BEYER MA 10-3 - Wellbore #1 - Design #1	3,924.27	3,450.31	1,429.38	1,328.07	14.109	CC
ABND VERT BEYER MA 10-3 - Wellbore #1 - Design #1	4,100.00	3,603.39	1,432.69	1,326.48	13.489	ES
ABND VERT BEYER MA 10-3 - Wellbore #1 - Design #1	8,750.00	7,679.07	2,415.47	2,211.98	11.870	SF
ABND VERT C.A.H.B 1-10 - Wellbore #1 - Design #1	5,289.12	4,547.61	316.49	178.32	2.291	CC
ABND VERT C.A.H.B 1-10 - Wellbore #1 - Design #1	5,300.00	4,556.67	316.54	178.09	2.286	ES, SF
ABND VERT CAHB 2-10 - Wellbore #1 - Design #1	2,536.94	2,306.72	1,120.99	1,057.59	17.681	CC
ABND VERT CAHB 2-10 - Wellbore #1 - Design #1	2,600.00	2,345.79	1,121.53	1,056.68	17.295	ES
ABND VERT CAHB 2-10 - Wellbore #1 - Design #1	3,900.00	3,428.10	1,351.57	1,255.17	14.021	SF
ABND VERT CAHB MA 10-4 - Wellbore #1 - Design #1	2,132.98	1,976.97	2,303.84	2,251.33	43.873	CC
ABND VERT CAHB MA 10-4 - Wellbore #1 - Design #1	2,300.00	2,116.02	2,305.70	2,248.65	40.419	ES
ABND VERT CAHB MA 10-4 - Wellbore #1 - Design #1	8,950.00	7,808.30	3,745.21	3,536.48	17.943	SF
ABND VERT TYMKOVICH 1-10 - Wellbore #1 - Design #	6,500.00	5,180.00	764.81	709.95	13.942	SF
ABND VERT TYMKOVICH 1-10 - Wellbore #1 - Design #	6,509.37	5,180.00	764.75	709.93	13.950	CC, ES
EXIST VERT BEYER MA 10-5 - Wellbore #1 - Design #1	200.00	186.00	1,311.38	1,307.73	359.337	CC
EXIST VERT BEYER MA 10-5 - Wellbore #1 - Design #1	500.00	485.45	1,314.40	1,303.48	120.455	ES
EXIST VERT BEYER MA 10-5 - Wellbore #1 - Design #1	8,750.00	7,702.07	4,071.92	3,877.24	20.916	SF
EXIST VERT SHARPE 1-10 - Wellbore #1 - Design #1	3,110.45	2,725.76	3,187.69	3,109.72	40.883	CC
EXIST VERT SHARPE 1-10 - Wellbore #1 - Design #1	3,400.00	2,966.82	3,191.72	3,105.80	37.148	ES
EXIST VERT SHARPE 1-10 - Wellbore #1 - Design #1	8,450.00	7,406.00	4,012.10	3,802.89	19.177	SF
EXIST VERT SHARPE 2-10 - Wellbore #1 - Design #1	200.00	148.00	606.48	603.70	218.295	CC
EXIST VERT SHARPE 2-10 - Wellbore #1 - Design #1	300.00	247.98	607.53	602.21	114.093	ES
EXIST VERT SHARPE 2-10 - Wellbore #1 - Design #1	8,650.00	7,604.54	4,032.01	3,843.39	21.377	SF
INTERCHANGE B N35-20-10N - ORIGINAL WELLBORE	100.00	100.00	17.92	17.65	66.640	CC
INTERCHANGE B N35-20-10N - ORIGINAL WELLBORE	18,842.82	18,920.83	434.93	-3.55	0.992	Level 1, ES, SF
INTERCHANGE B N35-20-1N - ORIGINAL WELLBORE	200.00	200.00	144.07	143.09	146.148	CC, ES
INTERCHANGE B N35-20-1N - ORIGINAL WELLBORE	18,842.82	18,388.55	1,904.96	1,464.64	4.326	SF
INTERCHANGE B N35-20-2C - ORIGINAL WELLBORE	200.00	200.00	125.88	124.90	127.698	CC, ES
INTERCHANGE B N35-20-2C - ORIGINAL WELLBORE	18,842.82	18,649.73	1,666.08	1,228.75	3.810	SF
INTERCHANGE B N35-20-3N - ORIGINAL WELLBORE	200.00	200.00	108.05	107.07	109.611	CC, ES
INTERCHANGE B N35-20-3N - ORIGINAL WELLBORE	18,779.31	25,841.18	1,302.06	733.93	2.292	SF
INTERCHANGE B N35-20-4N - ORIGINAL WELLBORE	200.00	200.00	89.87	88.88	91.161	CC, ES
INTERCHANGE B N35-20-4N - ORIGINAL WELLBORE	18,842.08	18,503.59	1,124.94	685.08	2.558	SF
INTERCHANGE B N35-20-5C - ORIGINAL WELLBORE	200.00	200.00	72.04	71.05	73.074	CC, ES
INTERCHANGE B N35-20-5C - ORIGINAL WELLBORE	18,842.82	18,763.91	904.11	477.76	2.121	SF
INTERCHANGE B N35-20-6N - ORIGINAL WELLBORE	200.00	200.00	53.85	52.86	54.624	CC, ES
INTERCHANGE B N35-20-6N - ORIGINAL WELLBORE	18,842.08	18,593.87	604.68	167.89	1.384	Level 3, SF
INTERCHANGE B N35-20-7N - ORIGINAL WELLBORE	200.00	200.00	36.02	35.03	36.537	CC

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE B N35-20-9N
<b>Project:</b>	Broomfield County	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Reference Site:</b>	Sec 10-T1S-R68W	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	INTERCHANGE B N35-20-9N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 10-T1S-R68W						
INTERCHANGE B N35-20-7N - ORIGINAL WELLBORE	18,842.82	18,677.20	345.14	-93.76	0.786	Level 1, ES, SF
INTERCHANGE B N35-20-8C - ORIGINAL WELLBORE	200.00	200.00	17.83	16.85	18.088	CC, ES
INTERCHANGE B N35-20-8C - ORIGINAL WELLBORE	18,842.82	18,975.68	277.32	43.83	1.188	Level 2, SF
Sec 28-T1N-R68W						
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	17,055.90	10,484.90	4,431.08	4,176.05	17.375	CC, ES
COYOTE TRAILS 34S-20-10N - ORIGINAL WELLBORE	18,842.08	8,701.23	4,445.09	4,183.43	16.989	SF
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	17,055.78	10,857.76	4,056.69	3,799.82	15.793	CC, ES
COYOTE TRAILS 34S-20-11C - ORIGINAL WELLBORE	18,842.82	9,070.77	4,070.74	3,806.73	15.419	SF
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	17,068.98	10,783.68	3,634.37	3,378.45	14.201	CC
COYOTE TRAILS 34S-20-12N - ORIGINAL WELLBORE	18,842.82	9,009.92	3,640.28	3,376.95	13.824	ES, SF
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	17,055.70	10,965.10	3,291.01	3,034.23	12.817	CC, ES
COYOTE TRAILS 34S-20-13N - ORIGINAL WELLBORE	18,842.82	9,178.04	3,305.15	3,040.85	12.505	SF
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	17,055.71	11,340.65	2,953.92	2,694.69	11.395	CC, ES
COYOTE TRAILS 34S-20-14C - ORIGINAL WELLBORE	18,842.82	9,553.60	2,967.97	2,700.73	11.106	SF
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	17,055.70	11,355.72	2,531.18	2,273.32	9.816	CC, ES
COYOTE TRAILS 34S-20-15N - ORIGINAL WELLBORE	18,842.82	9,568.62	2,545.31	2,279.40	9.572	SF
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	17,042.27	11,555.68	2,192.62	1,933.99	8.478	CC, ES
COYOTE TRAILS 34S-20-16N - ORIGINAL WELLBORE	18,842.08	9,756.02	2,215.16	1,948.40	8.304	SF
Sec 34-T1N-R68W						
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	15,545.69	7,787.59	3,742.78	3,424.95	11.776	CC, ES
ABND VERT BICKLER A UNIT 2 - Wellbore #1 - Design	15,700.00	7,787.58	3,745.96	3,427.26	11.754	SF
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	14,600.00	5,503.00	2,670.28	2,538.02	20.190	SF
ABND VERT K & R LIVESTOCK COMM 1 - Wellbore #1	15,986.51	5,503.00	2,282.10	2,194.92	26.175	CC, ES
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	15,000.00	7,743.62	456.45	148.64	1.483	Level 3, ES, SF
ABND VERT KATS B UNIT 1 - Wellbore #1 - Design #1	15,002.30	7,743.62	456.44	148.80	1.484	Level 3, CC
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	18,400.00	5,145.00	2,947.32	2,779.43	17.555	SF
ABND VERT NIVEN GAYLE B 1 - Wellbore #1 - Design	18,651.25	5,145.00	2,936.59	2,769.74	17.600	CC, ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	16,048.75	7,851.23	2,904.13	2,704.94	14.580	CC, ES
BICKLER 23-34 - Wellbore #1 - Wellbore #1	16,100.00	7,850.53	2,904.58	2,705.28	14.574	SF
BICKLER 24-34 - Wellbore #1 - Wellbore #1	14,542.29	8,158.06	2,905.16	2,716.95	15.436	CC, ES, SF
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	16,700.00	7,804.60	2,066.77	1,861.04	10.046	SF
BICKLER 4-4-34 - Wellbore #1 - Wellbore #1	16,789.46	7,803.57	2,063.43	1,858.25	10.057	CC, ES
BICKLER 4-6-34 - Wellbore #1 - Wellbore #1	15,351.26	7,893.24	2,156.06	1,963.93	11.221	CC, ES, SF
EXIST DD KATS 31-34 - Wellbore #1 - Wellbore #1	18,645.26	7,903.62	1,454.13	1,205.60	5.851	CC, ES, SF
EXIST DD KATS 41-34 - Wellbore #1 - Wellbore #1	18,793.98	7,977.11	163.69	-89.55	0.646	Level 1, CC
EXIST DD KATS 41-34 - Wellbore #1 - Wellbore #1	18,800.00	7,977.16	163.80	-91.00	0.643	Level 1, ES, SF
EXIST DD KATS 42-34 - Wellbore #1 - Wellbore #1	17,171.07	7,893.00	166.02	-54.67	0.752	Level 1, CC, SF
EXIST DD KATS 42-34 - Wellbore #1 - Wellbore #1	17,200.00	7,892.99	168.53	-55.16	0.753	Level 1, ES
EXIST DD KATS 6-4-34 - Wellbore #1 - Wellbore #1	16,700.00	7,842.41	722.64	507.02	3.351	SF
EXIST DD KATS 6-4-34 - Wellbore #1 - Wellbore #1	16,800.00	7,842.76	713.31	501.02	3.360	ES
EXIST DD KATS 6-4-34 - Wellbore #1 - Wellbore #1	16,803.68	7,842.77	713.30	501.20	3.363	CC
EXIST DD KATS 8-2-34 - Wellbore #1 - Wellbore #1	18,005.91	7,976.43	603.98	368.70	2.567	CC, ES
EXIST DD KATS 8-2-34 - Wellbore #1 - Wellbore #1	18,100.00	7,975.96	611.26	370.44	2.538	SF
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	17,158.53	7,850.54	3,787.82	3,440.03	10.891	CC
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	17,200.00	7,850.54	3,788.05	3,439.93	10.881	ES
EXIST VERT BICKLER 1 - Wellbore #1 - Design #1	17,400.00	7,850.55	3,795.51	3,446.10	10.862	SF
EXIST VERT KATS 'B' UNIT 2 - Wellbore #1 - Design #1	17,600.00	7,764.58	986.67	759.48	4.343	SF
EXIST VERT KATS 'B' UNIT 2 - Wellbore #1 - Design #1	17,654.24	7,764.59	985.18	758.66	4.349	CC, ES

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE B N35-20-9N
<b>Project:</b>	Broomfield County	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Reference Site:</b>	Sec 10-T1S-R68W	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	INTERCHANGE B N35-20-9N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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 3-T1S-R68W						
ABND VERT WEAVER K UNIT 1 - Wellbore #1 - Design	9,574.73	7,807.03	367.87	274.83	3.954	CC
ABND VERT WEAVER K UNIT 1 - Wellbore #1 - Design	9,600.00	7,807.03	368.73	272.79	3.843	ES
ABND VERT WEAVER K UNIT 1 - Wellbore #1 - Design	9,700.00	7,807.04	388.61	283.50	3.697	SF
EXIST DD LARKRIDGE MA 03-10D - Wellbore #1 - Well	10,900.00	8,041.25	1,122.14	1,002.70	9.395	SF
EXIST DD LARKRIDGE MA 03-10D - Wellbore #1 - Well	11,048.82	8,040.79	1,112.23	995.75	9.548	CC, ES
EXIST DD LARKRIDGE MA 03-15D - Wellbore #1 - Well	9,500.00	8,112.83	909.07	796.11	8.048	SF
EXIST DD LARKRIDGE MA 03-15D - Wellbore #1 - Well	9,600.00	8,113.95	895.23	786.14	8.206	ES
EXIST DD LARKRIDGE MA 03-15D - Wellbore #1 - Well	9,674.81	8,114.78	892.10	786.36	8.437	CC
EXIST DD LARKRIDGE MA 03-16D - Wellbore #1 - Well	9,678.46	7,971.14	209.37	105.95	2.024	CC
EXIST DD LARKRIDGE MA 03-16D - Wellbore #1 - Well	9,700.00	7,971.49	210.48	102.58	1.951	ES, SF
EXIST DD LARKRIDGE MA 03-23D - Wellbore #1 - Well	10,200.00	7,983.52	510.02	392.47	4.339	SF
EXIST DD LARKRIDGE MA 03-23D - Wellbore #1 - Well	10,300.00	7,983.84	487.78	375.71	4.353	ES
EXIST DD LARKRIDGE MA 03-23D - Wellbore #1 - Well	10,360.95	7,984.04	483.95	376.59	4.508	CC
EXIST DD LARKRIDGE MA 09-09D - Wellbore #1 - Well	11,019.95	7,780.93	396.21	282.98	3.499	CC, ES
EXIST DD LARKRIDGE MA 09-09D - Wellbore #1 - Well	11,100.00	7,781.61	404.21	283.04	3.336	SF
EXIST DD STANDLEY 5-2 - Wellbore #1 - Wellbore #1	12,101.92	7,968.13	1,635.90	1,500.46	12.079	CC
EXIST DD STANDLEY 5-2 - Wellbore #1 - Wellbore #1	12,200.00	7,971.38	1,638.83	1,499.10	11.729	ES
EXIST DD STANDLEY 5-2 - Wellbore #1 - Wellbore #1	12,600.00	7,984.42	1,709.96	1,556.82	11.166	SF
EXIST DD STANDLEY 6-2 - Wellbore #1 - Wellbore #1	12,026.85	7,622.34	2,915.24	2,777.90	21.226	CC
EXIST DD STANDLEY 6-2 - Wellbore #1 - Wellbore #1	12,100.00	7,630.55	2,916.14	2,776.28	20.849	ES
EXIST DD STANDLEY 6-2 - Wellbore #1 - Wellbore #1	13,200.00	7,774.74	3,139.94	2,969.17	18.388	SF
EXIST DD STANDLEY 8-3 - Wellbore #1 - Wellbore #1	12,181.91	7,927.34	428.77	291.56	3.125	CC
EXIST DD STANDLEY 8-3 - Wellbore #1 - Wellbore #1	12,200.00	7,927.33	429.15	290.17	3.088	ES
EXIST DD STANDLEY 8-3 - Wellbore #1 - Wellbore #1	12,300.00	7,927.30	444.73	299.23	3.057	SF
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	4,874.57	4,251.47	2,686.21	2,558.50	21.034	CC
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	5,100.00	4,439.16	2,689.11	2,555.24	20.087	ES
EXIST VERT WEBBER H UNIT 1 - Wellbore #1 - Design	9,716.04	7,812.96	2,796.39	2,572.46	12.488	SF

Offset Design													Sec 10-T1S-R68W - ABND VERT BEYER MA 10-3 - Wellbore #1 - Design #1		Offset Site Error:		0.00 usft	
Survey Program: 0-INC													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
0.00	0.00	0.00	0.00	0.00	0.00	7.03	2,137.56	263.68	2,154.08									
100.00	100.00	63.00	63.00	0.13	0.75	7.03	2,137.56	263.68	2,153.76	2,152.88	0.88	2,444.899						
200.00	200.00	163.00	163.00	0.49	2.63	7.03	2,137.56	263.68	2,153.76	2,150.64	3.12	689.833						
300.00	299.98	262.98	262.98	0.85	4.79	-41.63	2,137.56	263.68	2,152.45	2,146.82	5.64	381.846						
400.00	399.84	362.84	362.84	1.21	6.84	-41.77	2,137.56	263.68	2,148.54	2,140.49	8.05	266.819						
500.00	499.45	462.45	462.45	1.58	8.87	-42.02	2,137.56	263.68	2,142.05	2,131.60	10.45	205.012						
600.00	598.70	561.70	561.70	1.97	10.88	-42.36	2,137.56	263.68	2,132.98	2,120.15	12.84	166.150						
700.00	697.47	660.47	660.47	2.38	12.87	-42.80	2,137.56	263.68	2,121.40	2,106.17	15.23	139.331						
800.00	795.62	758.62	758.62	2.82	14.85	-43.34	2,137.56	263.68	2,107.34	2,089.73	17.61	119.634						
900.00	893.06	856.06	856.06	3.30	16.82	-43.99	2,137.56	263.68	2,090.87	2,070.86	20.01	104.502						
1,000.00	989.64	952.64	952.64	3.81	18.76	-44.75	2,137.56	263.68	2,072.05	2,049.65	22.41	92.475						
1,100.00	1,085.27	1,048.27	1,048.27	4.37	20.69	-45.62	2,137.56	263.68	2,050.99	2,026.17	24.81	82.657						
1,200.00	1,179.82	1,142.82	1,142.82	4.98	22.59	-46.60	2,137.56	263.68	2,027.77	2,000.54	27.23	74.469						
1,300.00	1,273.17	1,236.17	1,236.17	5.63	24.47	-47.71	2,137.56	263.68	2,002.51	1,972.85	29.66	67.518						
1,400.00	1,365.21	1,328.21	1,328.21	6.34	26.33	-48.93	2,137.56	263.68	1,975.34	1,943.24	32.10	61.532						
1,500.00	1,455.84	1,418.84	1,418.84	7.10	28.15	-50.28	2,137.56	263.68	1,946.41	1,911.85	34.56	56.312						
1,600.00	1,544.94	1,507.94	1,507.94	7.92	29.94	-51.76	2,137.56	263.68	1,915.89	1,878.84	37.05	51.714						

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