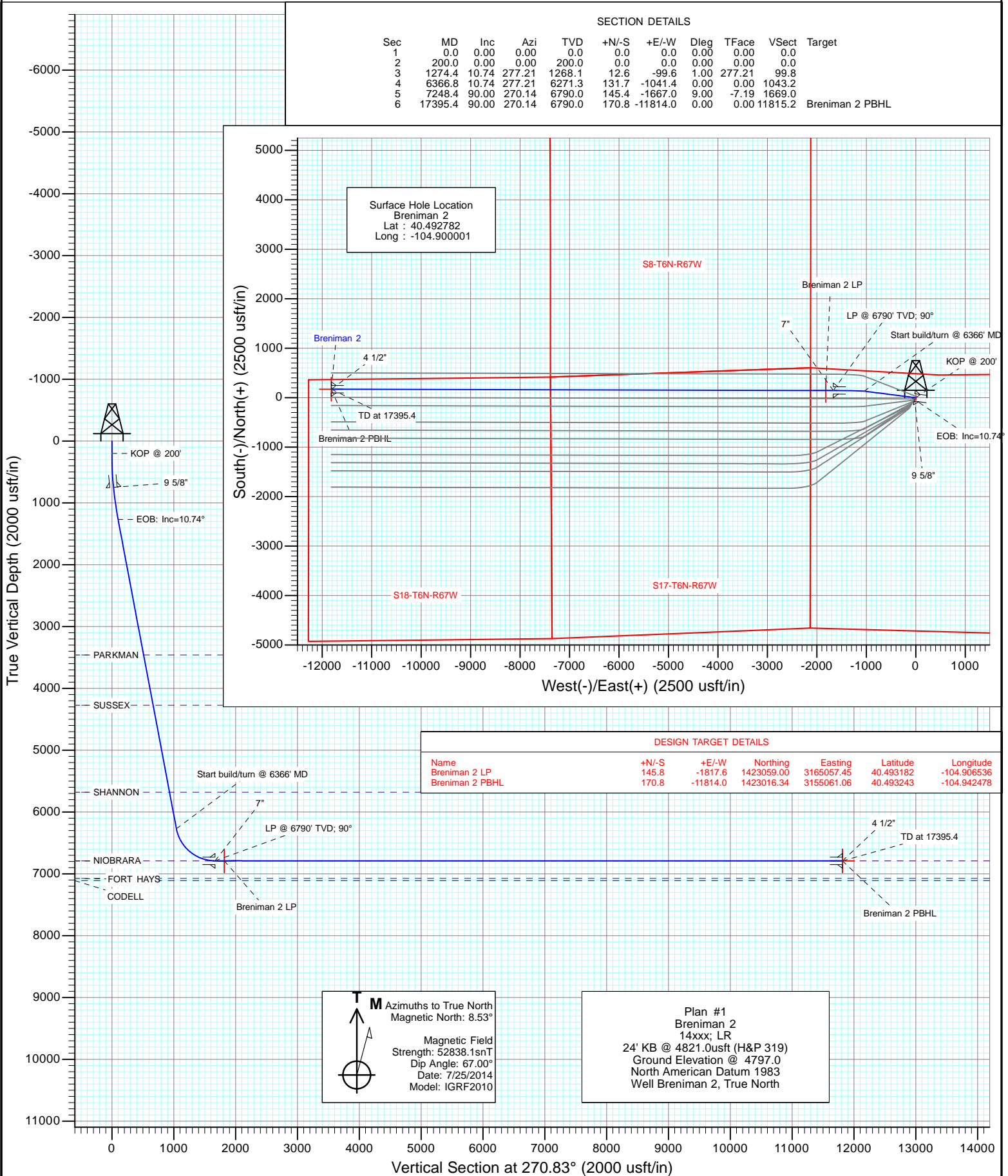




Project: WELD COUNTY, CO
Site: S16-T6N-R67W
Well: Breniman 2
Wellbore: Hz
Design: Plan #1



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 2
Company:	Extraction Oil & Gas	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Project:	WELD COUNTY, CO	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site:	S16-T6N-R67W	North Reference:	True
Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Project	WELD COUNTY, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		S16-T6N-R67W			
Site Position:		Northing:	1,422,877.59 usft	Latitude:	40.492651
From:	Lat/Long	Easting:	3,166,847.63 usft	Longitude:	-104.900104
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39 °

Well	Breniman 2					
Well Position	+N/-S	0.0 usft	Northing:	1,422,925.50 usft	Latitude:	40.492782
	+E/-W	0.0 usft	Easting:	3,166,875.96 usft	Longitude:	-104.900001
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	4,797.0 usft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/25/2014	8.53	67.00	52,838

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	270.83

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,274.4	10.74	277.21	1,268.1	12.6	-99.6	1.00	1.00	0.00	277.21	
6,366.8	10.74	277.21	6,271.3	131.7	-1,041.4	0.00	0.00	0.00	0.00	
7,248.4	90.00	270.14	6,790.0	145.4	-1,667.0	9.00	8.99	-0.80	-7.19	
17,395.4	90.00	270.14	6,790.0	170.8	-11,814.0	0.00	0.00	0.00	0.00	Breniman 2 PBHL

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 2
Company:	Extraction Oil & Gas	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Project:	WELD COUNTY, CO	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site:	S16-T6N-R67W	North Reference:	True
Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200'
300.0	1.00	277.21	300.0	0.1	-0.9	0.9	1.00	1.00	
400.0	2.00	277.21	400.0	0.4	-3.5	3.5	1.00	1.00	
500.0	3.00	277.21	499.9	1.0	-7.8	7.8	1.00	1.00	
600.0	4.00	277.21	599.7	1.8	-13.8	13.9	1.00	1.00	
700.0	5.00	277.21	699.4	2.7	-21.6	21.7	1.00	1.00	
750.0	5.50	277.21	749.2	3.3	-26.2	26.2	1.00	1.00	9 5/8"
800.0	6.00	277.21	798.9	3.9	-31.1	31.2	1.00	1.00	
900.0	7.00	277.21	898.3	5.4	-42.4	42.4	1.00	1.00	
1,000.0	8.00	277.21	997.4	7.0	-55.3	55.4	1.00	1.00	
1,100.0	9.00	277.21	1,096.3	8.9	-70.0	70.1	1.00	1.00	
1,200.0	10.00	277.21	1,194.9	10.9	-86.4	86.5	1.00	1.00	
1,274.4	10.74	277.21	1,268.1	12.6	-99.6	99.8	1.00	1.00	EOB: Inc=10.74°
1,300.0	10.74	277.21	1,293.3	13.2	-104.4	104.6	0.00	0.00	
1,400.0	10.74	277.21	1,391.5	15.5	-122.9	123.1	0.00	0.00	
1,500.0	10.74	277.21	1,489.8	17.9	-141.4	141.6	0.00	0.00	
1,600.0	10.74	277.21	1,588.0	20.2	-159.9	160.1	0.00	0.00	
1,700.0	10.74	277.21	1,686.3	22.6	-178.4	178.7	0.00	0.00	
1,800.0	10.74	277.21	1,784.5	24.9	-196.8	197.2	0.00	0.00	
1,900.0	10.74	277.21	1,882.7	27.2	-215.3	215.7	0.00	0.00	
2,000.0	10.74	277.21	1,981.0	29.6	-233.8	234.2	0.00	0.00	
2,100.0	10.74	277.21	2,079.2	31.9	-252.3	252.8	0.00	0.00	
2,200.0	10.74	277.21	2,177.5	34.3	-270.8	271.3	0.00	0.00	
2,300.0	10.74	277.21	2,275.7	36.6	-289.3	289.8	0.00	0.00	
2,400.0	10.74	277.21	2,374.0	38.9	-307.8	308.3	0.00	0.00	
2,500.0	10.74	277.21	2,472.2	41.3	-326.3	326.9	0.00	0.00	
2,600.0	10.74	277.21	2,570.5	43.6	-344.8	345.4	0.00	0.00	
2,700.0	10.74	277.21	2,668.7	46.0	-363.3	363.9	0.00	0.00	
2,800.0	10.74	277.21	2,767.0	48.3	-381.8	382.4	0.00	0.00	
2,900.0	10.74	277.21	2,865.2	50.6	-400.3	401.0	0.00	0.00	
3,000.0	10.74	277.21	2,963.5	53.0	-418.8	419.5	0.00	0.00	
3,100.0	10.74	277.21	3,061.7	55.3	-437.3	438.0	0.00	0.00	
3,200.0	10.74	277.21	3,160.0	57.7	-455.8	456.6	0.00	0.00	
3,300.0	10.74	277.21	3,258.2	60.0	-474.3	475.1	0.00	0.00	
3,400.0	10.74	277.21	3,356.4	62.3	-492.8	493.6	0.00	0.00	
3,500.0	10.74	277.21	3,454.7	64.7	-511.2	512.1	0.00	0.00	
3,505.4	10.74	277.21	3,460.0	64.8	-512.2	513.1	0.00	0.00	PARKMAN
3,600.0	10.74	277.21	3,552.9	67.0	-529.7	530.7	0.00	0.00	
3,700.0	10.74	277.21	3,651.2	69.4	-548.2	549.2	0.00	0.00	
3,800.0	10.74	277.21	3,749.4	71.7	-566.7	567.7	0.00	0.00	
3,900.0	10.74	277.21	3,847.7	74.0	-585.2	586.2	0.00	0.00	
4,000.0	10.74	277.21	3,945.9	76.4	-603.7	604.8	0.00	0.00	
4,100.0	10.74	277.21	4,044.2	78.7	-622.2	623.3	0.00	0.00	
4,200.0	10.74	277.21	4,142.4	81.1	-640.7	641.8	0.00	0.00	
4,300.0	10.74	277.21	4,240.7	83.4	-659.2	660.3	0.00	0.00	
4,334.9	10.74	277.21	4,275.0	84.2	-665.7	666.8	0.00	0.00	SUSSEX
4,400.0	10.74	277.21	4,338.9	85.7	-677.7	678.9	0.00	0.00	
4,500.0	10.74	277.21	4,437.2	88.1	-696.2	697.4	0.00	0.00	
4,600.0	10.74	277.21	4,535.4	90.4	-714.7	715.9	0.00	0.00	
4,700.0	10.74	277.21	4,633.7	92.8	-733.2	734.4	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 2
Company:	Extraction Oil & Gas	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Project:	WELD COUNTY, CO	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site:	S16-T6N-R67W	North Reference:	True
Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
4,800.0	10.74	277.21	4,731.9	95.1	-751.7	753.0	0.00	0.00	
4,900.0	10.74	277.21	4,830.2	97.4	-770.2	771.5	0.00	0.00	
5,000.0	10.74	277.21	4,928.4	99.8	-788.7	790.0	0.00	0.00	
5,100.0	10.74	277.21	5,026.6	102.1	-807.2	808.5	0.00	0.00	
5,200.0	10.74	277.21	5,124.9	104.4	-825.6	827.1	0.00	0.00	
5,300.0	10.74	277.21	5,223.1	106.8	-844.1	845.6	0.00	0.00	
5,400.0	10.74	277.21	5,321.4	109.1	-862.6	864.1	0.00	0.00	
5,500.0	10.74	277.21	5,419.6	111.5	-881.1	882.6	0.00	0.00	
5,600.0	10.74	277.21	5,517.9	113.8	-899.6	901.2	0.00	0.00	
5,700.0	10.74	277.21	5,616.1	116.1	-918.1	919.7	0.00	0.00	
5,765.0	10.74	277.21	5,680.0	117.7	-930.1	931.7	0.00	0.00	SHANNON
5,800.0	10.74	277.21	5,714.4	118.5	-936.6	938.2	0.00	0.00	
5,900.0	10.74	277.21	5,812.6	120.8	-955.1	956.8	0.00	0.00	
6,000.0	10.74	277.21	5,910.9	123.2	-973.6	975.3	0.00	0.00	
6,100.0	10.74	277.21	6,009.1	125.5	-992.1	993.8	0.00	0.00	
6,200.0	10.74	277.21	6,107.4	127.8	-1,010.6	1,012.3	0.00	0.00	
6,300.0	10.74	277.21	6,205.6	130.2	-1,029.1	1,030.9	0.00	0.00	
6,366.8	10.74	277.21	6,271.3	131.7	-1,041.4	1,043.2	0.00	0.00	Start build/turn @ 6366' MD
6,400.0	13.71	275.63	6,303.7	132.5	-1,048.4	1,050.2	9.00	8.94	
6,500.0	22.68	273.35	6,398.6	134.8	-1,079.5	1,081.4	9.00	8.97	
6,600.0	31.67	272.31	6,487.5	137.0	-1,125.1	1,127.0	9.00	8.99	
6,700.0	40.66	271.70	6,568.1	139.0	-1,184.0	1,185.9	9.00	8.99	
6,800.0	49.66	271.28	6,638.5	140.9	-1,254.8	1,256.7	9.00	9.00	
6,900.0	58.65	270.96	6,697.0	142.4	-1,335.8	1,337.7	9.00	9.00	
7,000.0	67.65	270.69	6,742.2	143.7	-1,424.9	1,426.8	9.00	9.00	
7,100.0	76.65	270.46	6,772.8	144.7	-1,520.0	1,521.9	9.00	9.00	
7,200.0	85.64	270.25	6,788.2	145.3	-1,618.7	1,620.6	9.00	9.00	
7,248.4	90.00	270.14	6,790.0	145.4	-1,667.1	1,669.0	9.00	9.00	LP @ 6790' TVD; 90° - NIOBRARA - 7"
7,300.0	90.00	270.14	6,790.0	145.5	-1,718.6	1,720.6	0.00	0.00	
7,400.0	90.00	270.14	6,790.0	145.8	-1,818.6	1,820.6	0.00	0.00	
7,500.0	90.00	270.14	6,790.0	146.0	-1,918.6	1,920.5	0.00	0.00	
7,600.0	90.00	270.14	6,790.0	146.3	-2,018.6	2,020.5	0.00	0.00	
7,700.0	90.00	270.14	6,790.0	146.5	-2,118.6	2,120.5	0.00	0.00	
7,800.0	90.00	270.14	6,790.0	146.8	-2,218.6	2,220.5	0.00	0.00	
7,900.0	90.00	270.14	6,790.0	147.0	-2,318.6	2,320.5	0.00	0.00	
8,000.0	90.00	270.14	6,790.0	147.3	-2,418.6	2,420.5	0.00	0.00	
8,100.0	90.00	270.14	6,790.0	147.5	-2,518.6	2,520.5	0.00	0.00	
8,200.0	90.00	270.14	6,790.0	147.8	-2,618.6	2,620.5	0.00	0.00	
8,300.0	90.00	270.14	6,790.0	148.0	-2,718.6	2,720.5	0.00	0.00	
8,400.0	90.00	270.14	6,790.0	148.3	-2,818.6	2,820.5	0.00	0.00	
8,500.0	90.00	270.14	6,790.0	148.5	-2,918.6	2,920.5	0.00	0.00	
8,600.0	90.00	270.14	6,790.0	148.8	-3,018.6	3,020.5	0.00	0.00	
8,700.0	90.00	270.14	6,790.0	149.0	-3,118.6	3,120.5	0.00	0.00	
8,800.0	90.00	270.14	6,790.0	149.3	-3,218.6	3,220.5	0.00	0.00	
8,900.0	90.00	270.14	6,790.0	149.5	-3,318.6	3,320.4	0.00	0.00	
9,000.0	90.00	270.14	6,790.0	149.8	-3,418.6	3,420.4	0.00	0.00	
9,100.0	90.00	270.14	6,790.0	150.0	-3,518.6	3,520.4	0.00	0.00	
9,200.0	90.00	270.14	6,790.0	150.3	-3,618.6	3,620.4	0.00	0.00	
9,300.0	90.00	270.14	6,790.0	150.5	-3,718.6	3,720.4	0.00	0.00	
9,400.0	90.00	270.14	6,790.0	150.8	-3,818.6	3,820.4	0.00	0.00	
9,500.0	90.00	270.14	6,790.0	151.0	-3,918.6	3,920.4	0.00	0.00	
9,600.0	90.00	270.14	6,790.0	151.3	-4,018.6	4,020.4	0.00	0.00	

Planning Report

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Company:	Extraction Oil & Gas	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Project:	WELD COUNTY, CO	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site:	S16-T6N-R67W	North Reference:	True
Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
9,700.0	90.00	270.14	6,790.0	151.5	-4,118.6	4,120.4	0.00	0.00	
9,800.0	90.00	270.14	6,790.0	151.8	-4,218.6	4,220.4	0.00	0.00	
9,900.0	90.00	270.14	6,790.0	152.0	-4,318.6	4,320.4	0.00	0.00	
10,000.0	90.00	270.14	6,790.0	152.3	-4,418.6	4,420.4	0.00	0.00	
10,100.0	90.00	270.14	6,790.0	152.5	-4,518.6	4,520.4	0.00	0.00	
10,200.0	90.00	270.14	6,790.0	152.8	-4,618.6	4,620.4	0.00	0.00	
10,300.0	90.00	270.14	6,790.0	153.0	-4,718.6	4,720.3	0.00	0.00	
10,400.0	90.00	270.14	6,790.0	153.3	-4,818.6	4,820.3	0.00	0.00	
10,500.0	90.00	270.14	6,790.0	153.5	-4,918.6	4,920.3	0.00	0.00	
10,600.0	90.00	270.14	6,790.0	153.8	-5,018.6	5,020.3	0.00	0.00	
10,700.0	90.00	270.14	6,790.0	154.0	-5,118.6	5,120.3	0.00	0.00	
10,800.0	90.00	270.14	6,790.0	154.3	-5,218.6	5,220.3	0.00	0.00	
10,900.0	90.00	270.14	6,790.0	154.5	-5,318.6	5,320.3	0.00	0.00	
11,000.0	90.00	270.14	6,790.0	154.8	-5,418.6	5,420.3	0.00	0.00	
11,100.0	90.00	270.14	6,790.0	155.0	-5,518.6	5,520.3	0.00	0.00	
11,200.0	90.00	270.14	6,790.0	155.3	-5,618.6	5,620.3	0.00	0.00	
11,300.0	90.00	270.14	6,790.0	155.5	-5,718.6	5,720.3	0.00	0.00	
11,400.0	90.00	270.14	6,790.0	155.8	-5,818.6	5,820.3	0.00	0.00	
11,500.0	90.00	270.14	6,790.0	156.0	-5,918.6	5,920.3	0.00	0.00	
11,600.0	90.00	270.14	6,790.0	156.3	-6,018.6	6,020.2	0.00	0.00	
11,700.0	90.00	270.14	6,790.0	156.5	-6,118.6	6,120.2	0.00	0.00	
11,800.0	90.00	270.14	6,790.0	156.8	-6,218.6	6,220.2	0.00	0.00	
11,900.0	90.00	270.14	6,790.0	157.0	-6,318.6	6,320.2	0.00	0.00	
12,000.0	90.00	270.14	6,790.0	157.3	-6,418.6	6,420.2	0.00	0.00	
12,100.0	90.00	270.14	6,790.0	157.5	-6,518.6	6,520.2	0.00	0.00	
12,200.0	90.00	270.14	6,790.0	157.8	-6,618.6	6,620.2	0.00	0.00	
12,300.0	90.00	270.14	6,790.0	158.0	-6,718.6	6,720.2	0.00	0.00	
12,400.0	90.00	270.14	6,790.0	158.3	-6,818.6	6,820.2	0.00	0.00	
12,500.0	90.00	270.14	6,790.0	158.5	-6,918.6	6,920.2	0.00	0.00	
12,600.0	90.00	270.14	6,790.0	158.8	-7,018.6	7,020.2	0.00	0.00	
12,700.0	90.00	270.14	6,790.0	159.0	-7,118.6	7,120.2	0.00	0.00	
12,800.0	90.00	270.14	6,790.0	159.3	-7,218.6	7,220.2	0.00	0.00	
12,900.0	90.00	270.14	6,790.0	159.5	-7,318.6	7,320.2	0.00	0.00	
13,000.0	90.00	270.14	6,790.0	159.8	-7,418.6	7,420.1	0.00	0.00	
13,100.0	90.00	270.14	6,790.0	160.0	-7,518.6	7,520.1	0.00	0.00	
13,200.0	90.00	270.14	6,790.0	160.3	-7,618.6	7,620.1	0.00	0.00	
13,300.0	90.00	270.14	6,790.0	160.5	-7,718.6	7,720.1	0.00	0.00	
13,400.0	90.00	270.14	6,790.0	160.8	-7,818.6	7,820.1	0.00	0.00	
13,500.0	90.00	270.14	6,790.0	161.0	-7,918.6	7,920.1	0.00	0.00	
13,600.0	90.00	270.14	6,790.0	161.3	-8,018.6	8,020.1	0.00	0.00	
13,700.0	90.00	270.14	6,790.0	161.5	-8,118.6	8,120.1	0.00	0.00	
13,800.0	90.00	270.14	6,790.0	161.8	-8,218.6	8,220.1	0.00	0.00	
13,900.0	90.00	270.14	6,790.0	162.0	-8,318.6	8,320.1	0.00	0.00	
14,000.0	90.00	270.14	6,790.0	162.3	-8,418.6	8,420.1	0.00	0.00	
14,100.0	90.00	270.14	6,790.0	162.5	-8,518.6	8,520.1	0.00	0.00	
14,200.0	90.00	270.14	6,790.0	162.8	-8,618.6	8,620.1	0.00	0.00	
14,300.0	90.00	270.14	6,790.0	163.0	-8,718.6	8,720.1	0.00	0.00	
14,400.0	90.00	270.14	6,790.0	163.3	-8,818.6	8,820.0	0.00	0.00	
14,500.0	90.00	270.14	6,790.0	163.5	-8,918.6	8,920.0	0.00	0.00	
14,600.0	90.00	270.14	6,790.0	163.8	-9,018.6	9,020.0	0.00	0.00	
14,700.0	90.00	270.14	6,790.0	164.0	-9,118.6	9,120.0	0.00	0.00	
14,800.0	90.00	270.14	6,790.0	164.3	-9,218.6	9,220.0	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 2
Company:	Extraction Oil & Gas	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Project:	WELD COUNTY, CO	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site:	S16-T6N-R67W	North Reference:	True
Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
14,900.0	90.00	270.14	6,790.0	164.5	-9,318.6	9,320.0	0.00	0.00	
15,000.0	90.00	270.14	6,790.0	164.8	-9,418.6	9,420.0	0.00	0.00	
15,100.0	90.00	270.14	6,790.0	165.0	-9,518.6	9,520.0	0.00	0.00	
15,200.0	90.00	270.14	6,790.0	165.3	-9,618.6	9,620.0	0.00	0.00	
15,300.0	90.00	270.14	6,790.0	165.5	-9,718.6	9,720.0	0.00	0.00	
15,400.0	90.00	270.14	6,790.0	165.8	-9,818.6	9,820.0	0.00	0.00	
15,500.0	90.00	270.14	6,790.0	166.0	-9,918.6	9,920.0	0.00	0.00	
15,600.0	90.00	270.14	6,790.0	166.3	-10,018.6	10,020.0	0.00	0.00	
15,700.0	90.00	270.14	6,790.0	166.5	-10,118.6	10,119.9	0.00	0.00	
15,800.0	90.00	270.14	6,790.0	166.8	-10,218.6	10,219.9	0.00	0.00	
15,900.0	90.00	270.14	6,790.0	167.0	-10,318.6	10,319.9	0.00	0.00	
16,000.0	90.00	270.14	6,790.0	167.3	-10,418.6	10,419.9	0.00	0.00	
16,100.0	90.00	270.14	6,790.0	167.5	-10,518.6	10,519.9	0.00	0.00	
16,200.0	90.00	270.14	6,790.0	167.8	-10,618.6	10,619.9	0.00	0.00	
16,300.0	90.00	270.14	6,790.0	168.0	-10,718.6	10,719.9	0.00	0.00	
16,400.0	90.00	270.14	6,790.0	168.3	-10,818.6	10,819.9	0.00	0.00	
16,500.0	90.00	270.14	6,790.0	168.5	-10,918.6	10,919.9	0.00	0.00	
16,600.0	90.00	270.14	6,790.0	168.8	-11,018.6	11,019.9	0.00	0.00	
16,700.0	90.00	270.14	6,790.0	169.0	-11,118.6	11,119.9	0.00	0.00	
16,800.0	90.00	270.14	6,790.0	169.3	-11,218.6	11,219.9	0.00	0.00	
16,900.0	90.00	270.14	6,790.0	169.5	-11,318.6	11,319.9	0.00	0.00	
17,000.0	90.00	270.14	6,790.0	169.8	-11,418.6	11,419.9	0.00	0.00	
17,100.0	90.00	270.14	6,790.0	170.0	-11,518.6	11,519.8	0.00	0.00	
17,200.0	90.00	270.14	6,790.0	170.3	-11,618.6	11,619.8	0.00	0.00	
17,300.0	90.00	270.14	6,790.0	170.5	-11,718.6	11,719.8	0.00	0.00	
17,395.4	90.00	270.14	6,790.0	170.8	-11,814.0	11,815.2	0.00	0.00	TD at 17395.4

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Breniman 2 LP	0.00	0.00	6,790.0	145.8	-1,817.6	1,423,059.00	3,165,057.45	40.493182	-104.906536
- plan hits target center									
- Point									
Breniman 2 PBHL	0.00	0.00	6,790.0	170.8	-11,814.0	1,423,016.34	3,155,061.06	40.493243	-104.942478
- plan hits target center									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
17,395.4	6,790.0	4 1/2"	0	0
7,248.4	6,790.0	7"	0	0
750.0	749.2	9 5/8"	0	0

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 2
Company:	Extraction Oil & Gas	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Project:	WELD COUNTY, CO	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site:	S16-T6N-R67W	North Reference:	True
Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,505.4	3,460.0	PARKMAN				
4,334.9	4,275.0	SUSSEX				
5,765.0	5,680.0	SHANNON				
7,248.4	6,790.0	NIOBRARA				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.0	200.0	0.0	0.0	KOP @ 200'	
1,274.4	1,268.1	12.6	-99.6	EOB: Inc=10.74°	
6,366.8	6,271.3	131.7	-1,041.4	Start build/turn @ 6366' MD	
7,248.4	6,790.0	145.4	-1,667.0	LP @ 6790' TVD; 90°	
17,395.4	6,790.0	170.8	-11,814.0	TD at 17395.4	

Extraction Oil & Gas

WELD COUNTY, CO

S16-T6N-R67W

Breniman 2

Hz

Plan #1

Anticollision Report

28 July, 2014

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	7/28/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,395.4	Plan #1 (Hz)	Geolink MWD	Geolink MWD

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
S16-T6N-R67W						
Breniman 1 - Hz - Plan #1	200.0	200.0	27.9	27.3	45.440	CC
Breniman 1 - Hz - Plan #1	17,395.4	17,411.9	330.1	-234.3	0.585	Level 1, ES, SF
Breniman 10 - Hz - Plan #1	200.0	200.0	223.9	223.6	728.324	CC, ES
Breniman 10 - Hz - Plan #1	2,400.0	2,290.0	471.1	464.2	68.100	SF
Breniman 11 - Hz - Plan #1	200.0	200.0	251.9	251.6	819.608	CC, ES
Breniman 11 - Hz - Plan #1	2,500.0	2,360.6	547.3	540.0	74.759	SF
Breniman 3 - Hz - Plan #1	200.0	200.0	28.1	27.8	91.284	CC
Breniman 3 - Hz - Plan #1	300.0	299.7	28.2	27.7	58.323	ES
Breniman 3 - Hz - Plan #1	17,395.4	17,588.3	364.5	234.0	2.792	SF
Breniman 4 - Hz - Plan #1	200.0	199.0	55.7	55.4	181.075	CC
Breniman 4 - Hz - Plan #1	17,395.4	17,268.6	330.1	48.0	1.170	Level 2, ES, SF
Breniman 5 - Hz - Plan #1	200.0	200.0	83.9	83.6	272.837	CC, ES
Breniman 5 - Hz - Plan #1	17,395.4	17,280.0	660.1	378.1	2.340	SF
Breniman 6 - Hz - Plan #1	200.0	200.0	111.8	111.5	363.654	CC, ES
Breniman 6 - Hz - Plan #1	17,395.4	17,606.0	886.8	624.2	3.376	SF
Breniman 7 - Hz - Plan #1	200.0	200.0	140.2	139.8	455.954	CC, ES
Breniman 7 - Hz - Plan #1	17,395.4	17,301.1	990.2	708.1	3.511	SF
Breniman 8 - Hz - Plan #1	200.0	200.0	167.8	167.4	545.756	CC, ES
Breniman 8 - Hz - Plan #1	2,200.0	2,130.9	348.5	342.3	56.487	SF
Breniman 9 - Hz - Plan #1	200.0	200.0	196.1	195.8	638.057	CC, ES
Breniman 9 - Hz - Plan #1	2,300.0	2,211.3	409.8	403.3	62.618	SF

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 1 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: O-Geolink MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	30.54	24.0	14.2	27.9					
100.0	100.0	100.0	100.0	0.1	0.1	30.54	24.0	14.2	27.9	27.7	0.27	105.229		
200.0	200.0	200.0	200.0	0.3	0.3	30.54	24.0	14.2	27.9	27.3	0.61	45.440 CC		
300.0	300.0	300.1	300.1	0.5	0.5	113.20	24.4	13.4	28.1	27.2	0.97	29.132		
400.0	400.0	400.2	400.1	0.7	0.7	112.84	25.3	10.9	28.7	27.4	1.32	21.701		
500.0	499.9	500.2	500.1	0.9	0.9	112.26	26.9	6.9	29.8	28.1	1.70	17.527		
600.0	599.7	600.3	600.0	1.1	1.1	111.52	29.1	1.2	31.2	29.1	2.09	14.901		
700.0	699.4	700.3	699.7	1.3	1.3	110.66	32.0	-6.2	33.1	30.6	2.52	13.127		
800.0	798.9	800.4	799.3	1.5	1.5	109.73	35.5	-15.1	35.4	32.4	2.98	11.868		
900.0	898.3	900.4	898.6	1.8	1.8	108.77	39.6	-25.7	38.1	34.6	3.48	10.940		
1,000.0	997.4	1,000.4	997.8	2.0	2.0	107.82	44.3	-37.8	41.2	37.2	4.03	10.237		
1,100.0	1,096.3	1,100.4	1,096.7	2.3	2.3	106.91	49.7	-51.6	44.8	40.2	4.62	9.692		
1,200.0	1,194.9	1,200.3	1,195.3	2.7	2.7	106.04	55.7	-67.0	48.8	43.5	5.26	9.262		
1,300.0	1,293.3	1,300.3	1,293.5	3.0	3.0	105.18	62.3	-83.9	53.2	47.2	5.96	8.920		
1,400.0	1,391.5	1,400.1	1,391.4	3.4	3.4	103.31	69.5	-102.4	57.7	51.0	6.69	8.623		
1,500.0	1,489.8	1,500.0	1,489.2	3.7	3.8	101.36	76.8	-121.2	62.3	54.8	7.43	8.382		
1,600.0	1,588.0	1,599.9	1,587.0	4.1	4.1	99.68	84.1	-140.1	66.9	58.7	8.17	8.187		
1,700.0	1,686.3	1,699.8	1,684.8	4.4	4.5	98.22	91.5	-158.9	71.6	62.7	8.92	8.029		
1,800.0	1,784.5	1,799.6	1,782.6	4.8	4.9	96.93	98.8	-177.7	76.4	66.7	9.67	7.898		
1,900.0	1,882.7	1,899.5	1,880.5	5.2	5.3	95.80	106.1	-196.5	81.1	70.7	10.42	7.789		
2,000.0	1,981.0	1,999.4	1,978.3	5.5	5.7	94.80	113.5	-215.3	85.9	74.8	11.16	7.698		
2,100.0	2,079.2	2,099.3	2,076.1	5.9	6.1	93.90	120.8	-234.2	90.8	78.9	11.91	7.619		
2,200.0	2,177.5	2,199.1	2,173.9	6.3	6.5	93.09	128.1	-253.0	95.6	83.0	12.66	7.552		
2,300.0	2,275.7	2,299.0	2,271.7	6.6	6.9	92.36	135.5	-271.8	100.5	87.1	13.41	7.494		
2,400.0	2,374.0	2,398.9	2,369.5	7.0	7.3	91.70	142.8	-290.6	105.4	91.2	14.16	7.443		
2,500.0	2,472.2	2,498.8	2,467.3	7.4	7.7	91.10	150.1	-309.4	110.3	95.4	14.90	7.399		
2,600.0	2,570.5	2,598.6	2,565.1	7.8	8.1	90.54	157.5	-328.3	115.2	99.5	15.65	7.360		
2,700.0	2,668.7	2,698.5	2,662.9	8.1	8.4	90.04	164.8	-347.1	120.1	103.7	16.39	7.325		
2,800.0	2,767.0	2,798.4	2,760.7	8.5	8.8	89.57	172.1	-365.9	125.0	107.9	17.14	7.294		
2,900.0	2,865.2	2,898.3	2,858.6	8.9	9.2	89.14	179.5	-384.7	129.9	112.0	17.88	7.266		
3,000.0	2,963.5	2,998.1	2,956.4	9.2	9.6	88.74	186.8	-403.5	134.9	116.2	18.62	7.241		
3,100.0	3,061.7	3,098.0	3,054.2	9.6	10.0	88.37	194.1	-422.4	139.8	120.4	19.37	7.218		
3,200.0	3,160.0	3,197.9	3,152.0	10.0	10.4	88.02	201.5	-441.2	144.8	124.6	20.11	7.198		
3,300.0	3,258.2	3,297.7	3,249.8	10.4	10.8	87.70	208.8	-460.0	149.7	128.9	20.85	7.179		
3,400.0	3,356.5	3,397.6	3,347.6	10.7	11.2	87.39	216.1	-478.8	154.7	133.1	21.60	7.162		
3,500.0	3,454.7	3,497.5	3,445.4	11.1	11.6	87.11	223.4	-497.6	159.6	137.3	22.34	7.146		
3,600.0	3,552.9	3,597.4	3,543.2	11.5	12.0	86.84	230.8	-516.5	164.6	141.5	23.08	7.131		
3,700.0	3,651.2	3,697.2	3,641.0	11.8	12.4	86.59	238.1	-535.3	169.6	145.7	23.82	7.118		
3,800.0	3,749.4	3,797.1	3,738.8	12.2	12.8	86.35	245.4	-554.1	174.5	150.0	24.56	7.106		
3,900.0	3,847.7	3,897.0	3,836.7	12.6	13.2	86.13	252.8	-572.9	179.5	154.2	25.30	7.094		
4,000.0	3,945.9	3,996.9	3,934.5	13.0	13.6	85.92	260.1	-591.7	184.5	158.4	26.04	7.084		
4,100.0	4,044.2	4,096.7	4,032.3	13.3	14.0	85.72	267.4	-610.6	189.5	162.7	26.78	7.074		
4,200.0	4,142.4	4,196.6	4,130.1	13.7	14.4	85.53	274.8	-629.4	194.4	166.9	27.52	7.065		
4,300.0	4,240.7	4,296.5	4,227.9	14.1	14.8	85.35	282.1	-648.2	199.4	171.2	28.26	7.056		
4,400.0	4,338.9	4,396.4	4,325.7	14.5	15.2	85.17	289.4	-667.0	204.4	175.4	29.00	7.048		
4,500.0	4,437.2	4,496.2	4,423.5	14.8	15.6	85.01	296.8	-685.8	209.4	179.7	29.74	7.041		
4,600.0	4,535.4	4,596.1	4,521.3	15.2	16.0	84.85	304.1	-704.7	214.4	183.9	30.48	7.033		
4,700.0	4,633.7	4,696.0	4,619.1	15.6	16.4	84.70	311.4	-723.5	219.4	188.2	31.22	7.027		
4,800.0	4,731.9	4,795.9	4,717.0	15.9	16.8	84.56	318.8	-742.3	224.4	192.4	31.96	7.020		
4,900.0	4,830.2	4,895.7	4,814.8	16.3	17.2	84.43	326.1	-761.1	229.4	196.7	32.70	7.015		
5,000.0	4,928.4	4,995.6	4,912.6	16.7	17.6	84.30	333.4	-779.9	234.4	200.9	33.44	7.009		
5,100.0	5,026.7	5,095.5	5,010.4	17.1	18.0	84.17	340.8	-798.8	239.4	205.2	34.18	7.004		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 1 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,124.9	5,195.3	5,108.2	17.4	18.4	84.05	348.1	-817.6	244.4	209.4	34.91	6.999		
5,300.0	5,223.2	5,295.2	5,206.0	17.8	18.8	83.94	355.4	-836.4	249.3	213.7	35.65	6.994		
5,400.0	5,321.4	5,395.1	5,303.8	18.2	19.2	83.83	362.8	-855.2	254.3	218.0	36.39	6.989		
5,500.0	5,419.6	5,495.0	5,401.6	18.6	19.6	83.72	370.1	-874.0	259.3	222.2	37.13	6.985		
5,600.0	5,517.9	5,594.8	5,499.4	18.9	20.0	83.62	377.4	-892.9	264.3	226.5	37.87	6.981		
5,700.0	5,616.1	5,694.7	5,597.2	19.3	20.4	83.52	384.8	-911.7	269.3	230.7	38.61	6.977		
5,800.0	5,714.4	5,794.6	5,695.1	19.7	20.8	83.42	392.1	-930.5	274.3	235.0	39.34	6.973		
5,900.0	5,812.6	5,894.5	5,792.9	20.1	21.2	83.33	399.4	-949.3	279.4	239.3	40.08	6.970		
6,000.0	5,910.9	5,994.3	5,890.7	20.4	21.6	83.24	406.8	-968.1	284.4	243.5	40.82	6.966		
6,100.0	6,009.1	6,094.2	5,988.5	20.8	22.0	83.16	414.1	-987.0	289.4	247.8	41.56	6.963		
6,200.0	6,107.4	6,194.1	6,086.3	21.2	22.4	83.08	421.4	-1,005.8	294.4	252.1	42.29	6.960		
6,300.0	6,205.6	6,294.0	6,184.1	21.5	22.8	83.00	428.7	-1,024.6	299.4	256.3	43.03	6.957		
6,400.0	6,303.7	6,393.9	6,281.9	21.9	23.2	84.47	436.1	-1,043.5	304.4	260.6	43.80	6.949		
6,500.0	6,398.6	6,494.7	6,378.4	22.6	23.8	86.88	443.3	-1,071.3	309.3	264.2	45.05	6.865		
6,600.0	6,487.5	6,596.0	6,469.8	23.5	24.6	88.02	450.3	-1,114.3	313.9	267.1	46.81	6.707		
6,700.0	6,568.1	6,698.0	6,553.8	24.6	25.7	88.71	456.6	-1,171.7	318.2	269.1	49.06	6.485		
6,800.0	6,638.6	6,800.5	6,627.8	26.0	27.0	89.17	462.3	-1,242.2	321.9	270.1	51.82	6.213		
6,900.0	6,697.1	6,903.5	6,689.9	27.6	28.6	89.50	467.2	-1,324.1	325.0	270.0	55.05	5.904		
7,000.0	6,742.2	7,006.9	6,738.2	29.4	30.4	89.73	471.0	-1,415.3	327.5	268.7	58.73	5.575		
7,100.0	6,772.8	7,110.6	6,771.2	31.4	32.4	89.89	473.7	-1,513.5	329.1	266.3	62.78	5.242		
7,200.0	6,788.2	7,214.6	6,787.9	33.5	34.6	89.98	475.2	-1,615.9	330.0	262.9	67.08	4.919		
7,300.0	6,790.0	7,316.5	6,790.0	35.7	36.7	90.00	475.6	-1,717.8	330.1	258.6	71.49	4.617		
7,400.0	6,790.0	7,416.5	6,790.0	37.9	38.9	90.00	475.9	-1,817.8	330.1	254.1	75.94	4.346		
7,500.0	6,790.0	7,516.5	6,790.0	40.2	41.1	90.00	476.1	-1,917.8	330.1	249.6	80.45	4.103		
7,600.0	6,790.0	7,616.5	6,790.0	42.4	43.3	90.00	476.4	-2,017.8	330.1	245.1	85.01	3.883		
7,700.0	6,790.0	7,716.5	6,790.0	44.7	45.6	90.00	476.6	-2,117.8	330.1	240.5	89.61	3.683		
7,800.0	6,790.0	7,816.5	6,790.0	47.1	47.9	90.00	476.9	-2,217.8	330.1	235.8	94.24	3.502		
7,900.0	6,790.0	7,916.5	6,790.0	49.4	50.2	90.00	477.1	-2,317.8	330.1	231.2	98.91	3.337		
8,000.0	6,790.0	8,016.5	6,790.0	51.7	52.5	90.00	477.4	-2,417.8	330.1	226.5	103.60	3.186		
8,100.0	6,790.0	8,116.5	6,790.0	54.1	54.8	90.00	477.6	-2,517.8	330.1	221.7	108.32	3.047		
8,200.0	6,790.0	8,216.5	6,790.0	56.4	57.2	90.00	477.9	-2,617.8	330.1	217.0	113.05	2.920		
8,300.0	6,790.0	8,316.5	6,790.0	58.8	59.5	90.00	478.1	-2,717.8	330.1	212.3	117.80	2.802		
8,400.0	6,790.0	8,416.5	6,790.0	61.2	61.9	90.00	478.4	-2,817.8	330.1	207.5	122.57	2.693		
8,500.0	6,790.0	8,516.5	6,790.0	63.6	64.2	90.00	478.6	-2,917.8	330.1	202.7	127.35	2.592		
8,600.0	6,790.0	8,616.5	6,790.0	66.0	66.6	90.00	478.9	-3,017.8	330.1	197.9	132.15	2.498		
8,700.0	6,790.0	8,716.5	6,790.0	68.4	69.0	90.00	479.1	-3,117.8	330.1	193.1	136.95	2.410		
8,800.0	6,790.0	8,816.5	6,790.0	70.8	71.4	90.00	479.4	-3,217.8	330.1	188.3	141.77	2.328		
8,900.0	6,790.0	8,916.5	6,790.0	73.2	73.8	90.00	479.6	-3,317.8	330.1	183.5	146.59	2.252		
9,000.0	6,790.0	9,016.5	6,790.0	75.6	76.2	90.00	479.9	-3,417.8	330.1	178.6	151.42	2.180		
9,100.0	6,790.0	9,116.5	6,790.0	78.0	78.6	90.00	480.1	-3,517.8	330.1	173.8	156.26	2.112		
9,200.0	6,790.0	9,216.5	6,790.0	80.5	81.0	90.00	480.4	-3,617.8	330.1	169.0	161.11	2.049		
9,300.0	6,790.0	9,316.5	6,790.0	82.9	83.4	90.00	480.6	-3,717.8	330.1	164.1	165.96	1.989		
9,400.0	6,790.0	9,416.5	6,790.0	85.3	85.8	90.00	480.9	-3,817.8	330.1	159.2	170.82	1.932		
9,500.0	6,790.0	9,516.5	6,790.0	87.7	88.3	90.00	481.1	-3,917.8	330.1	154.4	175.68	1.879		
9,600.0	6,790.0	9,616.5	6,790.0	90.2	90.7	90.00	481.4	-4,017.8	330.1	149.5	180.55	1.828		
9,700.0	6,790.0	9,716.5	6,790.0	92.6	93.1	90.00	481.6	-4,117.8	330.1	144.6	185.42	1.780		
9,800.0	6,790.0	9,816.5	6,790.0	95.1	95.5	90.00	481.9	-4,217.8	330.1	139.8	190.29	1.734		
9,900.0	6,790.0	9,916.5	6,790.0	97.5	98.0	90.00	482.1	-4,317.8	330.1	134.9	195.17	1.691		
10,000.0	6,790.0	10,016.5	6,790.0	99.9	100.4	90.00	482.4	-4,417.8	330.1	130.0	200.06	1.650		
10,100.0	6,790.0	10,116.5	6,790.0	102.4	102.8	90.00	482.6	-4,517.8	330.1	125.1	204.94	1.611		
10,200.0	6,790.0	10,216.5	6,790.0	104.8	105.3	90.00	482.9	-4,617.8	330.1	120.2	209.83	1.573		
10,300.0	6,790.0	10,316.5	6,790.0	107.3	107.7	90.00	483.1	-4,717.8	330.1	115.3	214.72	1.537		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 1 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-Geolink MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Factor	
10,400.0	6,790.0	10,416.5	6,790.0	109.7	110.2	90.00	483.4	-4,817.8	330.1	110.4	219.62	1.503	
10,500.0	6,790.0	10,516.5	6,790.0	112.2	112.6	90.00	483.6	-4,917.8	330.1	105.5	224.51	1.470 Level 3	
10,600.0	6,790.0	10,616.5	6,790.0	114.6	115.1	90.00	483.9	-5,017.8	330.1	100.6	229.41	1.439 Level 3	
10,700.0	6,790.0	10,716.5	6,790.0	117.1	117.5	90.00	484.1	-5,117.8	330.1	95.7	234.31	1.409 Level 3	
10,800.0	6,790.0	10,816.5	6,790.0	119.5	119.9	90.00	484.4	-5,217.8	330.1	90.8	239.21	1.380 Level 3	
10,900.0	6,790.0	10,916.5	6,790.0	122.0	122.4	90.00	484.6	-5,317.8	330.1	85.9	244.12	1.352 Level 3	
11,000.0	6,790.0	11,016.5	6,790.0	124.4	124.8	90.00	484.9	-5,417.8	330.1	81.0	249.03	1.325 Level 3	
11,100.0	6,790.0	11,116.5	6,790.0	126.9	127.3	90.00	485.1	-5,517.8	330.1	76.1	253.93	1.300 Level 3	
11,200.0	6,790.0	11,216.5	6,790.0	129.3	129.7	90.00	485.4	-5,617.8	330.1	71.2	258.84	1.275 Level 3	
11,300.0	6,790.0	11,316.5	6,790.0	131.8	132.2	90.00	485.6	-5,717.8	330.1	66.3	263.75	1.251 Level 3	
11,400.0	6,790.0	11,416.5	6,790.0	134.2	134.6	90.00	485.9	-5,817.8	330.1	61.4	268.67	1.229 Level 2	
11,500.0	6,790.0	11,516.5	6,790.0	136.7	137.1	90.00	486.1	-5,917.8	330.1	56.5	273.58	1.206 Level 2	
11,600.0	6,790.0	11,616.5	6,790.0	139.1	139.6	90.00	486.4	-6,017.8	330.1	51.6	278.50	1.185 Level 2	
11,700.0	6,790.0	11,716.5	6,790.0	141.6	142.0	90.00	486.6	-6,117.8	330.1	46.6	283.41	1.165 Level 2	
11,800.0	6,790.0	11,816.5	6,790.0	144.1	144.5	90.00	486.9	-6,217.8	330.1	41.7	288.33	1.145 Level 2	
11,900.0	6,790.0	11,916.5	6,790.0	146.5	146.9	90.00	487.1	-6,317.8	330.1	36.8	293.25	1.126 Level 2	
12,000.0	6,790.0	12,016.5	6,790.0	149.0	149.4	90.00	487.4	-6,417.8	330.1	31.9	298.17	1.107 Level 2	
12,100.0	6,790.0	12,116.5	6,790.0	151.4	151.8	90.00	487.6	-6,517.8	330.1	27.0	303.09	1.089 Level 2	
12,200.0	6,790.0	12,216.5	6,790.0	153.9	154.3	90.00	487.9	-6,617.8	330.1	22.1	308.01	1.072 Level 2	
12,300.0	6,790.0	12,316.5	6,790.0	156.4	156.7	90.00	488.1	-6,717.8	330.1	17.1	312.93	1.055 Level 2	
12,400.0	6,790.0	12,416.5	6,790.0	158.8	159.2	90.00	488.4	-6,817.8	330.1	12.2	317.85	1.038 Level 2	
12,500.0	6,790.0	12,516.5	6,790.0	161.3	161.7	90.00	488.6	-6,917.8	330.1	7.3	322.78	1.023 Level 2	
12,600.0	6,790.0	12,616.5	6,790.0	163.7	164.1	90.00	488.9	-7,017.8	330.1	2.4	327.70	1.007 Level 2	
12,700.0	6,790.0	12,716.5	6,790.0	166.2	166.6	90.00	489.1	-7,117.8	330.1	-2.6	332.63	0.992 Level 1	
12,800.0	6,790.0	12,816.5	6,790.0	168.7	169.0	90.00	489.4	-7,217.8	330.1	-7.5	337.55	0.978 Level 1	
12,900.0	6,790.0	12,916.5	6,790.0	171.1	171.5	90.00	489.6	-7,317.8	330.1	-12.4	342.48	0.964 Level 1	
13,000.0	6,790.0	13,016.5	6,790.0	173.6	174.0	90.00	489.9	-7,417.8	330.1	-17.3	347.41	0.950 Level 1	
13,100.0	6,790.0	13,116.5	6,790.0	176.1	176.4	90.00	490.1	-7,517.8	330.1	-22.3	352.34	0.937 Level 1	
13,200.0	6,790.0	13,216.5	6,790.0	178.5	178.9	90.00	490.4	-7,617.8	330.1	-27.2	357.26	0.924 Level 1	
13,300.0	6,790.0	13,316.5	6,790.0	181.0	181.4	90.00	490.6	-7,717.8	330.1	-32.1	362.19	0.911 Level 1	
13,400.0	6,790.0	13,416.5	6,790.0	183.5	183.8	90.00	490.9	-7,817.8	330.1	-37.1	367.12	0.899 Level 1	
13,500.0	6,790.0	13,516.5	6,790.0	185.9	186.3	90.00	491.1	-7,917.8	330.1	-42.0	372.05	0.887 Level 1	
13,600.0	6,790.0	13,616.5	6,790.0	188.4	188.7	90.00	491.4	-8,017.8	330.1	-46.9	376.98	0.876 Level 1	
13,700.0	6,790.0	13,716.5	6,790.0	190.8	191.2	90.00	491.6	-8,117.8	330.1	-51.9	381.91	0.864 Level 1	
13,800.0	6,790.0	13,816.5	6,790.0	193.3	193.7	90.00	491.9	-8,217.8	330.1	-56.8	386.85	0.853 Level 1	
13,900.0	6,790.0	13,916.5	6,790.0	195.8	196.1	90.00	492.1	-8,317.8	330.1	-61.7	391.78	0.842 Level 1	
14,000.0	6,790.0	14,016.5	6,790.0	198.2	198.6	90.00	492.4	-8,417.8	330.1	-66.7	396.71	0.832 Level 1	
14,100.0	6,790.0	14,116.5	6,790.0	200.7	201.1	90.00	492.6	-8,517.8	330.1	-71.6	401.64	0.822 Level 1	
14,200.0	6,790.0	14,216.5	6,790.0	203.2	203.5	90.00	492.9	-8,617.8	330.1	-76.5	406.58	0.812 Level 1	
14,300.0	6,790.0	14,316.5	6,790.0	205.6	206.0	90.00	493.1	-8,717.8	330.1	-81.5	411.51	0.802 Level 1	
14,400.0	6,790.0	14,416.5	6,790.0	208.1	208.5	90.00	493.4	-8,817.8	330.1	-86.4	416.44	0.793 Level 1	
14,500.0	6,790.0	14,516.5	6,790.0	210.6	210.9	90.00	493.6	-8,917.8	330.1	-91.3	421.38	0.783 Level 1	
14,600.0	6,790.0	14,616.5	6,790.0	213.0	213.4	90.00	493.9	-9,017.8	330.1	-96.3	426.31	0.774 Level 1	
14,700.0	6,790.0	14,716.5	6,790.0	215.5	215.9	90.00	494.1	-9,117.8	330.1	-101.2	431.25	0.765 Level 1	
14,800.0	6,790.0	14,816.5	6,790.0	218.0	218.3	90.00	494.4	-9,217.8	330.1	-106.1	436.18	0.757 Level 1	
14,900.0	6,790.0	14,916.5	6,790.0	220.4	220.8	90.00	494.6	-9,317.8	330.1	-111.1	441.12	0.748 Level 1	
15,000.0	6,790.0	15,016.5	6,790.0	222.9	223.3	90.00	494.9	-9,417.8	330.1	-116.0	446.05	0.740 Level 1	
15,100.0	6,790.0	15,116.5	6,790.0	225.4	225.7	90.00	495.1	-9,517.8	330.1	-120.9	450.99	0.732 Level 1	
15,200.0	6,790.0	15,216.5	6,790.0	227.9	228.2	90.00	495.4	-9,617.8	330.1	-125.9	455.93	0.724 Level 1	
15,300.0	6,790.0	15,316.5	6,790.0	230.3	230.7	90.00	495.6	-9,717.8	330.1	-130.8	460.86	0.716 Level 1	
15,400.0	6,790.0	15,416.5	6,790.0	232.8	233.1	90.00	495.9	-9,817.8	330.1	-135.7	465.80	0.709 Level 1	
15,500.0	6,790.0	15,516.5	6,790.0	235.3	235.6	90.00	496.1	-9,917.8	330.1	-140.7	470.74	0.701 Level 1	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 1 - Hz - Plan #1													Offset Site Error: 0.0 usft	
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
15,600.0	6,790.0	15,616.5	6,790.0	237.7	238.1	90.00	496.4	-10,017.8	330.1	-145.6	475.67	0.694	Level 1	
15,700.0	6,790.0	15,716.5	6,790.0	240.2	240.5	90.00	496.6	-10,117.8	330.1	-150.6	480.61	0.687	Level 1	
15,800.0	6,790.0	15,816.5	6,790.0	242.7	243.0	90.00	496.9	-10,217.8	330.1	-155.5	485.55	0.680	Level 1	
15,900.0	6,790.0	15,916.5	6,790.0	245.1	245.5	90.00	497.1	-10,317.8	330.1	-160.4	490.49	0.673	Level 1	
16,000.0	6,790.0	16,016.5	6,790.0	247.6	247.9	90.00	497.4	-10,417.8	330.1	-165.4	495.43	0.666	Level 1	
16,100.0	6,790.0	16,116.5	6,790.0	250.1	250.4	90.00	497.6	-10,517.8	330.1	-170.3	500.36	0.660	Level 1	
16,200.0	6,790.0	16,216.5	6,790.0	252.5	252.9	90.00	497.9	-10,617.8	330.1	-175.2	505.30	0.653	Level 1	
16,300.0	6,790.0	16,316.5	6,790.0	255.0	255.3	90.00	498.1	-10,717.8	330.1	-180.2	510.24	0.647	Level 1	
16,400.0	6,790.0	16,416.5	6,790.0	257.5	257.8	90.00	498.4	-10,817.8	330.1	-185.1	515.18	0.641	Level 1	
16,500.0	6,790.0	16,516.5	6,790.0	259.9	260.3	90.00	498.6	-10,917.8	330.1	-190.1	520.12	0.635	Level 1	
16,600.0	6,790.0	16,616.5	6,790.0	262.4	262.7	90.00	498.9	-11,017.8	330.1	-195.0	525.06	0.629	Level 1	
16,700.0	6,790.0	16,716.5	6,790.0	264.9	265.2	90.00	499.1	-11,117.8	330.1	-199.9	530.00	0.623	Level 1	
16,800.0	6,790.0	16,816.5	6,790.0	267.4	267.7	90.00	499.4	-11,217.8	330.1	-204.9	534.94	0.617	Level 1	
16,900.0	6,790.0	16,916.5	6,790.0	269.8	270.1	90.00	499.6	-11,317.8	330.1	-209.8	539.88	0.611	Level 1	
17,000.0	6,790.0	17,016.5	6,790.0	272.3	272.6	90.00	499.9	-11,417.8	330.1	-214.8	544.82	0.606	Level 1	
17,100.0	6,790.0	17,116.5	6,790.0	274.8	275.1	90.00	500.1	-11,517.8	330.1	-219.7	549.76	0.600	Level 1	
17,200.0	6,790.0	17,216.5	6,790.0	277.2	277.6	90.00	500.4	-11,617.8	330.1	-224.6	554.70	0.595	Level 1	
17,300.0	6,790.0	17,316.5	6,790.0	279.7	280.0	90.00	500.6	-11,717.8	330.1	-229.6	559.64	0.590	Level 1	
17,395.4	6,790.0	17,411.9	6,790.0	282.1	282.4	90.00	500.8	-11,813.2	330.1	-234.3	564.35	0.585	Level 1, ES, SF	

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 10 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.05	-192.0	-115.1	223.9					
100.0	100.0	100.0	100.0	0.1	0.0	-149.05	-192.0	-115.1	223.9	0.13	1,685.202			
200.0	200.0	200.0	200.0	0.3	0.0	-149.05	-192.0	-115.1	223.9	0.31	728.324 CC, ES			
300.0	300.0	296.6	296.6	0.5	0.0	-66.36	-192.4	-115.8	224.3	0.48	464.617			
400.0	400.0	393.2	393.2	0.7	0.0	-66.66	-193.8	-117.9	225.5	0.66	340.752			
500.0	499.9	489.8	489.6	0.9	0.0	-67.16	-196.0	-121.3	227.5	0.85	268.384			
600.0	599.7	586.2	586.0	1.1	0.0	-67.84	-199.1	-126.1	230.4	1.04	220.668			
700.0	699.4	682.7	682.1	1.3	0.0	-68.68	-203.0	-132.2	234.2	1.25	186.702			
800.0	798.9	779.0	778.0	1.5	0.0	-69.68	-207.9	-139.7	238.9	1.48	161.237			
900.0	898.3	875.2	873.6	1.8	0.0	-70.80	-213.6	-148.5	244.5	1.73	141.436			
1,000.0	997.4	971.3	969.0	2.0	0.0	-72.03	-220.1	-158.7	251.1	2.00	125.637			
1,100.0	1,096.3	1,067.2	1,063.9	2.3	0.0	-73.34	-227.5	-170.2	258.8	2.29	112.794			
1,200.0	1,194.9	1,163.0	1,158.4	2.7	0.0	-74.71	-235.8	-183.0	267.5	2.62	102.212			
1,300.0	1,293.3	1,258.6	1,252.5	3.0	0.0	-76.13	-244.9	-197.0	277.2	2.96	93.569			
1,400.0	1,391.5	1,354.0	1,346.2	3.4	0.0	-77.41	-254.8	-212.4	288.4	3.32	86.960			
1,500.0	1,489.8	1,449.2	1,439.4	3.7	0.0	-78.41	-265.6	-229.1	301.0	3.67	81.921			
1,600.0	1,588.0	1,544.2	1,531.9	4.1	0.0	-79.14	-277.2	-247.0	314.9	4.03	78.061			
1,700.0	1,686.3	1,639.0	1,623.9	4.4	0.0	-79.63	-289.5	-266.1	330.1	4.40	75.104			
1,800.0	1,784.5	1,733.4	1,715.1	4.8	0.0	-79.90	-302.7	-286.5	346.6	4.76	72.851			
1,900.0	1,882.7	1,827.4	1,805.6	5.2	0.0	-79.99	-316.6	-308.0	364.3	5.12	71.156			
2,000.0	1,981.0	1,920.9	1,895.2	5.5	0.0	-79.91	-331.2	-330.6	383.3	5.48	69.912			
2,100.0	2,079.2	2,014.0	1,983.9	5.9	0.0	-79.70	-346.5	-354.3	403.4	5.84	69.039			
2,200.0	2,177.5	2,106.6	2,071.6	6.3	0.0	-79.38	-362.6	-379.2	424.7	6.20	68.476			
2,300.0	2,275.7	2,200.0	2,159.6	6.6	0.0	-78.95	-379.5	-405.4	447.3	6.56	68.177			
2,400.0	2,374.0	2,290.0	2,244.0	7.0	0.0	-78.46	-396.6	-431.8	471.1	6.92	68.100 SF			
2,500.0	2,472.2	2,380.8	2,328.5	7.4	0.0	-77.91	-414.5	-459.5	496.1	7.27	68.219			
2,600.0	2,570.5	2,470.8	2,411.8	7.8	0.0	-77.31	-433.0	-488.2	522.4	7.63	68.510			
2,700.0	2,668.7	2,560.2	2,494.0	8.1	0.0	-76.67	-452.1	-517.7	549.9	7.98	68.951			
2,800.0	2,767.0	2,650.4	2,576.4	8.5	0.0	-76.00	-472.0	-548.6	578.7	8.32	69.524			
2,900.0	2,865.2	2,745.9	2,663.4	8.9	0.0	-75.33	-493.3	-581.5	607.8	8.67	70.117			
3,000.0	2,963.5	2,841.3	2,750.4	9.2	0.0	-74.72	-514.6	-614.5	637.1	9.01	70.675			
3,100.0	3,061.7	2,936.7	2,837.4	9.6	0.0	-74.17	-535.9	-647.4	666.3	9.36	71.202			
3,200.0	3,160.0	3,032.1	2,924.4	10.0	0.0	-73.66	-557.2	-680.4	695.7	9.70	71.700			
3,300.0	3,258.2	3,127.5	3,011.4	10.4	0.0	-73.20	-578.5	-713.3	725.1	10.05	72.171			
3,400.0	3,356.5	3,223.0	3,098.3	10.7	0.0	-72.77	-599.8	-746.3	754.5	10.39	72.616			
3,500.0	3,454.7	3,318.4	3,185.3	11.1	0.0	-72.37	-621.1	-779.3	784.0	10.73	73.038			
3,600.0	3,552.9	3,413.8	3,272.3	11.5	0.0	-72.00	-642.3	-812.2	813.5	11.08	73.438			
3,700.0	3,651.2	3,509.2	3,359.3	11.8	0.0	-71.66	-663.6	-845.2	843.0	11.42	73.817			
3,800.0	3,749.4	3,604.7	3,446.3	12.2	0.0	-71.34	-684.9	-878.1	872.6	11.76	74.178			
3,900.0	3,847.7	3,700.1	3,533.3	12.6	0.0	-71.04	-706.2	-911.1	902.1	12.11	74.521			
4,000.0	3,945.9	3,795.5	3,620.2	13.0	0.0	-70.76	-727.5	-944.0	931.7	12.45	74.848			
4,100.0	4,044.2	3,890.9	3,707.2	13.3	0.0	-70.50	-748.8	-977.0	961.3	12.79	75.159			
4,200.0	4,142.4	3,986.4	3,794.2	13.7	0.0	-70.25	-770.1	-1,009.9	991.0	13.13	75.456			

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 11 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.04	-216.0	-129.6	251.9					
100.0	100.0	100.0	100.0	0.1	0.0	-149.04	-216.0	-129.6	251.9	0.13	1,896.415			
200.0	200.0	200.0	200.0	0.3	0.0	-149.04	-216.0	-129.6	251.9	0.31	819.608 CC, ES			
300.0	300.0	296.0	296.0	0.5	0.0	-66.35	-216.5	-130.2	252.4	0.48	522.805			
400.0	400.0	392.0	392.0	0.7	0.0	-66.67	-218.0	-132.1	253.7	0.66	383.331			
500.0	499.9	488.0	487.9	0.9	0.0	-67.20	-220.6	-135.3	255.9	0.85	301.796			
600.0	599.7	583.9	583.6	1.1	0.0	-67.91	-224.1	-139.6	259.0	1.04	248.000			
700.0	699.4	679.7	679.1	1.3	0.0	-68.80	-228.6	-145.3	263.1	1.25	209.681			
800.0	798.9	775.4	774.4	1.5	0.0	-69.85	-234.1	-152.1	268.1	1.48	180.934			
900.0	898.3	870.9	869.3	1.8	0.0	-71.04	-240.6	-160.2	274.2	1.73	158.572			
1,000.0	997.4	966.2	963.9	2.0	0.0	-72.34	-248.1	-169.5	281.4	2.00	140.726			
1,100.0	1,096.3	1,061.4	1,058.1	2.3	0.0	-73.72	-256.5	-180.0	289.8	2.30	126.221			
1,200.0	1,194.9	1,156.3	1,151.9	2.7	0.0	-75.17	-265.9	-191.7	299.3	2.62	114.276			
1,300.0	1,293.3	1,251.0	1,245.2	3.0	0.0	-76.68	-276.2	-204.6	310.0	2.97	104.526			
1,400.0	1,391.5	1,345.6	1,337.9	3.4	0.0	-78.09	-287.5	-218.6	322.3	3.32	97.053			
1,500.0	1,489.8	1,439.9	1,430.2	3.7	0.0	-79.24	-299.7	-233.8	336.1	3.68	91.333			
1,600.0	1,588.0	1,533.9	1,521.9	4.1	0.0	-80.16	-312.8	-250.1	351.3	4.04	86.930			
1,700.0	1,686.3	1,627.6	1,612.9	4.4	0.0	-80.86	-326.8	-267.6	368.0	4.40	83.535			
1,800.0	1,784.5	1,721.0	1,703.2	4.8	0.0	-81.36	-341.7	-286.1	386.0	4.77	80.920			
1,900.0	1,882.7	1,813.9	1,792.7	5.2	0.0	-81.68	-357.4	-305.7	405.2	5.13	78.923			
2,000.0	1,981.0	1,906.4	1,881.3	5.5	0.0	-81.85	-373.9	-326.3	425.8	5.50	77.419			
2,100.0	2,079.2	2,000.0	1,970.5	5.9	0.0	-81.89	-391.6	-348.3	447.6	5.87	76.320			
2,200.0	2,177.5	2,089.9	2,055.8	6.3	0.0	-81.82	-409.4	-370.5	470.7	6.23	75.551			
2,300.0	2,275.7	2,180.8	2,141.5	6.6	0.0	-81.64	-428.2	-394.0	495.0	6.59	75.062			
2,400.0	2,374.0	2,271.0	2,226.2	7.0	0.0	-81.39	-447.8	-418.3	520.5	6.96	74.809			
2,500.0	2,472.2	2,360.6	2,309.7	7.4	0.0	-81.07	-468.0	-443.5	547.3	7.32	74.759 SF			
2,600.0	2,570.5	2,449.5	2,392.1	7.8	0.0	-80.69	-488.9	-469.6	575.3	7.68	74.884			
2,700.0	2,668.7	2,537.6	2,473.3	8.1	0.0	-80.27	-510.4	-496.4	604.5	8.04	75.161			
2,800.0	2,767.0	2,625.0	2,553.3	8.5	0.0	-79.82	-532.5	-523.9	635.0	8.40	75.572			
2,900.0	2,865.2	2,711.6	2,632.0	8.9	0.0	-79.34	-555.2	-552.1	666.7	8.76	76.102			
3,000.0	2,963.5	2,800.0	2,711.7	9.2	0.0	-78.83	-579.0	-581.8	699.6	9.12	76.740			
3,100.0	3,061.7	2,889.3	2,791.9	9.6	0.0	-78.31	-603.7	-612.5	733.3	9.47	77.433			
3,200.0	3,160.0	2,983.2	2,876.1	10.0	0.0	-77.81	-629.6	-644.8	767.2	9.82	78.092			
3,300.0	3,258.2	3,077.1	2,960.4	10.4	0.0	-77.35	-655.5	-677.1	801.1	10.18	78.712			
3,400.0	3,356.5	3,171.0	3,044.7	10.7	0.0	-76.94	-681.4	-709.4	835.1	10.53	79.297			
3,500.0	3,454.7	3,264.9	3,129.0	11.1	0.0	-76.55	-707.4	-741.7	869.0	10.88	79.848			
3,600.0	3,552.9	3,358.8	3,213.2	11.5	0.0	-76.19	-733.3	-773.9	903.1	11.24	80.368			
3,700.0	3,651.2	3,452.7	3,297.5	11.8	0.0	-75.86	-759.2	-806.2	937.1	11.59	80.861			
3,800.0	3,749.4	3,546.6	3,381.8	12.2	0.0	-75.55	-785.1	-838.5	971.2	11.94	81.327			

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 3 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-148.97	-24.0	-14.5	28.1					
100.0	100.0	100.0	100.0	0.1	0.0	-148.97	-24.0	-14.5	28.1	27.9	0.13	211.213		
200.0	200.0	200.0	200.0	0.3	0.0	-148.97	-24.0	-14.5	28.1	27.8	0.31	91.284 CC		
300.0	300.0	299.7	299.7	0.5	0.0	-66.29	-24.0	-15.3	28.2	27.7	0.48	58.323 ES		
400.0	400.0	399.5	399.5	0.7	0.0	-66.59	-24.0	-17.9	28.4	27.8	0.66	42.971		
500.0	499.9	499.2	499.1	0.9	0.0	-67.09	-24.0	-22.3	28.9	28.1	0.85	34.099		
600.0	599.7	599.0	598.7	1.1	0.0	-67.75	-24.0	-28.3	29.6	28.5	1.04	28.323		
700.0	699.4	698.7	698.1	1.3	0.0	-68.56	-24.0	-36.2	30.4	29.2	1.25	24.266		
800.0	798.9	798.5	797.4	1.5	0.0	-69.50	-24.0	-45.7	31.5	30.0	1.48	21.264		
900.0	898.3	898.2	896.5	1.8	0.0	-70.52	-23.9	-57.0	32.8	31.0	1.73	18.958		
1,000.0	897.4	897.9	895.4	2.0	0.0	-71.60	-23.9	-69.9	34.2	32.2	2.00	17.138		
1,100.0	1,096.3	1,097.7	1,094.0	2.3	0.0	-72.72	-23.9	-84.6	35.9	33.6	2.29	15.671		
1,200.0	1,194.9	1,197.4	1,192.4	2.7	0.0	-73.85	-23.8	-101.1	37.8	35.2	2.61	14.470		
1,300.0	1,293.3	1,297.1	1,290.4	3.0	0.0	-74.90	-23.8	-119.2	39.9	37.0	2.96	13.505		
1,400.0	1,391.5	1,397.0	1,388.3	3.4	0.0	-74.61	-23.7	-138.8	42.5	39.2	3.30	12.880		
1,500.0	1,489.8	1,496.9	1,486.3	3.7	0.0	-74.14	-23.6	-158.6	45.1	41.5	3.64	12.388		
1,600.0	1,588.0	1,596.9	1,584.3	4.1	0.0	-73.72	-23.6	-178.4	47.7	43.7	3.99	11.975		
1,700.0	1,686.3	1,696.8	1,682.3	4.4	0.0	-73.35	-23.5	-198.2	50.4	46.0	4.33	11.625		
1,800.0	1,784.5	1,796.8	1,780.2	4.8	0.0	-73.01	-23.5	-218.0	53.0	48.3	4.68	11.324		
1,900.0	1,882.7	1,896.8	1,878.2	5.2	0.0	-72.70	-23.4	-237.9	55.6	50.6	5.03	11.063		
2,000.0	1,981.0	1,996.7	1,976.2	5.5	0.0	-72.43	-23.4	-257.7	58.3	52.9	5.38	10.836		
2,100.0	2,079.2	2,096.7	2,074.2	5.9	0.0	-72.17	-23.3	-277.5	60.9	55.2	5.73	10.635		
2,200.0	2,177.5	2,196.7	2,172.2	6.3	0.0	-71.94	-23.3	-297.3	63.6	57.5	6.08	10.458		
2,300.0	2,275.7	2,296.6	2,270.2	6.6	0.0	-71.72	-23.2	-317.1	66.2	59.8	6.43	10.299		
2,400.0	2,374.0	2,396.6	2,368.1	7.0	0.0	-71.53	-23.2	-336.9	68.8	62.1	6.78	10.157		
2,500.0	2,472.2	2,496.6	2,466.1	7.4	0.0	-71.34	-23.1	-356.7	71.5	64.3	7.13	10.028		
2,600.0	2,570.5	2,596.5	2,564.1	7.8	0.0	-71.17	-23.1	-376.5	74.1	66.6	7.48	9.911		
2,700.0	2,668.7	2,696.5	2,662.1	8.1	0.0	-71.02	-23.0	-396.4	76.8	68.9	7.83	9.805		
2,800.0	2,767.0	2,796.5	2,760.1	8.5	0.0	-70.87	-22.9	-416.2	79.4	71.2	8.18	9.708		
2,900.0	2,865.2	2,896.4	2,858.0	8.9	0.0	-70.73	-22.9	-436.0	82.1	73.5	8.53	9.619		
3,000.0	2,963.5	2,996.4	2,956.0	9.2	0.0	-70.60	-22.8	-455.8	84.7	75.8	8.88	9.537		
3,100.0	3,061.7	3,096.4	3,054.0	9.6	0.0	-70.48	-22.8	-475.6	87.3	78.1	9.23	9.462		
3,200.0	3,160.0	3,196.3	3,152.0	10.0	0.0	-70.36	-22.7	-495.4	90.0	80.4	9.58	9.391		
3,300.0	3,258.2	3,296.3	3,250.0	10.4	0.0	-70.26	-22.7	-515.2	92.6	82.7	9.93	9.326		
3,400.0	3,356.5	3,396.2	3,347.9	10.7	0.0	-70.15	-22.6	-535.1	95.3	85.0	10.28	9.265		
3,500.0	3,454.7	3,496.2	3,445.9	11.1	0.0	-70.06	-22.6	-554.9	97.9	87.3	10.63	9.209		
3,600.0	3,552.9	3,596.2	3,543.9	11.5	0.0	-69.96	-22.5	-574.7	100.6	89.6	10.99	9.156		
3,700.0	3,651.2	3,696.1	3,641.9	11.8	0.0	-69.88	-22.5	-594.5	103.2	91.9	11.34	9.106		
3,800.0	3,749.4	3,796.1	3,739.9	12.2	0.0	-69.80	-22.4	-614.3	105.9	94.2	11.69	9.059		
3,900.0	3,847.7	3,896.1	3,837.9	12.6	0.0	-69.72	-22.3	-634.1	108.5	96.5	12.04	9.015		
4,000.0	3,945.9	3,996.0	3,935.8	13.0	0.0	-69.64	-22.3	-653.9	111.2	98.8	12.39	8.974		
4,100.0	4,044.2	4,096.0	4,033.8	13.3	0.0	-69.57	-22.2	-673.7	113.8	101.1	12.74	8.934		
4,200.0	4,142.4	4,196.0	4,131.8	13.7	0.0	-69.50	-22.2	-693.6	116.5	103.4	13.09	8.897		
4,300.0	4,240.7	4,295.9	4,229.8	14.1	0.0	-69.44	-22.1	-713.4	119.1	105.7	13.44	8.862		
4,400.0	4,338.9	4,395.9	4,327.8	14.5	0.0	-69.38	-22.1	-733.2	121.8	108.0	13.79	8.829		
4,500.0	4,437.2	4,495.9	4,425.7	14.8	0.0	-69.32	-22.0	-753.0	124.4	110.3	14.14	8.797		
4,600.0	4,535.4	4,595.8	4,523.7	15.2	0.0	-69.26	-22.0	-772.8	127.1	112.6	14.49	8.767		
4,700.0	4,633.7	4,695.8	4,621.7	15.6	0.0	-69.21	-21.9	-792.6	129.7	114.9	14.84	8.739		
4,800.0	4,731.9	4,795.8	4,719.7	15.9	0.0	-69.15	-21.9	-812.4	132.4	117.2	15.19	8.711		
4,900.0	4,830.2	4,895.7	4,817.7	16.3	0.0	-69.10	-21.8	-832.3	135.0	119.5	15.55	8.685		
5,000.0	4,928.4	4,995.7	4,915.7	16.7	0.0	-69.05	-21.8	-852.1	137.7	121.8	15.90	8.660		
5,100.0	5,026.7	5,095.7	5,013.6	17.1	0.0	-69.01	-21.7	-871.9	140.3	124.1	16.25	8.636		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 3 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 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 Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,124.9	5,195.6	5,111.6	17.4	0.0	-68.96	-21.6	-891.7	143.0	126.4	16.60	8.614	
5,300.0	5,223.2	5,295.6	5,209.6	17.8	0.0	-68.92	-21.6	-911.5	145.6	128.7	16.95	8.592	
5,400.0	5,321.4	5,395.5	5,307.6	18.2	0.0	-68.88	-21.5	-931.3	148.3	131.0	17.30	8.571	
5,500.0	5,419.6	5,495.5	5,405.6	18.6	0.0	-68.84	-21.5	-951.1	150.9	133.3	17.65	8.551	
5,600.0	5,517.9	5,595.5	5,503.5	18.9	0.0	-68.80	-21.4	-970.9	153.6	135.6	18.00	8.531	
5,700.0	5,616.1	5,695.4	5,601.5	19.3	0.0	-68.76	-21.4	-990.8	156.2	137.9	18.35	8.513	
5,800.0	5,714.4	5,795.4	5,699.5	19.7	0.0	-68.72	-21.3	-1,010.6	158.9	140.2	18.70	8.495	
5,900.0	5,812.6	5,895.4	5,797.5	20.1	0.0	-68.69	-21.3	-1,030.4	161.5	142.5	19.05	8.478	
6,000.0	5,910.9	5,995.3	5,895.5	20.4	0.0	-68.65	-21.2	-1,050.2	164.2	144.8	19.40	8.461	
6,100.0	6,009.1	6,095.3	5,993.5	20.8	0.0	-68.62	-21.2	-1,070.0	166.8	147.1	19.75	8.445	
6,200.0	6,107.4	6,195.3	6,091.4	21.2	0.0	-68.59	-21.1	-1,089.8	169.5	149.4	20.10	8.430	
6,300.0	6,205.6	6,295.2	6,189.4	21.5	0.0	-68.56	-21.0	-1,109.6	172.1	151.7	20.45	8.415	
6,400.0	6,303.7	6,395.2	6,287.4	21.9	0.0	-67.20	-21.0	-1,129.5	174.4	153.5	20.85	8.364	
6,500.0	6,398.6	6,494.4	6,384.6	22.6	0.0	-69.05	-20.9	-1,149.1	171.2	149.4	21.79	7.857	
6,600.0	6,487.5	6,590.5	6,478.8	23.5	0.0	-77.37	-20.9	-1,168.2	163.9	140.7	23.23	7.055	
6,691.2	6,561.4	6,673.6	6,560.2	24.5	0.0	-89.34	-20.8	-1,184.6	159.8	135.4	24.44	6.539	
6,700.0	6,568.1	6,681.2	6,567.8	24.6	0.0	-90.63	-20.8	-1,186.1	159.9	135.4	24.52	6.522	
6,800.0	6,638.6	6,768.4	6,652.8	26.0	0.0	-105.74	-20.8	-1,205.3	169.7	144.9	24.78	6.847	
6,900.0	6,697.1	6,863.2	6,741.7	27.6	0.0	-119.25	-20.7	-1,238.0	195.4	171.4	24.00	8.141	
7,000.0	6,742.2	6,968.7	6,833.6	29.4	0.0	-130.10	-20.6	-1,289.3	231.8	209.1	22.73	10.198	
7,100.0	6,772.8	7,088.8	6,926.4	31.4	0.0	-138.56	-20.4	-1,365.3	273.4	252.0	21.39	12.785	
7,200.0	6,788.2	7,229.0	7,014.4	33.5	0.0	-145.16	-20.1	-1,474.2	315.3	295.2	20.17	15.637	
7,300.0	6,790.0	7,396.8	7,085.4	35.7	0.0	-150.81	-19.7	-1,625.7	351.0	332.2	18.84	18.627	
7,400.0	6,790.0	7,593.2	7,115.0	37.9	0.0	-153.08	-19.2	-1,819.1	364.5	345.7	18.78	19.408	
7,500.0	6,790.0	7,693.2	7,115.0	40.2	0.0	-153.08	-19.0	-1,919.1	364.5	344.7	19.81	18.400	
7,600.0	6,790.0	7,793.2	7,115.0	42.4	0.0	-153.08	-18.7	-2,019.1	364.5	343.6	20.85	17.481	
7,700.0	6,790.0	7,893.2	7,115.0	44.7	0.0	-153.08	-18.5	-2,119.1	364.5	342.6	21.90	16.643	
7,800.0	6,790.0	7,993.2	7,115.0	47.1	0.0	-153.08	-18.2	-2,219.1	364.5	341.5	22.96	15.877	
7,900.0	6,790.0	8,093.2	7,115.0	49.4	0.0	-153.08	-18.0	-2,319.1	364.5	340.5	24.02	15.173	
8,000.0	6,790.0	8,193.2	7,115.0	51.7	0.0	-153.08	-17.7	-2,419.1	364.5	339.4	25.09	14.526	
8,100.0	6,790.0	8,293.2	7,115.0	54.1	0.0	-153.08	-17.5	-2,519.1	364.5	338.3	26.17	13.928	
8,200.0	6,790.0	8,393.2	7,115.0	56.4	0.0	-153.08	-17.2	-2,619.1	364.5	337.2	27.25	13.376	
8,300.0	6,790.0	8,493.2	7,115.0	58.8	0.0	-153.08	-17.0	-2,719.1	364.5	336.2	28.34	12.864	
8,400.0	6,790.0	8,593.2	7,115.0	61.2	0.0	-153.08	-16.7	-2,819.1	364.5	335.1	29.42	12.388	
8,500.0	6,790.0	8,693.2	7,115.0	63.6	0.0	-153.08	-16.5	-2,919.1	364.5	334.0	30.52	11.945	
8,600.0	6,790.0	8,793.2	7,115.0	66.0	0.0	-153.08	-16.2	-3,019.1	364.5	332.9	31.61	11.531	
8,700.0	6,790.0	8,893.2	7,115.0	68.4	0.0	-153.08	-16.0	-3,119.1	364.5	331.8	32.71	11.144	
8,800.0	6,790.0	8,993.2	7,115.0	70.8	0.0	-153.08	-15.7	-3,219.1	364.5	330.7	33.81	10.782	
8,900.0	6,790.0	9,093.2	7,115.0	73.2	0.0	-153.08	-15.5	-3,319.1	364.5	329.6	34.91	10.441	
9,000.0	6,790.0	9,193.2	7,115.0	75.6	0.0	-153.08	-15.2	-3,419.1	364.5	328.5	36.01	10.121	
9,100.0	6,790.0	9,293.2	7,115.0	78.0	0.0	-153.08	-15.0	-3,519.1	364.5	327.4	37.12	9.820	
9,200.0	6,790.0	9,393.2	7,115.0	80.5	0.0	-153.08	-14.7	-3,619.1	364.5	326.3	38.23	9.535	
9,300.0	6,790.0	9,493.2	7,115.0	82.9	0.0	-153.08	-14.5	-3,719.1	364.5	325.2	39.34	9.266	
9,400.0	6,790.0	9,593.2	7,115.0	85.3	0.0	-153.08	-14.2	-3,819.1	364.5	324.1	40.45	9.012	
9,500.0	6,790.0	9,693.2	7,115.0	87.7	0.0	-153.08	-14.0	-3,919.1	364.5	322.9	41.56	8.771	
9,600.0	6,790.0	9,793.2	7,115.0	90.2	0.0	-153.08	-13.7	-4,019.1	364.5	321.8	42.67	8.542	
9,700.0	6,790.0	9,893.2	7,115.0	92.6	0.0	-153.08	-13.5	-4,119.1	364.5	320.7	43.78	8.325	
9,800.0	6,790.0	9,993.2	7,115.0	95.1	0.0	-153.08	-13.2	-4,219.1	364.5	319.6	44.90	8.118	
9,900.0	6,790.0	10,093.2	7,115.0	97.5	0.0	-153.08	-13.0	-4,319.1	364.5	318.5	46.01	7.921	
10,000.0	6,790.0	10,193.2	7,115.0	99.9	0.0	-153.08	-12.7	-4,419.1	364.5	317.4	47.13	7.734	
10,100.0	6,790.0	10,293.2	7,115.0	102.4	0.0	-153.08	-12.5	-4,519.1	364.5	316.3	48.25	7.555	
10,200.0	6,790.0	10,393.2	7,115.0	104.8	0.0	-153.08	-12.2	-4,619.1	364.5	315.1	49.37	7.383	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 3 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 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 Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	6,790.0	10,493.2	7,115.0	107.3	0.0	-153.08	-12.0	-4,719.1	364.5	314.0	50.49	7.220	
10,400.0	6,790.0	10,593.2	7,115.0	109.7	0.0	-153.08	-11.7	-4,819.1	364.5	312.9	51.61	7.063	
10,500.0	6,790.0	10,693.2	7,115.0	112.2	0.0	-153.08	-11.5	-4,919.1	364.5	311.8	52.73	6.913	
10,600.0	6,790.0	10,793.2	7,115.0	114.6	0.0	-153.08	-11.2	-5,019.1	364.5	310.7	53.85	6.769	
10,700.0	6,790.0	10,893.2	7,115.0	117.1	0.0	-153.08	-11.0	-5,119.1	364.5	309.5	54.97	6.631	
10,800.0	6,790.0	10,993.2	7,115.0	119.5	0.0	-153.08	-10.7	-5,219.1	364.5	308.4	56.09	6.499	
10,900.0	6,790.0	11,093.2	7,115.0	122.0	0.0	-153.08	-10.5	-5,319.1	364.5	307.3	57.21	6.371	
11,000.0	6,790.0	11,193.2	7,115.0	124.4	0.0	-153.08	-10.2	-5,419.1	364.5	306.2	58.33	6.249	
11,100.0	6,790.0	11,293.2	7,115.0	126.9	0.0	-153.08	-10.0	-5,519.1	364.5	305.0	59.46	6.131	
11,200.0	6,790.0	11,393.2	7,115.0	129.3	0.0	-153.08	-9.7	-5,619.1	364.5	303.9	60.58	6.017	
11,300.0	6,790.0	11,493.2	7,115.0	131.8	0.0	-153.08	-9.5	-5,719.1	364.5	302.8	61.70	5.907	
11,400.0	6,790.0	11,593.2	7,115.0	134.2	0.0	-153.08	-9.2	-5,819.1	364.5	301.7	62.83	5.802	
11,500.0	6,790.0	11,693.2	7,115.0	136.7	0.0	-153.08	-9.0	-5,919.1	364.5	300.5	63.95	5.700	
11,600.0	6,790.0	11,793.2	7,115.0	139.1	0.0	-153.08	-8.7	-6,019.1	364.5	299.4	65.08	5.601	
11,700.0	6,790.0	11,893.2	7,115.0	141.6	0.0	-153.08	-8.5	-6,119.1	364.5	298.3	66.20	5.506	
11,800.0	6,790.0	11,993.2	7,115.0	144.1	0.0	-153.08	-8.2	-6,219.1	364.5	297.2	67.33	5.414	
11,900.0	6,790.0	12,093.2	7,115.0	146.5	0.0	-153.08	-8.0	-6,319.1	364.5	296.0	68.45	5.325	
12,000.0	6,790.0	12,193.2	7,115.0	149.0	0.0	-153.08	-7.7	-6,419.1	364.5	294.9	69.58	5.239	
12,100.0	6,790.0	12,293.2	7,115.0	151.4	0.0	-153.08	-7.5	-6,519.1	364.5	293.8	70.71	5.155	
12,200.0	6,790.0	12,393.2	7,115.0	153.9	0.0	-153.08	-7.2	-6,619.1	364.5	292.7	71.83	5.074	
12,300.0	6,790.0	12,493.2	7,115.0	156.4	0.0	-153.08	-7.0	-6,719.1	364.5	291.5	72.96	4.996	
12,400.0	6,790.0	12,593.2	7,115.0	158.8	0.0	-153.08	-6.7	-6,819.1	364.5	290.4	74.09	4.920	
12,500.0	6,790.0	12,693.2	7,115.0	161.3	0.0	-153.08	-6.5	-6,919.1	364.5	289.3	75.21	4.846	
12,600.0	6,790.0	12,793.2	7,115.0	163.7	0.0	-153.08	-6.2	-7,019.1	364.5	288.2	76.34	4.775	
12,700.0	6,790.0	12,893.2	7,115.0	166.2	0.0	-153.08	-6.0	-7,119.1	364.5	287.0	77.47	4.705	
12,800.0	6,790.0	12,993.2	7,115.0	168.7	0.0	-153.08	-5.7	-7,219.0	364.5	285.9	78.60	4.638	
12,900.0	6,790.0	13,093.2	7,115.0	171.1	0.0	-153.08	-5.5	-7,319.0	364.5	284.8	79.72	4.572	
13,000.0	6,790.0	13,193.2	7,115.0	173.6	0.0	-153.08	-5.2	-7,419.0	364.5	283.6	80.85	4.508	
13,100.0	6,790.0	13,293.2	7,115.0	176.1	0.0	-153.08	-5.0	-7,519.0	364.5	282.5	81.98	4.446	
13,200.0	6,790.0	13,393.2	7,115.0	178.5	0.0	-153.08	-4.7	-7,619.0	364.5	281.4	83.11	4.386	
13,300.0	6,790.0	13,493.2	7,115.0	181.0	0.0	-153.08	-4.5	-7,719.0	364.5	280.3	84.24	4.327	
13,400.0	6,790.0	13,593.2	7,115.0	183.5	0.0	-153.08	-4.2	-7,819.0	364.5	279.1	85.36	4.270	
13,500.0	6,790.0	13,693.2	7,115.0	185.9	0.0	-153.08	-4.0	-7,919.0	364.5	278.0	86.49	4.214	
13,600.0	6,790.0	13,793.2	7,115.0	188.4	0.0	-153.08	-3.7	-8,019.0	364.5	276.9	87.62	4.160	
13,700.0	6,790.0	13,893.2	7,115.0	190.8	0.0	-153.08	-3.5	-8,119.0	364.5	275.7	88.75	4.107	
13,800.0	6,790.0	13,993.2	7,115.0	193.3	0.0	-153.08	-3.2	-8,219.0	364.5	274.6	89.88	4.055	
13,900.0	6,790.0	14,093.2	7,115.0	195.8	0.0	-153.08	-3.0	-8,319.0	364.5	273.5	91.01	4.005	
14,000.0	6,790.0	14,193.2	7,115.0	198.2	0.0	-153.08	-2.7	-8,419.0	364.5	272.4	92.14	3.956	
14,100.0	6,790.0	14,293.2	7,115.0	200.7	0.0	-153.08	-2.5	-8,519.0	364.5	271.2	93.27	3.908	
14,200.0	6,790.0	14,393.2	7,115.0	203.2	0.0	-153.08	-2.2	-8,619.0	364.5	270.1	94.40	3.861	
14,300.0	6,790.0	14,493.2	7,115.0	205.6	0.0	-153.08	-2.0	-8,719.0	364.5	269.0	95.53	3.816	
14,400.0	6,790.0	14,593.2	7,115.0	208.1	0.0	-153.08	-1.7	-8,819.0	364.5	267.8	96.66	3.771	
14,500.0	6,790.0	14,693.2	7,115.0	210.6	0.0	-153.08	-1.5	-8,919.0	364.5	266.7	97.79	3.727	
14,600.0	6,790.0	14,793.2	7,115.0	213.0	0.0	-153.08	-1.2	-9,019.0	364.5	265.6	98.92	3.685	
14,700.0	6,790.0	14,893.2	7,115.0	215.5	0.0	-153.08	-1.0	-9,119.0	364.5	264.5	100.05	3.643	
14,800.0	6,790.0	14,993.2	7,115.0	218.0	0.0	-153.08	-0.7	-9,219.0	364.5	263.3	101.18	3.603	
14,900.0	6,790.0	15,093.2	7,115.0	220.4	0.0	-153.08	-0.5	-9,319.0	364.5	262.2	102.31	3.563	
15,000.0	6,790.0	15,193.2	7,115.0	222.9	0.0	-153.08	-0.2	-9,419.0	364.5	261.1	103.44	3.524	
15,100.0	6,790.0	15,293.2	7,115.0	225.4	0.0	-153.08	0.0	-9,519.0	364.5	259.9	104.57	3.486	
15,200.0	6,790.0	15,393.2	7,115.0	227.9	0.0	-153.08	0.3	-9,619.0	364.5	258.8	105.70	3.448	
15,300.0	6,790.0	15,493.2	7,115.0	230.3	0.0	-153.08	0.5	-9,719.0	364.5	257.7	106.83	3.412	
15,400.0	6,790.0	15,593.2	7,115.0	232.8	0.0	-153.08	0.8	-9,819.0	364.5	256.5	107.96	3.376	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 3 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance				Total		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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Separation Factor		
15,500.0	6,790.0	15,693.2	7,115.0	235.3	0.0	-153.08	1.0	-9,919.0	364.5	255.4	109.09	3.341		
15,600.0	6,790.0	15,793.2	7,115.0	237.7	0.0	-153.08	1.3	-10,019.0	364.5	254.3	110.22	3.307		
15,700.0	6,790.0	15,893.2	7,115.0	240.2	0.0	-153.08	1.5	-10,119.0	364.5	253.1	111.35	3.273		
15,800.0	6,790.0	15,993.2	7,115.0	242.7	0.0	-153.08	1.8	-10,219.0	364.5	252.0	112.48	3.241		
15,900.0	6,790.0	16,093.2	7,115.0	245.1	0.0	-153.08	2.0	-10,319.0	364.5	250.9	113.61	3.208		
16,000.0	6,790.0	16,193.2	7,115.0	247.6	0.0	-153.08	2.3	-10,419.0	364.5	249.8	114.74	3.177		
16,100.0	6,790.0	16,293.2	7,115.0	250.1	0.0	-153.08	2.5	-10,519.0	364.5	248.6	115.88	3.146		
16,200.0	6,790.0	16,393.2	7,115.0	252.5	0.0	-153.08	2.8	-10,619.0	364.5	247.5	117.01	3.115		
16,300.0	6,790.0	16,493.2	7,115.0	255.0	0.0	-153.08	3.0	-10,719.0	364.5	246.4	118.14	3.085		
16,400.0	6,790.0	16,593.2	7,115.0	257.5	0.0	-153.08	3.3	-10,819.0	364.5	245.2	119.27	3.056		
16,500.0	6,790.0	16,693.2	7,115.0	259.9	0.0	-153.08	3.5	-10,919.0	364.5	244.1	120.40	3.027		
16,600.0	6,790.0	16,793.2	7,115.0	262.4	0.0	-153.08	3.8	-11,019.0	364.5	243.0	121.53	2.999		
16,700.0	6,790.0	16,893.2	7,115.0	264.9	0.0	-153.08	4.0	-11,119.0	364.5	241.8	122.66	2.972		
16,800.0	6,790.0	16,993.2	7,115.0	267.4	0.0	-153.08	4.3	-11,219.0	364.5	240.7	123.79	2.944		
16,900.0	6,790.0	17,093.2	7,115.0	269.8	0.0	-153.08	4.5	-11,319.0	364.5	239.6	124.92	2.918		
17,000.0	6,790.0	17,193.2	7,115.0	272.3	0.0	-153.08	4.8	-11,419.0	364.5	238.4	126.06	2.892		
17,100.0	6,790.0	17,293.2	7,115.0	274.8	0.0	-153.08	5.0	-11,519.0	364.5	237.3	127.19	2.866		
17,200.0	6,790.0	17,393.2	7,115.0	277.2	0.0	-153.08	5.3	-11,619.0	364.5	236.2	128.32	2.841		
17,300.0	6,790.0	17,493.2	7,115.0	279.7	0.0	-153.08	5.5	-11,719.0	364.5	235.0	129.45	2.816		
17,357.9	6,790.0	17,551.2	7,115.0	281.1	0.0	-153.08	5.7	-11,777.0	364.5	234.4	130.11	2.802		
17,395.4	6,790.0	17,588.3	7,115.0	282.1	0.0	-153.08	5.8	-11,814.1	364.5	234.0	130.53	2.792 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 4 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.02	-47.7	-28.6	55.7					
100.0	100.0	99.0	99.0	0.1	0.0	-149.02	-47.7	-28.6	55.7	55.5	0.13	418.978		
200.0	200.0	199.0	199.0	0.3	0.0	-149.02	-47.7	-28.6	55.7	55.4	0.31	181.075 CC		
300.0	300.0	298.4	298.4	0.5	0.0	-66.35	-47.8	-29.5	55.8	55.3	0.48	115.639		
400.0	400.0	397.8	397.8	0.7	0.0	-66.69	-48.1	-32.0	56.3	55.7	0.66	85.118		
500.0	499.9	497.2	497.1	0.9	0.0	-67.22	-48.5	-36.3	57.2	56.3	0.85	67.447		
600.0	599.7	596.7	596.3	1.1	0.0	-67.93	-49.2	-42.3	58.4	57.4	1.04	55.917		
700.0	699.4	696.0	695.4	1.3	0.0	-68.80	-50.0	-50.0	60.0	58.7	1.25	47.800		
800.0	798.9	795.4	794.4	1.5	0.0	-69.80	-51.0	-59.4	61.9	60.4	1.48	41.780		
900.0	898.3	894.8	893.1	1.8	0.0	-70.90	-52.2	-70.5	64.2	62.5	1.73	37.147		
1,000.0	997.4	994.2	991.6	2.0	0.0	-72.07	-53.6	-83.3	66.9	64.9	2.00	33.483		
1,100.0	1,096.3	1,093.5	1,089.9	2.3	0.0	-73.28	-55.2	-97.8	70.0	67.7	2.29	30.528		
1,200.0	1,194.9	1,192.8	1,187.9	2.7	0.0	-74.51	-57.0	-114.0	73.5	70.9	2.62	28.107		
1,300.0	1,293.3	1,292.1	1,285.5	3.0	0.0	-75.70	-58.9	-131.8	77.4	74.5	2.96	26.153		
1,400.0	1,391.5	1,391.4	1,382.8	3.4	0.0	-76.05	-61.0	-151.3	82.0	78.7	3.31	24.799		
1,500.0	1,489.8	1,491.1	1,480.4	3.7	0.0	-75.69	-63.2	-172.1	87.2	83.5	3.65	23.852		
1,600.0	1,588.0	1,591.0	1,578.0	4.1	0.0	-75.36	-65.5	-192.9	92.3	88.3	4.00	23.059		
1,700.0	1,686.3	1,690.9	1,675.7	4.4	0.0	-75.07	-67.7	-213.7	97.4	93.1	4.35	22.386		
1,800.0	1,784.5	1,790.7	1,773.3	4.8	0.0	-74.80	-70.0	-234.5	102.6	97.9	4.70	21.807		
1,900.0	1,882.7	1,890.6	1,871.0	5.2	0.0	-74.56	-72.2	-255.2	107.7	102.7	5.06	21.305		
2,000.0	1,981.0	1,990.5	1,968.6	5.5	0.0	-74.35	-74.5	-276.0	112.9	107.5	5.41	20.866		
2,100.0	2,079.2	2,090.3	2,066.3	5.9	0.0	-74.15	-76.7	-296.8	118.0	112.3	5.76	20.479		
2,200.0	2,177.5	2,190.2	2,163.9	6.3	0.0	-73.96	-79.0	-317.6	123.2	117.1	6.12	20.135		
2,300.0	2,275.7	2,290.1	2,261.6	6.6	0.0	-73.80	-81.2	-338.4	128.3	121.9	6.47	19.829		
2,400.0	2,374.0	2,389.9	2,359.2	7.0	0.0	-73.64	-83.5	-359.2	133.5	126.7	6.83	19.553		
2,500.0	2,472.2	2,489.8	2,456.9	7.4	0.0	-73.50	-85.7	-380.0	138.6	131.5	7.18	19.304		
2,600.0	2,570.5	2,589.7	2,554.5	7.8	0.0	-73.36	-88.0	-400.8	143.8	136.3	7.54	19.078		
2,700.0	2,668.7	2,689.5	2,652.2	8.1	0.0	-73.24	-90.2	-421.6	148.9	141.1	7.89	18.872		
2,800.0	2,767.0	2,789.4	2,749.8	8.5	0.0	-73.13	-92.5	-442.3	154.1	145.9	8.25	18.684		
2,900.0	2,865.2	2,889.3	2,847.5	8.9	0.0	-73.02	-94.7	-463.1	159.3	150.7	8.60	18.511		
3,000.0	2,963.5	2,989.1	2,945.1	9.2	0.0	-72.92	-97.0	-483.9	164.4	155.5	8.96	18.352		
3,100.0	3,061.7	3,089.0	3,042.8	9.6	0.0	-72.82	-99.2	-504.7	169.6	160.3	9.31	18.204		
3,200.0	3,160.0	3,188.9	3,140.4	10.0	0.0	-72.73	-101.5	-525.5	174.7	165.1	9.67	18.068		
3,300.0	3,258.2	3,288.7	3,238.1	10.4	0.0	-72.65	-103.7	-546.3	179.9	169.9	10.03	17.941		
3,400.0	3,356.5	3,388.6	3,335.8	10.7	0.0	-72.57	-106.0	-567.1	185.0	174.7	10.38	17.823		
3,500.0	3,454.7	3,488.5	3,433.4	11.1	0.0	-72.49	-108.2	-587.9	190.2	179.5	10.74	17.712		
3,600.0	3,552.9	3,588.3	3,531.1	11.5	0.0	-72.42	-110.5	-608.7	195.4	184.3	11.09	17.609		
3,700.0	3,651.2	3,688.2	3,628.7	11.8	0.0	-72.35	-112.7	-629.4	200.5	189.1	11.45	17.512		
3,800.0	3,749.4	3,788.1	3,726.4	12.2	0.0	-72.29	-115.0	-650.2	205.7	193.9	11.81	17.421		
3,900.0	3,847.7	3,887.9	3,824.0	12.6	0.0	-72.23	-117.2	-671.0	210.8	198.7	12.16	17.335		
4,000.0	3,945.9	3,987.8	3,921.7	13.0	0.0	-72.17	-119.5	-691.8	216.0	203.5	12.52	17.254		
4,100.0	4,044.2	4,087.7	4,019.3	13.3	0.0	-72.11	-121.7	-712.6	221.2	208.3	12.88	17.178		
4,200.0	4,142.4	4,187.5	4,117.0	13.7	0.0	-72.06	-124.0	-733.4	226.3	213.1	13.23	17.105		
4,300.0	4,240.7	4,287.4	4,214.6	14.1	0.0	-72.01	-126.2	-754.2	231.5	217.9	13.59	17.037		
4,400.0	4,338.9	4,387.3	4,312.3	14.5	0.0	-71.96	-128.5	-775.0	236.7	222.7	13.94	16.972		
4,500.0	4,437.2	4,487.1	4,409.9	14.8	0.0	-71.92	-130.7	-795.8	241.8	227.5	14.30	16.910		
4,600.0	4,535.4	4,587.0	4,507.6	15.2	0.0	-71.87	-133.0	-816.6	247.0	232.3	14.66	16.851		
4,700.0	4,633.7	4,686.9	4,605.2	15.6	0.0	-71.83	-135.2	-837.3	252.1	237.1	15.01	16.795		
4,800.0	4,731.9	4,786.7	4,702.9	15.9	0.0	-71.79	-137.5	-858.1	257.3	241.9	15.37	16.742		
4,900.0	4,830.2	4,886.6	4,800.5	16.3	0.0	-71.75	-139.7	-878.9	262.5	246.7	15.73	16.691		
5,000.0	4,928.4	4,986.5	4,898.2	16.7	0.0	-71.71	-142.0	-899.7	267.6	251.5	16.08	16.642		
5,100.0	5,026.7	5,086.3	4,995.9	17.1	0.0	-71.67	-144.2	-920.5	272.8	256.4	16.44	16.595		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 4 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
5,200.0	5,124.9	5,186.2	5,093.5	17.4	0.0	-71.64	-146.5	-941.3	278.0	261.2	16.79	16.551		
5,300.0	5,223.2	5,286.1	5,191.2	17.8	0.0	-71.61	-148.7	-962.1	283.1	266.0	17.15	16.508		
5,400.0	5,321.4	5,385.9	5,288.8	18.2	0.0	-71.57	-151.0	-982.9	288.3	270.8	17.51	16.467		
5,500.0	5,419.6	5,485.8	5,386.5	18.6	0.0	-71.54	-153.2	-1,003.7	293.4	275.6	17.86	16.427		
5,600.0	5,517.9	5,585.7	5,484.1	18.9	0.0	-71.51	-155.5	-1,024.4	298.6	280.4	18.22	16.389		
5,700.0	5,616.1	5,685.5	5,581.8	19.3	0.0	-71.48	-157.7	-1,045.2	303.8	285.2	18.58	16.353		
5,800.0	5,714.4	5,785.4	5,679.4	19.7	0.0	-71.45	-160.0	-1,066.0	308.9	290.0	18.93	16.318		
5,900.0	5,812.6	5,885.2	5,777.1	20.1	0.0	-71.43	-162.2	-1,086.8	314.1	294.8	19.29	16.284		
6,000.0	5,910.9	5,985.1	5,874.7	20.4	0.0	-71.40	-164.5	-1,107.6	319.3	299.6	19.64	16.252		
6,100.0	6,009.1	6,085.0	5,972.4	20.8	0.0	-71.37	-166.7	-1,128.4	324.4	304.4	20.00	16.220		
6,200.0	6,107.4	6,184.8	6,070.0	21.2	0.0	-71.35	-169.0	-1,149.2	329.6	309.2	20.36	16.190		
6,300.0	6,205.6	6,284.7	6,167.7	21.5	0.0	-71.33	-171.2	-1,170.0	334.7	314.0	20.71	16.161		
6,400.0	6,303.7	6,384.6	6,265.3	21.9	0.0	-69.78	-173.5	-1,190.8	339.5	318.4	21.09	16.097		
6,500.0	6,398.6	6,470.0	6,348.1	22.6	0.0	-68.64	-175.4	-1,211.7	340.8	319.0	21.75	15.668		
6,592.4	6,481.0	6,550.0	6,422.5	23.4	0.0	-69.20	-177.0	-1,240.9	340.8	318.2	22.58	15.091		
6,600.0	6,487.5	6,550.0	6,422.5	23.5	0.0	-69.16	-177.0	-1,240.9	340.8	318.1	22.64	15.050		
6,700.0	6,568.1	6,635.4	6,497.2	24.6	0.0	-70.63	-178.7	-1,282.0	339.8	316.0	23.80	14.274		
6,800.0	6,638.6	6,719.9	6,565.1	26.0	0.0	-72.67	-180.2	-1,332.2	338.1	312.9	25.24	13.397		
6,900.0	6,697.1	6,805.9	6,626.7	27.6	0.0	-75.22	-181.5	-1,392.1	336.0	309.0	26.95	12.469		
7,000.0	6,742.2	6,893.8	6,680.8	29.4	0.0	-78.22	-182.6	-1,461.3	333.8	304.9	28.91	11.548		
7,100.0	6,772.8	6,984.0	6,725.9	31.4	0.0	-81.59	-183.4	-1,539.4	331.9	300.8	31.07	10.683		
7,200.0	6,788.2	7,076.9	6,760.3	33.5	0.0	-85.27	-184.0	-1,625.6	330.5	297.1	33.34	9.913		
7,295.9	6,792.0	7,169.5	6,781.7	35.6	0.0	-88.40	-184.3	-1,715.5	330.0	294.5	35.51	9.293		
7,300.0	6,790.0	7,173.3	6,782.3	35.7	0.0	-88.84	-184.3	-1,719.3	329.9	294.3	35.61	9.265		
7,400.0	6,790.0	7,273.9	6,790.0	37.9	0.0	-90.17	-184.3	-1,819.5	330.1	292.2	37.84	8.721		
7,500.0	6,790.0	7,373.9	6,790.0	40.2	0.0	-90.17	-184.0	-1,919.5	330.1	290.0	40.10	8.231		
7,600.0	6,790.0	7,473.9	6,790.0	42.4	0.0	-90.17	-183.8	-2,019.5	330.1	287.7	42.38	7.789		
7,700.0	6,790.0	7,573.9	6,790.0	44.7	0.0	-90.17	-183.5	-2,119.5	330.1	285.4	44.68	7.388		
7,800.0	6,790.0	7,673.9	6,790.0	47.1	0.0	-90.17	-183.3	-2,219.5	330.1	283.1	47.00	7.023		
7,900.0	6,790.0	7,773.9	6,790.0	49.4	0.0	-90.17	-183.0	-2,319.5	330.1	280.7	49.33	6.691		
8,000.0	6,790.0	7,873.9	6,790.0	51.7	0.0	-90.17	-182.8	-2,419.5	330.1	278.4	51.67	6.387		
8,100.0	6,790.0	7,973.9	6,790.0	54.1	0.0	-90.17	-182.5	-2,519.5	330.1	276.0	54.03	6.109		
8,200.0	6,790.0	8,073.9	6,790.0	56.4	0.0	-90.17	-182.3	-2,619.5	330.1	273.7	56.40	5.852		
8,300.0	6,790.0	8,173.9	6,790.0	58.8	0.0	-90.17	-182.0	-2,719.5	330.1	271.3	58.78	5.616		
8,400.0	6,790.0	8,273.9	6,790.0	61.2	0.0	-90.17	-181.8	-2,819.5	330.1	268.9	61.16	5.397		
8,500.0	6,790.0	8,373.9	6,790.0	63.6	0.0	-90.17	-181.5	-2,919.5	330.1	266.5	63.55	5.194		
8,600.0	6,790.0	8,473.9	6,790.0	66.0	0.0	-90.17	-181.3	-3,019.5	330.1	264.1	65.95	5.005		
8,700.0	6,790.0	8,573.9	6,790.0	68.4	0.0	-90.17	-181.0	-3,119.5	330.1	261.7	68.35	4.829		
8,800.0	6,790.0	8,673.9	6,790.0	70.8	0.0	-90.17	-180.8	-3,219.5	330.1	259.3	70.76	4.665		
8,900.0	6,790.0	8,773.9	6,790.0	73.2	0.0	-90.17	-180.5	-3,319.5	330.1	256.9	73.17	4.511		
9,000.0	6,790.0	8,873.9	6,790.0	75.6	0.0	-90.17	-180.3	-3,419.5	330.1	254.5	75.59	4.367		
9,100.0	6,790.0	8,973.9	6,790.0	78.0	0.0	-90.17	-180.0	-3,519.5	330.1	252.1	78.01	4.231		
9,200.0	6,790.0	9,073.9	6,790.0	80.5	0.0	-90.17	-179.8	-3,619.5	330.1	249.6	80.43	4.104		
9,300.0	6,790.0	9,173.9	6,790.0	82.9	0.0	-90.17	-179.5	-3,719.5	330.1	247.2	82.85	3.984		
9,400.0	6,790.0	9,273.9	6,790.0	85.3	0.0	-90.17	-179.3	-3,819.5	330.1	244.8	85.28	3.870		
9,500.0	6,790.0	9,373.9	6,790.0	87.7	0.0	-90.17	-179.0	-3,919.5	330.1	242.3	87.71	3.763		
9,600.0	6,790.0	9,473.9	6,790.0	90.2	0.0	-90.17	-178.8	-4,019.5	330.1	239.9	90.15	3.661		
9,700.0	6,790.0	9,573.9	6,790.0	92.6	0.0	-90.17	-178.5	-4,119.5	330.1	237.5	92.58	3.565		
9,800.0	6,790.0	9,673.9	6,790.0	95.1	0.0	-90.17	-178.3	-4,219.5	330.1	235.0	95.02	3.474		
9,900.0	6,790.0	9,773.9	6,790.0	97.5	0.0	-90.17	-178.0	-4,319.5	330.1	232.6	97.46	3.387		
10,000.0	6,790.0	9,873.9	6,790.0	99.9	0.0	-90.17	-177.8	-4,419.5	330.1	230.2	99.90	3.304		
10,100.0	6,790.0	9,973.9	6,790.0	102.4	0.0	-90.17	-177.5	-4,519.5	330.1	227.7	102.35	3.225		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 4 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 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 Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
10,200.0	6,790.0	10,073.9	6,790.0	104.8	0.0	-90.17	-177.3	-4,619.5	330.1	225.3	104.79	3.150	
10,300.0	6,790.0	10,173.9	6,790.0	107.3	0.0	-90.17	-177.0	-4,719.5	330.1	222.8	107.24	3.078	
10,400.0	6,790.0	10,273.9	6,790.0	109.7	0.0	-90.17	-176.8	-4,819.5	330.1	220.4	109.68	3.009	
10,500.0	6,790.0	10,373.9	6,790.0	112.2	0.0	-90.17	-176.5	-4,919.5	330.1	217.9	112.13	2.943	
10,600.0	6,790.0	10,473.9	6,790.0	114.6	0.0	-90.17	-176.3	-5,019.5	330.1	215.5	114.58	2.881	
10,700.0	6,790.0	10,573.9	6,790.0	117.1	0.0	-90.17	-176.0	-5,119.5	330.1	213.0	117.03	2.820	
10,800.0	6,790.0	10,673.9	6,790.0	119.5	0.0	-90.17	-175.8	-5,219.5	330.1	210.6	119.48	2.762	
10,900.0	6,790.0	10,773.9	6,790.0	122.0	0.0	-90.17	-175.5	-5,319.5	330.1	208.1	121.94	2.707	
11,000.0	6,790.0	10,873.9	6,790.0	124.4	0.0	-90.17	-175.3	-5,419.5	330.1	205.7	124.39	2.653	
11,100.0	6,790.0	10,973.9	6,790.0	126.9	0.0	-90.17	-175.0	-5,519.5	330.1	203.2	126.84	2.602	
11,200.0	6,790.0	11,073.9	6,790.0	129.3	0.0	-90.17	-174.8	-5,619.5	330.1	200.8	129.30	2.553	
11,300.0	6,790.0	11,173.9	6,790.0	131.8	0.0	-90.17	-174.5	-5,719.5	330.1	198.3	131.75	2.505	
11,400.0	6,790.0	11,273.9	6,790.0	134.2	0.0	-90.17	-174.3	-5,819.5	330.1	195.9	134.21	2.459	
11,500.0	6,790.0	11,373.9	6,790.0	136.7	0.0	-90.17	-174.0	-5,919.5	330.1	193.4	136.67	2.415	
11,600.0	6,790.0	11,473.9	6,790.0	139.1	0.0	-90.17	-173.8	-6,019.5	330.1	190.9	139.13	2.372	
11,700.0	6,790.0	11,573.9	6,790.0	141.6	0.0	-90.17	-173.5	-6,119.5	330.1	188.5	141.58	2.331	
11,800.0	6,790.0	11,673.9	6,790.0	144.1	0.0	-90.17	-173.3	-6,219.5	330.1	186.0	144.04	2.291	
11,900.0	6,790.0	11,773.9	6,790.0	146.5	0.0	-90.17	-173.0	-6,319.5	330.1	183.6	146.50	2.253	
12,000.0	6,790.0	11,873.9	6,790.0	149.0	0.0	-90.17	-172.8	-6,419.5	330.1	181.1	148.96	2.216	
12,100.0	6,790.0	11,973.9	6,790.0	151.4	0.0	-90.17	-172.5	-6,519.5	330.1	178.6	151.42	2.180	
12,200.0	6,790.0	12,073.9	6,790.0	153.9	0.0	-90.17	-172.3	-6,619.5	330.1	176.2	153.88	2.145	
12,300.0	6,790.0	12,173.9	6,790.0	156.4	0.0	-90.17	-172.0	-6,719.5	330.1	173.7	156.34	2.111	
12,400.0	6,790.0	12,273.9	6,790.0	158.8	0.0	-90.17	-171.8	-6,819.5	330.1	171.3	158.80	2.078	
12,500.0	6,790.0	12,373.9	6,790.0	161.3	0.0	-90.17	-171.5	-6,919.5	330.1	168.8	161.27	2.047	
12,600.0	6,790.0	12,473.9	6,790.0	163.7	0.0	-90.17	-171.3	-7,019.5	330.1	166.3	163.73	2.016	
12,700.0	6,790.0	12,573.9	6,790.0	166.2	0.0	-90.17	-171.0	-7,119.5	330.1	163.9	166.19	1.986	
12,800.0	6,790.0	12,673.9	6,790.0	168.7	0.0	-90.17	-170.8	-7,219.5	330.1	161.4	168.65	1.957	
12,900.0	6,790.0	12,773.9	6,790.0	171.1	0.0	-90.17	-170.5	-7,319.5	330.1	158.9	171.12	1.929	
13,000.0	6,790.0	12,873.9	6,790.0	173.6	0.0	-90.17	-170.3	-7,419.5	330.1	156.5	173.58	1.901	
13,100.0	6,790.0	12,973.9	6,790.0	176.1	0.0	-90.17	-170.0	-7,519.5	330.1	154.0	176.05	1.875	
13,200.0	6,790.0	13,073.9	6,790.0	178.5	0.0	-90.17	-169.8	-7,619.5	330.1	151.6	178.51	1.849	
13,300.0	6,790.0	13,173.9	6,790.0	181.0	0.0	-90.17	-169.5	-7,719.5	330.1	149.1	180.97	1.824	
13,400.0	6,790.0	13,273.9	6,790.0	183.5	0.0	-90.17	-169.3	-7,819.5	330.1	146.6	183.44	1.799	
13,500.0	6,790.0	13,373.9	6,790.0	185.9	0.0	-90.17	-169.0	-7,919.5	330.1	144.2	185.90	1.775	
13,600.0	6,790.0	13,473.9	6,790.0	188.4	0.0	-90.17	-168.8	-8,019.5	330.1	141.7	188.37	1.752	
13,700.0	6,790.0	13,573.9	6,790.0	190.8	0.0	-90.17	-168.5	-8,119.5	330.1	139.2	190.83	1.730	
13,800.0	6,790.0	13,673.9	6,790.0	193.3	0.0	-90.17	-168.3	-8,219.5	330.1	136.8	193.30	1.708	
13,900.0	6,790.0	13,773.9	6,790.0	195.8	0.0	-90.17	-168.0	-8,319.5	330.1	134.3	195.77	1.686	
14,000.0	6,790.0	13,873.9	6,790.0	198.2	0.0	-90.17	-167.8	-8,419.5	330.1	131.8	198.23	1.665	
14,100.0	6,790.0	13,973.9	6,790.0	200.7	0.0	-90.17	-167.5	-8,519.5	330.1	129.4	200.70	1.645	
14,200.0	6,790.0	14,073.9	6,790.0	203.2	0.0	-90.17	-167.3	-8,619.5	330.1	126.9	203.17	1.625	
14,300.0	6,790.0	14,173.9	6,790.0	205.6	0.0	-90.17	-167.0	-8,719.5	330.1	124.4	205.63	1.605	
14,400.0	6,790.0	14,273.9	6,790.0	208.1	0.0	-90.17	-166.8	-8,819.5	330.1	122.0	208.10	1.586	
14,500.0	6,790.0	14,373.9	6,790.0	210.6	0.0	-90.17	-166.5	-8,919.5	330.1	119.5	210.57	1.567	
14,600.0	6,790.0	14,473.9	6,790.0	213.0	0.0	-90.17	-166.3	-9,019.5	330.1	117.0	213.03	1.549	
14,700.0	6,790.0	14,573.9	6,790.0	215.5	0.0	-90.17	-166.0	-9,119.5	330.1	114.6	215.50	1.532	
14,800.0	6,790.0	14,673.9	6,790.0	218.0	0.0	-90.17	-165.8	-9,219.5	330.1	112.1	217.97	1.514	
14,900.0	6,790.0	14,773.9	6,790.0	220.4	0.0	-90.17	-165.5	-9,319.5	330.1	109.6	220.44	1.497 Level 3	
15,000.0	6,790.0	14,873.9	6,790.0	222.9	0.0	-90.17	-165.3	-9,419.5	330.1	107.2	222.90	1.481 Level 3	
15,100.0	6,790.0	14,973.9	6,790.0	225.4	0.0	-90.17	-165.0	-9,519.5	330.1	104.7	225.37	1.465 Level 3	
15,200.0	6,790.0	15,073.9	6,790.0	227.9	0.0	-90.17	-164.8	-9,619.5	330.1	102.2	227.84	1.449 Level 3	
15,300.0	6,790.0	15,173.9	6,790.0	230.3	0.0	-90.17	-164.5	-9,719.5	330.1	99.8	230.31	1.433 Level 3	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 4 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
15,400.0	6,790.0	15,273.9	6,790.0	232.8	0.0	-90.17	-164.3	-9,819.5	330.1	97.3	232.78	1.418	Level 3	
15,500.0	6,790.0	15,373.9	6,790.0	235.3	0.0	-90.17	-164.0	-9,919.5	330.1	94.8	235.25	1.403	Level 3	
15,600.0	6,790.0	15,473.9	6,790.0	237.7	0.0	-90.17	-163.8	-10,019.5	330.1	92.3	237.72	1.388	Level 3	
15,700.0	6,790.0	15,573.9	6,790.0	240.2	0.0	-90.17	-163.5	-10,119.5	330.1	89.9	240.18	1.374	Level 3	
15,800.0	6,790.0	15,673.9	6,790.0	242.7	0.0	-90.17	-163.3	-10,219.5	330.1	87.4	242.65	1.360	Level 3	
15,900.0	6,790.0	15,773.9	6,790.0	245.1	0.0	-90.17	-163.0	-10,319.5	330.1	84.9	245.12	1.347	Level 3	
16,000.0	6,790.0	15,873.9	6,790.0	247.6	0.0	-90.17	-162.8	-10,419.5	330.1	82.5	247.59	1.333	Level 3	
16,100.0	6,790.0	15,973.9	6,790.0	250.1	0.0	-90.17	-162.5	-10,519.5	330.1	80.0	250.06	1.320	Level 3	
16,200.0	6,790.0	16,073.9	6,790.0	252.5	0.0	-90.17	-162.3	-10,619.5	330.1	77.5	252.53	1.307	Level 3	
16,300.0	6,790.0	16,173.9	6,790.0	255.0	0.0	-90.17	-162.0	-10,719.5	330.1	75.1	255.00	1.294	Level 3	
16,400.0	6,790.0	16,273.9	6,790.0	257.5	0.0	-90.17	-161.8	-10,819.5	330.1	72.6	257.47	1.282	Level 3	
16,500.0	6,790.0	16,373.9	6,790.0	259.9	0.0	-90.17	-161.5	-10,919.5	330.1	70.1	259.94	1.270	Level 3	
16,600.0	6,790.0	16,473.9	6,790.0	262.4	0.0	-90.17	-161.3	-11,019.5	330.1	67.7	262.41	1.258	Level 3	
16,700.0	6,790.0	16,573.9	6,790.0	264.9	0.0	-90.17	-161.0	-11,119.5	330.1	65.2	264.88	1.246	Level 2	
16,800.0	6,790.0	16,673.9	6,790.0	267.4	0.0	-90.17	-160.8	-11,219.4	330.1	62.7	267.35	1.235	Level 2	
16,900.0	6,790.0	16,773.9	6,790.0	269.8	0.0	-90.17	-160.5	-11,319.4	330.1	60.2	269.82	1.223	Level 2	
17,000.0	6,790.0	16,873.9	6,790.0	272.3	0.0	-90.17	-160.3	-11,419.4	330.1	57.8	272.29	1.212	Level 2	
17,100.0	6,790.0	16,973.9	6,790.0	274.8	0.0	-90.17	-160.0	-11,519.4	330.1	55.3	274.76	1.201	Level 2	
17,200.0	6,790.0	17,073.9	6,790.0	277.2	0.0	-90.17	-159.8	-11,619.4	330.1	52.8	277.23	1.191	Level 2	
17,300.0	6,790.0	17,173.9	6,790.0	279.7	0.0	-90.17	-159.5	-11,719.4	330.1	50.4	279.70	1.180	Level 2	
17,368.4	6,790.0	17,242.3	6,790.0	281.4	0.0	-90.17	-159.3	-11,787.9	330.1	48.7	281.39	1.173	Level 2	
17,395.4	6,790.0	17,268.6	6,790.0	282.1	0.0	-90.17	-159.3	-11,814.2	330.1	48.0	282.06	1.170	Level 2, ES, SF	

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 5 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-148.84	-71.8	-43.4	83.9					
100.0	100.0	100.0	100.0	0.1	0.0	-148.84	-71.8	-43.4	83.9	83.7	0.13	631.292		
200.0	200.0	200.0	200.0	0.3	0.0	-148.84	-71.8	-43.4	83.9	83.6	0.31	272.837	CC, ES	
300.0	300.0	298.9	298.9	0.5	0.0	-66.22	-72.1	-44.2	84.2	83.7	0.48	174.384		
400.0	400.0	397.8	397.7	0.7	0.0	-66.71	-72.9	-46.6	85.1	84.5	0.66	128.624		
500.0	499.9	496.6	496.5	0.9	0.0	-67.50	-74.3	-50.6	86.7	85.9	0.85	102.254		
600.0	599.7	595.4	595.1	1.1	0.0	-68.55	-76.3	-56.3	88.9	87.9	1.04	85.143		
700.0	699.4	694.2	693.6	1.3	0.0	-69.83	-78.9	-63.5	91.9	90.6	1.26	73.171		
800.0	798.9	793.0	791.9	1.5	0.0	-71.29	-82.0	-72.3	95.5	94.0	1.48	64.354		
900.0	898.3	891.7	890.0	1.8	0.0	-72.86	-85.6	-82.7	99.9	98.2	1.73	57.620		
1,000.0	897.4	890.3	887.8	2.0	0.0	-74.51	-89.9	-94.7	105.0	103.0	2.01	52.341		
1,100.0	1,096.3	1,088.8	1,085.3	2.3	0.0	-76.19	-94.7	-108.3	110.9	108.6	2.30	48.125		
1,200.0	1,194.9	1,187.3	1,182.4	2.7	0.0	-77.86	-100.0	-123.4	117.6	115.0	2.63	44.711		
1,300.0	1,293.3	1,285.7	1,279.2	3.0	0.0	-79.49	-105.9	-140.1	125.1	122.1	2.98	41.994		
1,400.0	1,391.5	1,384.0	1,375.6	3.4	0.0	-80.58	-112.3	-158.3	133.6	130.3	3.33	40.089		
1,500.0	1,489.8	1,482.4	1,471.8	3.7	0.0	-81.00	-119.3	-178.1	143.2	139.5	3.69	38.801		
1,600.0	1,588.0	1,582.0	1,568.9	4.1	0.0	-81.21	-126.5	-198.7	153.0	149.0	4.05	37.799		
1,700.0	1,686.3	1,681.5	1,666.0	4.4	0.0	-81.38	-133.8	-219.2	162.8	158.4	4.41	36.939		
1,800.0	1,784.5	1,781.0	1,763.1	4.8	0.0	-81.54	-141.0	-239.7	172.7	167.9	4.77	36.197		
1,900.0	1,882.7	1,880.5	1,860.2	5.2	0.0	-81.68	-148.2	-260.2	182.5	177.4	5.13	35.549		
2,000.0	1,981.0	1,980.0	1,957.3	5.5	0.0	-81.81	-155.5	-280.7	192.4	186.9	5.50	34.980		
2,100.0	2,079.2	2,079.5	2,054.4	5.9	0.0	-81.92	-162.7	-301.2	202.2	196.4	5.87	34.476		
2,200.0	2,177.5	2,179.0	2,151.5	6.3	0.0	-82.02	-170.0	-321.7	212.1	205.8	6.23	34.027		
2,300.0	2,275.7	2,278.6	2,248.6	6.6	0.0	-82.12	-177.2	-342.2	221.9	215.3	6.60	33.625		
2,400.0	2,374.0	2,378.1	2,345.7	7.0	0.0	-82.20	-184.4	-362.8	231.8	224.8	6.97	33.263		
2,500.0	2,472.2	2,477.6	2,442.8	7.4	0.0	-82.28	-191.7	-383.3	241.6	234.3	7.34	32.935		
2,600.0	2,570.5	2,577.1	2,539.9	7.8	0.0	-82.36	-198.9	-403.8	251.5	243.7	7.70	32.636		
2,700.0	2,668.7	2,676.6	2,637.1	8.1	0.0	-82.42	-206.1	-424.3	261.3	253.2	8.07	32.364		
2,800.0	2,767.0	2,776.1	2,734.2	8.5	0.0	-82.49	-213.4	-444.8	271.2	262.7	8.44	32.114		
2,900.0	2,865.2	2,875.6	2,831.3	8.9	0.0	-82.55	-220.6	-465.3	281.0	272.2	8.81	31.885		
3,000.0	2,963.5	2,975.1	2,928.4	9.2	0.0	-82.60	-227.8	-485.8	290.8	281.7	9.18	31.673		
3,100.0	3,061.7	3,074.7	3,025.5	9.6	0.0	-82.65	-235.1	-506.4	300.7	291.1	9.55	31.477		
3,200.0	3,160.0	3,174.2	3,122.6	10.0	0.0	-82.70	-242.3	-526.9	310.5	300.6	9.92	31.295		
3,300.0	3,258.2	3,273.7	3,219.7	10.4	0.0	-82.74	-249.6	-547.4	320.4	310.1	10.29	31.125		
3,400.0	3,356.5	3,373.2	3,316.8	10.7	0.0	-82.78	-256.8	-567.9	330.2	319.6	10.66	30.967		
3,500.0	3,454.7	3,472.7	3,413.9	11.1	0.0	-82.82	-264.0	-588.4	340.1	329.1	11.04	30.820		
3,600.0	3,552.9	3,572.2	3,511.0	11.5	0.0	-82.86	-271.3	-608.9	349.9	338.5	11.41	30.681		
3,700.0	3,651.2	3,671.7	3,608.1	11.8	0.0	-82.90	-278.5	-629.4	359.8	348.0	11.78	30.551		
3,800.0	3,749.4	3,771.3	3,705.2	12.2	0.0	-82.93	-285.7	-649.9	369.6	357.5	12.15	30.429		
3,900.0	3,847.7	3,870.8	3,802.3	12.6	0.0	-82.96	-293.0	-670.5	379.5	367.0	12.52	30.313		
4,000.0	3,945.9	3,970.3	3,899.4	13.0	0.0	-82.99	-300.2	-691.0	389.3	376.5	12.89	30.205		
4,100.0	4,044.2	4,069.8	3,996.5	13.3	0.0	-83.02	-307.4	-711.5	399.2	385.9	13.26	30.102		
4,200.0	4,142.4	4,169.3	4,093.7	13.7	0.0	-83.05	-314.7	-732.0	409.1	395.4	13.63	30.004		
4,300.0	4,240.7	4,268.8	4,190.8	14.1	0.0	-83.07	-321.9	-752.5	418.9	404.9	14.00	29.912		
4,400.0	4,338.9	4,368.3	4,287.9	14.5	0.0	-83.10	-329.2	-773.0	428.8	414.4	14.38	29.824		
4,500.0	4,437.2	4,467.8	4,385.0	14.8	0.0	-83.12	-336.4	-793.5	438.6	423.9	14.75	29.741		
4,600.0	4,535.4	4,567.4	4,482.1	15.2	0.0	-83.14	-343.6	-814.1	448.5	433.3	15.12	29.661		
4,700.0	4,633.7	4,666.9	4,579.2	15.6	0.0	-83.16	-350.9	-834.6	458.3	442.8	15.49	29.586		
4,800.0	4,731.9	4,766.4	4,676.3	15.9	0.0	-83.19	-358.1	-855.1	468.2	452.3	15.86	29.513		
4,900.0	4,830.2	4,865.9	4,773.4	16.3	0.0	-83.21	-365.3	-875.6	478.0	461.8	16.23	29.444		
5,000.0	4,928.4	4,965.4	4,870.5	16.7	0.0	-83.22	-372.6	-896.1	487.9	471.3	16.61	29.379		
5,100.0	5,026.7	5,064.9	4,967.6	17.1	0.0	-83.24	-379.8	-916.6	497.7	480.7	16.98	29.315		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 5 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis			
5,200.0	5,124.9	5,164.4	5,064.7	17.4	0.0	-83.26	-387.0	-937.1	507.6	490.2	17.35	29.255		
5,300.0	5,223.2	5,264.0	5,161.8	17.8	0.0	-83.28	-394.3	-957.6	517.4	499.7	17.72	29.197		
5,400.0	5,321.4	5,363.5	5,258.9	18.2	0.0	-83.29	-401.5	-978.2	527.3	509.2	18.09	29.141		
5,500.0	5,419.6	5,463.0	5,356.0	18.6	0.0	-83.31	-408.8	-998.7	537.1	518.7	18.47	29.088		
5,600.0	5,517.9	5,562.5	5,453.2	18.9	0.0	-83.32	-416.0	-1,019.2	547.0	528.1	18.84	29.037		
5,700.0	5,616.1	5,662.0	5,550.3	19.3	0.0	-83.34	-423.2	-1,039.7	556.8	537.6	19.21	28.987		
5,800.0	5,714.4	5,761.5	5,647.4	19.7	0.0	-83.35	-430.5	-1,060.2	566.7	547.1	19.58	28.940		
5,900.0	5,812.6	5,861.0	5,744.5	20.1	0.0	-83.37	-437.7	-1,080.7	576.5	556.6	19.95	28.894		
6,000.0	5,910.9	5,960.5	5,841.6	20.4	0.0	-83.38	-444.9	-1,101.2	586.4	566.1	20.33	28.850		
6,100.0	6,009.1	6,060.1	5,938.7	20.8	0.0	-83.39	-452.2	-1,121.8	596.2	575.5	20.70	28.807		
6,200.0	6,107.4	6,159.6	6,035.8	21.2	0.0	-83.40	-459.4	-1,142.3	606.1	585.0	21.07	28.766		
6,300.0	6,205.6	6,259.1	6,132.9	21.5	0.0	-83.42	-466.6	-1,162.8	615.9	594.5	21.44	28.726		
6,400.0	6,303.7	6,358.6	6,230.0	21.9	0.0	-81.70	-473.9	-1,183.3	625.6	603.7	21.83	28.654		
6,500.0	6,398.6	6,450.0	6,319.0	22.6	0.0	-79.84	-480.5	-1,203.0	632.6	610.2	22.46	28.168		
6,600.0	6,487.5	6,533.6	6,397.9	23.5	0.0	-79.63	-486.4	-1,229.8	638.4	615.1	23.33	27.368		
6,700.0	6,568.1	6,618.0	6,473.3	24.6	0.0	-80.09	-491.9	-1,267.2	643.5	619.0	24.44	26.328		
6,800.0	6,638.6	6,704.4	6,544.7	26.0	0.0	-80.97	-497.2	-1,315.4	647.7	621.9	25.80	25.106		
6,900.0	6,697.1	6,792.9	6,610.4	27.6	0.0	-82.19	-502.0	-1,374.5	651.3	623.9	27.40	23.767		
7,000.0	6,742.2	6,884.2	6,669.0	29.4	0.0	-83.67	-506.2	-1,444.2	654.3	625.0	29.24	22.379		
7,100.0	6,772.8	6,978.5	6,718.4	31.4	0.0	-85.39	-509.7	-1,524.4	656.6	625.4	31.25	21.008		
7,200.0	6,788.2	7,076.4	6,756.6	33.5	0.0	-87.31	-512.3	-1,614.4	658.4	625.0	33.40	19.709		
7,300.0	6,790.0	7,178.7	6,781.4	35.7	0.0	-89.25	-513.9	-1,713.5	659.6	623.9	35.62	18.519		
7,400.0	6,790.0	7,286.0	6,790.0	37.9	0.0	-90.00	-514.3	-1,820.3	660.1	622.3	37.84	17.443		
7,500.0	6,790.0	7,386.0	6,790.0	40.2	0.0	-90.00	-514.1	-1,920.3	660.1	620.0	40.10	16.462		
7,600.0	6,790.0	7,486.0	6,790.0	42.4	0.0	-90.00	-513.8	-2,020.3	660.1	617.7	42.38	15.577		
7,700.0	6,790.0	7,586.0	6,790.0	44.7	0.0	-90.00	-513.6	-2,120.3	660.1	615.4	44.68	14.775		
7,800.0	6,790.0	7,686.0	6,790.0	47.1	0.0	-90.00	-513.3	-2,220.3	660.1	613.1	47.00	14.046		
7,900.0	6,790.0	7,786.0	6,790.0	49.4	0.0	-90.00	-513.1	-2,320.3	660.1	610.8	49.33	13.382		
8,000.0	6,790.0	7,886.0	6,790.0	51.7	0.0	-90.00	-512.8	-2,420.3	660.1	608.4	51.67	12.775		
8,100.0	6,790.0	7,986.0	6,790.0	54.1	0.0	-90.00	-512.6	-2,520.3	660.1	606.1	54.03	12.217		
8,200.0	6,790.0	8,086.0	6,790.0	56.4	0.0	-90.00	-512.3	-2,620.3	660.1	603.7	56.40	11.704		
8,300.0	6,790.0	8,186.0	6,790.0	58.8	0.0	-90.00	-512.1	-2,720.3	660.1	601.3	58.78	11.231		
8,400.0	6,790.0	8,286.0	6,790.0	61.2	0.0	-90.00	-511.8	-2,820.3	660.1	599.0	61.16	10.793		
8,500.0	6,790.0	8,386.0	6,790.0	63.6	0.0	-90.00	-511.6	-2,920.3	660.1	596.6	63.55	10.387		
8,600.0	6,790.0	8,486.0	6,790.0	66.0	0.0	-90.00	-511.3	-3,020.3	660.1	594.2	65.95	10.010		
8,700.0	6,790.0	8,586.0	6,790.0	68.4	0.0	-90.00	-511.1	-3,120.3	660.1	591.8	68.35	9.658		
8,800.0	6,790.0	8,686.0	6,790.0	70.8	0.0	-90.00	-510.8	-3,220.3	660.1	589.4	70.76	9.329		
8,900.0	6,790.0	8,786.0	6,790.0	73.2	0.0	-90.00	-510.6	-3,320.3	660.1	586.9	73.17	9.022		
9,000.0	6,790.0	8,886.0	6,790.0	75.6	0.0	-90.00	-510.3	-3,420.3	660.1	584.5	75.59	8.733		
9,100.0	6,790.0	8,986.0	6,790.0	78.0	0.0	-90.00	-510.1	-3,520.3	660.1	582.1	78.01	8.462		
9,200.0	6,790.0	9,086.0	6,790.0	80.5	0.0	-90.00	-509.8	-3,620.3	660.1	579.7	80.43	8.208		
9,300.0	6,790.0	9,186.0	6,790.0	82.9	0.0	-90.00	-509.6	-3,720.3	660.1	577.3	82.85	7.967		
9,400.0	6,790.0	9,286.0	6,790.0	85.3	0.0	-90.00	-509.3	-3,820.3	660.1	574.8	85.28	7.740		
9,500.0	6,790.0	9,386.0	6,790.0	87.7	0.0	-90.00	-509.1	-3,920.3	660.1	572.4	87.72	7.526		
9,600.0	6,790.0	9,486.0	6,790.0	90.2	0.0	-90.00	-508.8	-4,020.3	660.1	570.0	90.15	7.323		
9,700.0	6,790.0	9,586.0	6,790.0	92.6	0.0	-90.00	-508.6	-4,120.3	660.1	567.5	92.58	7.130		
9,800.0	6,790.0	9,686.0	6,790.0	95.1	0.0	-90.00	-508.3	-4,220.3	660.1	565.1	95.02	6.947		
9,900.0	6,790.0	9,786.0	6,790.0	97.5	0.0	-90.00	-508.1	-4,320.3	660.1	562.7	97.46	6.773		
10,000.0	6,790.0	9,886.0	6,790.0	99.9	0.0	-90.00	-507.8	-4,420.3	660.1	560.2	99.90	6.608		
10,100.0	6,790.0	9,986.0	6,790.0	102.4	0.0	-90.00	-507.6	-4,520.3	660.1	557.8	102.35	6.450		
10,200.0	6,790.0	10,086.0	6,790.0	104.8	0.0	-90.00	-507.3	-4,620.3	660.1	555.3	104.79	6.299		
10,300.0	6,790.0	10,186.0	6,790.0	107.3	0.0	-90.00	-507.1	-4,720.3	660.1	552.9	107.24	6.156		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 5 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 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 Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,790.0	10,286.0	6,790.0	109.7	0.0	-90.00	-506.8	-4,820.3	660.1	550.4	109.68	6.018	
10,500.0	6,790.0	10,386.0	6,790.0	112.2	0.0	-90.00	-506.6	-4,920.3	660.1	548.0	112.13	5.887	
10,600.0	6,790.0	10,486.0	6,790.0	114.6	0.0	-90.00	-506.3	-5,020.3	660.1	545.5	114.58	5.761	
10,700.0	6,790.0	10,586.0	6,790.0	117.1	0.0	-90.00	-506.1	-5,120.3	660.1	543.1	117.03	5.640	
10,800.0	6,790.0	10,686.0	6,790.0	119.5	0.0	-90.00	-505.8	-5,220.3	660.1	540.6	119.48	5.525	
10,900.0	6,790.0	10,786.0	6,790.0	122.0	0.0	-90.00	-505.6	-5,320.3	660.1	538.2	121.94	5.414	
11,000.0	6,790.0	10,886.0	6,790.0	124.4	0.0	-90.00	-505.3	-5,420.3	660.1	535.7	124.39	5.307	
11,100.0	6,790.0	10,986.0	6,790.0	126.9	0.0	-90.00	-505.1	-5,520.3	660.1	533.3	126.84	5.204	
11,200.0	6,790.0	11,086.0	6,790.0	129.3	0.0	-90.00	-504.8	-5,620.3	660.1	530.8	129.30	5.105	
11,300.0	6,790.0	11,186.0	6,790.0	131.8	0.0	-90.00	-504.6	-5,720.3	660.1	528.4	131.75	5.010	
11,400.0	6,790.0	11,286.0	6,790.0	134.2	0.0	-90.00	-504.3	-5,820.3	660.1	525.9	134.21	4.919	
11,500.0	6,790.0	11,386.0	6,790.0	136.7	0.0	-90.00	-504.1	-5,920.3	660.1	523.5	136.67	4.830	
11,600.0	6,790.0	11,486.0	6,790.0	139.1	0.0	-90.00	-503.8	-6,020.3	660.1	521.0	139.13	4.745	
11,700.0	6,790.0	11,586.0	6,790.0	141.6	0.0	-90.00	-503.6	-6,120.3	660.1	518.5	141.58	4.662	
11,800.0	6,790.0	11,686.0	6,790.0	144.1	0.0	-90.00	-503.3	-6,220.3	660.1	516.1	144.04	4.583	
11,900.0	6,790.0	11,786.0	6,790.0	146.5	0.0	-90.00	-503.1	-6,320.3	660.1	513.6	146.50	4.506	
12,000.0	6,790.0	11,886.0	6,790.0	149.0	0.0	-90.00	-502.8	-6,420.3	660.1	511.2	148.96	4.431	
12,100.0	6,790.0	11,986.0	6,790.0	151.4	0.0	-90.00	-502.6	-6,520.3	660.1	508.7	151.42	4.359	
12,200.0	6,790.0	12,086.0	6,790.0	153.9	0.0	-90.00	-502.3	-6,620.3	660.1	506.2	153.88	4.290	
12,300.0	6,790.0	12,186.0	6,790.0	156.4	0.0	-90.00	-502.1	-6,720.3	660.1	503.8	156.34	4.222	
12,400.0	6,790.0	12,286.0	6,790.0	158.8	0.0	-90.00	-501.8	-6,820.3	660.1	501.3	158.81	4.157	
12,500.0	6,790.0	12,386.0	6,790.0	161.3	0.0	-90.00	-501.6	-6,920.3	660.1	498.9	161.27	4.093	
12,600.0	6,790.0	12,486.0	6,790.0	163.7	0.0	-90.00	-501.3	-7,020.3	660.1	496.4	163.73	4.032	
12,700.0	6,790.0	12,586.0	6,790.0	166.2	0.0	-90.00	-501.1	-7,120.3	660.1	493.9	166.19	3.972	
12,800.0	6,790.0	12,686.0	6,790.0	168.7	0.0	-90.00	-500.8	-7,220.3	660.1	491.5	168.66	3.914	
12,900.0	6,790.0	12,786.0	6,790.0	171.1	0.0	-90.00	-500.6	-7,320.3	660.1	489.0	171.12	3.858	
13,000.0	6,790.0	12,886.0	6,790.0	173.6	0.0	-90.00	-500.3	-7,420.3	660.1	486.5	173.58	3.803	
13,100.0	6,790.0	12,986.0	6,790.0	176.1	0.0	-90.00	-500.1	-7,520.3	660.1	484.1	176.05	3.750	
13,200.0	6,790.0	13,086.0	6,790.0	178.5	0.0	-90.00	-499.8	-7,620.3	660.1	481.6	178.51	3.698	
13,300.0	6,790.0	13,186.0	6,790.0	181.0	0.0	-90.00	-499.6	-7,720.3	660.1	479.1	180.98	3.648	
13,400.0	6,790.0	13,286.0	6,790.0	183.5	0.0	-90.00	-499.3	-7,820.3	660.1	476.7	183.44	3.599	
13,500.0	6,790.0	13,386.0	6,790.0	185.9	0.0	-90.00	-499.1	-7,920.3	660.1	474.2	185.90	3.551	
13,600.0	6,790.0	13,486.0	6,790.0	188.4	0.0	-90.00	-498.8	-8,020.3	660.1	471.7	188.37	3.504	
13,700.0	6,790.0	13,586.0	6,790.0	190.8	0.0	-90.00	-498.6	-8,120.3	660.1	469.3	190.84	3.459	
13,800.0	6,790.0	13,686.0	6,790.0	193.3	0.0	-90.00	-498.3	-8,220.3	660.1	466.8	193.30	3.415	
13,900.0	6,790.0	13,786.0	6,790.0	195.8	0.0	-90.00	-498.1	-8,320.3	660.1	464.4	195.77	3.372	
14,000.0	6,790.0	13,886.0	6,790.0	198.2	0.0	-90.00	-497.8	-8,420.3	660.1	461.9	198.23	3.330	
14,100.0	6,790.0	13,986.0	6,790.0	200.7	0.0	-90.00	-497.6	-8,520.3	660.1	459.4	200.70	3.289	
14,200.0	6,790.0	14,086.0	6,790.0	203.2	0.0	-90.00	-497.3	-8,620.3	660.1	457.0	203.17	3.249	
14,300.0	6,790.0	14,186.0	6,790.0	205.6	0.0	-90.00	-497.1	-8,720.3	660.1	454.5	205.63	3.210	
14,400.0	6,790.0	14,286.0	6,790.0	208.1	0.0	-90.00	-496.8	-8,820.3	660.1	452.0	208.10	3.172	
14,500.0	6,790.0	14,386.0	6,790.0	210.6	0.0	-90.00	-496.6	-8,920.3	660.1	449.6	210.57	3.135	
14,600.0	6,790.0	14,486.0	6,790.0	213.0	0.0	-90.00	-496.3	-9,020.3	660.1	447.1	213.03	3.099	
14,700.0	6,790.0	14,586.0	6,790.0	215.5	0.0	-90.00	-496.1	-9,120.3	660.1	444.6	215.50	3.063	
14,800.0	6,790.0	14,686.0	6,790.0	218.0	0.0	-90.00	-495.8	-9,220.3	660.1	442.1	217.97	3.028	
14,900.0	6,790.0	14,786.0	6,790.0	220.4	0.0	-90.00	-495.6	-9,320.3	660.1	439.7	220.44	2.995	
15,000.0	6,790.0	14,886.0	6,790.0	222.9	0.0	-90.00	-495.3	-9,420.3	660.1	437.2	222.91	2.961	
15,100.0	6,790.0	14,986.0	6,790.0	225.4	0.0	-90.00	-495.1	-9,520.3	660.1	434.7	225.37	2.929	
15,200.0	6,790.0	15,086.0	6,790.0	227.9	0.0	-90.00	-494.8	-9,620.3	660.1	432.3	227.84	2.897	
15,300.0	6,790.0	15,186.0	6,790.0	230.3	0.0	-90.00	-494.6	-9,720.3	660.1	429.8	230.31	2.866	
15,400.0	6,790.0	15,286.0	6,790.0	232.8	0.0	-90.00	-494.3	-9,820.3	660.1	427.3	232.78	2.836	
15,500.0	6,790.0	15,386.0	6,790.0	235.3	0.0	-90.00	-494.1	-9,920.3	660.1	424.9	235.25	2.806	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 5 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
15,600.0	6,790.0	15,486.0	6,790.0	237.7	0.0	-90.00	-493.8	-10,020.3	660.1	422.4	237.72	2.777		
15,700.0	6,790.0	15,586.0	6,790.0	240.2	0.0	-90.00	-493.6	-10,120.3	660.1	419.9	240.19	2.748		
15,800.0	6,790.0	15,686.0	6,790.0	242.7	0.0	-90.00	-493.3	-10,220.3	660.1	417.5	242.65	2.720		
15,900.0	6,790.0	15,786.0	6,790.0	245.1	0.0	-90.00	-493.1	-10,320.3	660.1	415.0	245.12	2.693		
16,000.0	6,790.0	15,886.0	6,790.0	247.6	0.0	-90.00	-492.8	-10,420.3	660.1	412.5	247.59	2.666		
16,100.0	6,790.0	15,986.0	6,790.0	250.1	0.0	-90.00	-492.6	-10,520.3	660.1	410.1	250.06	2.640		
16,200.0	6,790.0	16,086.0	6,790.0	252.5	0.0	-90.00	-492.3	-10,620.3	660.1	407.6	252.53	2.614		
16,300.0	6,790.0	16,186.0	6,790.0	255.0	0.0	-90.00	-492.1	-10,720.3	660.1	405.1	255.00	2.589		
16,400.0	6,790.0	16,286.0	6,790.0	257.5	0.0	-90.00	-491.8	-10,820.3	660.1	402.6	257.47	2.564		
16,500.0	6,790.0	16,386.0	6,790.0	259.9	0.0	-90.00	-491.6	-10,920.3	660.1	400.2	259.94	2.540		
16,600.0	6,790.0	16,486.0	6,790.0	262.4	0.0	-90.00	-491.3	-11,020.3	660.1	397.7	262.41	2.516		
16,700.0	6,790.0	16,586.0	6,790.0	264.9	0.0	-90.00	-491.1	-11,120.3	660.1	395.2	264.88	2.492		
16,800.0	6,790.0	16,686.0	6,790.0	267.4	0.0	-90.00	-490.8	-11,220.3	660.1	392.8	267.35	2.469		
16,900.0	6,790.0	16,786.0	6,790.0	269.8	0.0	-90.00	-490.6	-11,320.3	660.1	390.3	269.82	2.447		
17,000.0	6,790.0	16,886.0	6,790.0	272.3	0.0	-90.00	-490.3	-11,420.3	660.1	387.8	272.29	2.424		
17,100.0	6,790.0	16,986.0	6,790.0	274.8	0.0	-90.00	-490.1	-11,520.3	660.1	385.4	274.76	2.403		
17,200.0	6,790.0	17,086.0	6,790.0	277.2	0.0	-90.00	-489.8	-11,620.3	660.1	382.9	277.23	2.381		
17,300.0	6,790.0	17,186.0	6,790.0	279.7	0.0	-90.00	-489.6	-11,720.3	660.1	380.4	279.70	2.360		
17,368.2	6,790.0	17,254.2	6,790.0	281.4	0.0	-90.00	-489.4	-11,788.5	660.1	378.7	281.38	2.346		
17,395.4	6,790.0	17,280.0	6,790.0	282.1	0.0	-90.00	-489.3	-11,814.3	660.1	378.1	282.06	2.340 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 6 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.00	-95.8	-57.6	111.8					
100.0	100.0	100.0	100.0	0.1	0.0	-149.00	-95.8	-57.6	111.8	111.6	0.13	841.425		
200.0	200.0	200.0	200.0	0.3	0.0	-149.00	-95.8	-57.6	111.8	111.5	0.31	363.654 CC, ES		
300.0	300.0	298.4	298.4	0.5	0.0	-66.37	-96.2	-58.3	112.1	111.7	0.48	232.317		
400.0	400.0	396.8	396.7	0.7	0.0	-66.84	-97.3	-60.6	113.2	112.6	0.66	171.108		
500.0	499.9	495.1	495.0	0.9	0.0	-67.60	-99.1	-64.4	115.1	114.2	0.85	135.710		
600.0	599.7	593.5	593.2	1.1	0.0	-68.62	-101.6	-69.8	117.7	116.6	1.04	112.646		
700.0	699.4	691.7	691.1	1.3	0.0	-69.88	-104.8	-76.6	121.1	119.8	1.26	96.436		
800.0	798.9	789.9	788.9	1.5	0.0	-71.31	-108.8	-85.0	125.3	123.8	1.48	84.444		
900.0	898.3	888.1	886.4	1.8	0.0	-72.88	-113.5	-94.9	130.4	128.7	1.73	75.245		
1,000.0	997.4	986.1	983.6	2.0	0.0	-74.53	-118.8	-106.2	136.4	134.4	2.01	68.006		
1,100.0	1,096.3	1,084.0	1,080.5	2.3	0.0	-76.24	-124.9	-119.1	143.4	141.1	2.30	62.204		
1,200.0	1,194.9	1,181.8	1,177.0	2.7	0.0	-77.95	-131.7	-133.4	151.2	148.6	2.63	57.491		
1,300.0	1,293.3	1,279.5	1,273.1	3.0	0.0	-79.63	-139.2	-149.2	160.1	157.1	2.98	53.723		
1,400.0	1,391.5	1,377.0	1,368.8	3.4	0.0	-80.93	-147.3	-166.5	170.1	166.8	3.34	51.008		
1,500.0	1,489.8	1,475.5	1,465.0	3.7	0.0	-81.74	-156.2	-185.2	181.2	177.5	3.69	49.055		
1,600.0	1,588.0	1,574.8	1,562.1	4.1	0.0	-82.42	-165.2	-204.2	192.4	188.3	4.05	47.451		
1,700.0	1,686.3	1,674.2	1,659.2	4.4	0.0	-83.02	-174.2	-223.3	203.6	199.2	4.42	46.090		
1,800.0	1,784.5	1,773.5	1,756.3	4.8	0.0	-83.56	-183.2	-242.3	214.9	210.1	4.78	44.922		
1,900.0	1,882.7	1,872.8	1,853.3	5.2	0.0	-84.05	-192.2	-261.4	226.2	221.0	5.15	43.911		
2,000.0	1,981.0	1,972.2	1,950.4	5.5	0.0	-84.49	-201.2	-280.5	237.4	231.9	5.52	43.028		
2,100.0	2,079.2	2,071.5	2,047.5	5.9	0.0	-84.88	-210.2	-299.5	248.8	242.9	5.89	42.252		
2,200.0	2,177.5	2,170.9	2,144.6	6.3	0.0	-85.25	-219.3	-318.6	260.1	253.8	6.26	41.564		
2,300.0	2,275.7	2,270.2	2,241.7	6.6	0.0	-85.58	-228.3	-337.6	271.4	264.8	6.63	40.950		
2,400.0	2,374.0	2,369.6	2,338.8	7.0	0.0	-85.89	-237.3	-356.7	282.7	275.7	7.00	40.400		
2,500.0	2,472.2	2,468.9	2,435.8	7.4	0.0	-86.17	-246.3	-375.7	294.0	286.7	7.37	39.904		
2,600.0	2,570.5	2,568.3	2,532.9	7.8	0.0	-86.44	-255.3	-394.8	305.4	297.7	7.74	39.455		
2,700.0	2,668.7	2,667.6	2,630.0	8.1	0.0	-86.68	-264.3	-413.8	316.7	308.6	8.11	39.046		
2,800.0	2,767.0	2,767.0	2,727.1	8.5	0.0	-86.91	-273.3	-432.9	328.1	319.6	8.48	38.672		
2,900.0	2,865.2	2,866.3	2,824.2	8.9	0.0	-87.12	-282.3	-451.9	339.5	330.6	8.86	38.330		
3,000.0	2,963.5	2,965.6	2,921.3	9.2	0.0	-87.32	-291.4	-471.0	350.8	341.6	9.23	38.015		
3,100.0	3,061.7	3,065.0	3,018.3	9.6	0.0	-87.50	-300.4	-490.0	362.2	352.6	9.60	37.724		
3,200.0	3,160.0	3,164.3	3,115.4	10.0	0.0	-87.68	-309.4	-509.1	373.6	363.6	9.97	37.455		
3,300.0	3,258.2	3,263.7	3,212.5	10.4	0.0	-87.84	-318.4	-528.2	384.9	374.6	10.35	37.205		
3,400.0	3,356.5	3,363.0	3,309.6	10.7	0.0	-88.00	-327.4	-547.2	396.3	385.6	10.72	36.973		
3,500.0	3,454.7	3,462.4	3,406.7	11.1	0.0	-88.14	-336.4	-566.3	407.7	396.6	11.09	36.756		
3,600.0	3,552.9	3,561.7	3,503.8	11.5	0.0	-88.28	-345.4	-585.3	419.1	407.6	11.46	36.553		
3,700.0	3,651.2	3,661.1	3,600.8	11.8	0.0	-88.41	-354.4	-604.4	430.5	418.6	11.84	36.363		
3,800.0	3,749.4	3,760.4	3,697.9	12.2	0.0	-88.54	-363.5	-623.4	441.8	429.6	12.21	36.184		
3,900.0	3,847.7	3,859.7	3,795.0	12.6	0.0	-88.65	-372.5	-642.5	453.2	440.6	12.58	36.016		
4,000.0	3,945.9	3,959.1	3,892.1	13.0	0.0	-88.77	-381.5	-661.5	464.6	451.7	12.96	35.858		
4,100.0	4,044.2	4,058.4	3,989.2	13.3	0.0	-88.87	-390.5	-680.6	476.0	462.7	13.33	35.709		
4,200.0	4,142.4	4,157.8	4,086.3	13.7	0.0	-88.97	-399.5	-699.6	487.4	473.7	13.70	35.568		
4,300.0	4,240.7	4,257.1	4,183.3	14.1	0.0	-89.07	-408.5	-718.7	498.8	484.7	14.08	35.434		
4,400.0	4,338.9	4,356.5	4,280.4	14.5	0.0	-89.16	-417.5	-737.8	510.2	495.7	14.45	35.307		
4,500.0	4,437.2	4,455.8	4,377.5	14.8	0.0	-89.25	-426.5	-756.8	521.6	506.8	14.82	35.187		
4,600.0	4,535.4	4,555.2	4,474.6	15.2	0.0	-89.34	-435.6	-775.9	533.0	517.8	15.20	35.072		
4,700.0	4,633.7	4,654.5	4,571.7	15.6	0.0	-89.42	-444.6	-794.9	544.4	528.8	15.57	34.964		
4,800.0	4,731.9	4,753.9	4,668.8	15.9	0.0	-89.50	-453.6	-814.0	555.8	539.8	15.94	34.860		
4,900.0	4,830.2	4,853.2	4,765.8	16.3	0.0	-89.57	-462.6	-833.0	567.2	550.9	16.32	34.761		
5,000.0	4,928.4	4,952.5	4,862.9	16.7	0.0	-89.64	-471.6	-852.1	578.6	561.9	16.69	34.666		
5,100.0	5,026.7	5,051.9	4,960.0	17.1	0.0	-89.71	-480.6	-871.1	590.0	572.9	17.06	34.576		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 6 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 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 Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,124.9	5,151.2	5,057.1	17.4	0.0	-89.78	-489.6	-890.2	601.4	584.0	17.44	34.489	
5,300.0	5,223.2	5,250.6	5,154.2	17.8	0.0	-89.84	-498.6	-909.2	612.8	595.0	17.81	34.406	
5,400.0	5,321.4	5,349.9	5,251.3	18.2	0.0	-89.91	-507.7	-928.3	624.2	606.0	18.18	34.327	
5,500.0	5,419.6	5,449.3	5,348.3	18.6	0.0	-89.97	-516.7	-947.3	635.6	617.1	18.56	34.251	
5,600.0	5,517.9	5,548.6	5,445.4	18.9	0.0	-90.02	-525.7	-966.4	647.0	628.1	18.93	34.178	
5,700.0	5,616.1	5,648.0	5,542.5	19.3	0.0	-90.08	-534.7	-985.5	658.4	639.1	19.30	34.107	
5,800.0	5,714.4	5,747.3	5,639.6	19.7	0.0	-90.13	-543.7	-1,004.5	669.8	650.2	19.68	34.040	
5,900.0	5,812.6	5,846.7	5,736.7	20.1	0.0	-90.18	-552.7	-1,023.6	681.3	661.2	20.05	33.974	
6,000.0	5,910.9	5,946.0	5,833.8	20.4	0.0	-90.23	-561.7	-1,042.6	692.7	672.2	20.43	33.912	
6,100.0	6,009.1	6,045.3	5,930.8	20.8	0.0	-90.28	-570.7	-1,061.7	704.1	683.3	20.80	33.851	
6,200.0	6,107.4	6,144.7	6,027.9	21.2	0.0	-90.33	-579.7	-1,080.7	715.5	694.3	21.17	33.793	
6,300.0	6,205.6	6,244.0	6,125.0	21.5	0.0	-90.37	-588.8	-1,099.8	726.9	705.4	21.55	33.737	
6,400.0	6,303.7	6,343.4	6,222.1	21.9	0.0	-88.61	-597.8	-1,118.8	738.2	716.3	21.95	33.637	
6,500.0	6,398.6	6,441.9	6,318.3	22.6	0.0	-86.56	-606.7	-1,137.7	748.1	725.5	22.58	33.135	
6,600.0	6,487.5	6,537.3	6,411.6	23.5	0.0	-86.93	-615.4	-1,156.0	756.8	733.4	23.45	32.275	
6,700.0	6,568.1	6,627.2	6,499.4	24.6	0.0	-88.54	-623.5	-1,173.3	765.7	741.2	24.55	31.185	
6,800.0	6,638.6	6,709.4	6,579.8	26.0	0.0	-90.67	-631.0	-1,189.0	776.9	751.0	25.88	30.016	
6,900.0	6,697.1	6,795.3	6,663.1	27.6	0.0	-93.23	-638.7	-1,208.5	792.2	764.7	27.41	28.903	
7,000.0	6,742.2	6,896.1	6,756.5	29.4	0.0	-96.17	-647.3	-1,245.0	811.4	782.3	29.09	27.896	
7,100.0	6,772.8	7,015.5	6,858.1	31.4	0.0	-99.50	-656.7	-1,306.6	833.6	802.8	30.84	27.027	
7,200.0	6,788.2	7,164.1	6,965.8	33.5	0.0	-103.41	-666.5	-1,408.1	857.2	824.6	32.55	26.334	
7,300.0	6,790.0	7,360.4	7,066.9	35.7	0.0	-108.64	-675.5	-1,575.2	878.3	844.4	33.87	25.930	
7,400.0	6,790.0	7,612.3	7,115.0	37.9	0.0	-111.50	-679.3	-1,820.7	886.8	851.5	35.37	25.074	
7,500.0	6,790.0	7,712.3	7,115.0	40.2	0.0	-111.50	-679.1	-1,920.7	886.8	849.4	37.47	23.670	
7,600.0	6,790.0	7,812.3	7,115.0	42.4	0.0	-111.50	-678.8	-2,020.7	886.8	847.3	39.59	22.403	
7,700.0	6,790.0	7,912.3	7,115.0	44.7	0.0	-111.50	-678.6	-2,120.7	886.8	845.1	41.73	21.254	
7,800.0	6,790.0	8,012.3	7,115.0	47.1	0.0	-111.50	-678.3	-2,220.7	886.8	843.0	43.88	20.210	
7,900.0	6,790.0	8,112.3	7,115.0	49.4	0.0	-111.50	-678.1	-2,320.7	886.8	840.8	46.05	19.257	
8,000.0	6,790.0	8,212.3	7,115.0	51.7	0.0	-111.50	-677.8	-2,420.7	886.8	838.6	48.24	18.386	
8,100.0	6,790.0	8,312.3	7,115.0	54.1	0.0	-111.50	-677.6	-2,520.7	886.8	836.4	50.43	17.586	
8,200.0	6,790.0	8,412.3	7,115.0	56.4	0.0	-111.50	-677.3	-2,620.7	886.8	834.2	52.63	16.850	
8,300.0	6,790.0	8,512.3	7,115.0	58.8	0.0	-111.50	-677.1	-2,720.7	886.8	832.0	54.84	16.171	
8,400.0	6,790.0	8,612.3	7,115.0	61.2	0.0	-111.50	-676.8	-2,820.7	886.8	829.8	57.06	15.542	
8,500.0	6,790.0	8,712.3	7,115.0	63.6	0.0	-111.50	-676.6	-2,920.7	886.8	827.6	59.29	14.959	
8,600.0	6,790.0	8,812.3	7,115.0	66.0	0.0	-111.50	-676.3	-3,020.7	886.8	825.3	61.52	14.416	
8,700.0	6,790.0	8,912.3	7,115.0	68.4	0.0	-111.50	-676.1	-3,120.7	886.8	823.1	63.75	13.911	
8,800.0	6,790.0	9,012.3	7,115.0	70.8	0.0	-111.50	-675.8	-3,220.7	886.8	820.9	65.99	13.438	
8,900.0	6,790.0	9,112.3	7,115.0	73.2	0.0	-111.50	-675.6	-3,320.7	886.8	818.6	68.24	12.996	
9,000.0	6,790.0	9,212.3	7,115.0	75.6	0.0	-111.50	-675.3	-3,420.7	886.8	816.4	70.49	12.582	
9,100.0	6,790.0	9,312.3	7,115.0	78.0	0.0	-111.50	-675.1	-3,520.7	886.8	814.1	72.74	12.192	
9,200.0	6,790.0	9,412.3	7,115.0	80.5	0.0	-111.50	-674.8	-3,620.7	886.8	811.9	74.99	11.826	
9,300.0	6,790.0	9,512.3	7,115.0	82.9	0.0	-111.50	-674.6	-3,720.7	886.8	809.6	77.25	11.480	
9,400.0	6,790.0	9,612.3	7,115.0	85.3	0.0	-111.50	-674.3	-3,820.7	886.8	807.3	79.51	11.154	
9,500.0	6,790.0	9,712.3	7,115.0	87.7	0.0	-111.50	-674.1	-3,920.7	886.8	805.1	81.78	10.845	
9,600.0	6,790.0	9,812.3	7,115.0	90.2	0.0	-111.50	-673.8	-4,020.7	886.8	802.8	84.04	10.553	
9,700.0	6,790.0	9,912.3	7,115.0	92.6	0.0	-111.50	-673.6	-4,120.7	886.8	800.5	86.31	10.275	
9,800.0	6,790.0	10,012.3	7,115.0	95.1	0.0	-111.50	-673.3	-4,220.7	886.8	798.3	88.58	10.012	
9,900.0	6,790.0	10,112.3	7,115.0	97.5	0.0	-111.50	-673.1	-4,320.7	886.8	796.0	90.85	9.762	
10,000.0	6,790.0	10,212.3	7,115.0	99.9	0.0	-111.50	-672.8	-4,420.7	886.8	793.7	93.12	9.524	
10,100.0	6,790.0	10,312.3	7,115.0	102.4	0.0	-111.50	-672.6	-4,520.7	886.8	791.5	95.39	9.297	
10,200.0	6,790.0	10,412.3	7,115.0	104.8	0.0	-111.50	-672.3	-4,620.7	886.8	789.2	97.67	9.080	
10,300.0	6,790.0	10,512.3	7,115.0	107.3	0.0	-111.50	-672.1	-4,720.7	886.8	786.9	99.95	8.873	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 6 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 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 Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
10,400.0	6,790.0	10,612.3	7,115.0	109.7	0.0	-111.50	-671.8	-4,820.7	886.8	784.6	102.22	8.676	
10,500.0	6,790.0	10,712.3	7,115.0	112.2	0.0	-111.50	-671.6	-4,920.7	886.8	782.3	104.50	8.486	
10,600.0	6,790.0	10,812.3	7,115.0	114.6	0.0	-111.50	-671.3	-5,020.7	886.8	780.1	106.78	8.305	
10,700.0	6,790.0	10,912.3	7,115.0	117.1	0.0	-111.50	-671.1	-5,120.7	886.8	777.8	109.06	8.132	
10,800.0	6,790.0	11,012.3	7,115.0	119.5	0.0	-111.50	-670.8	-5,220.7	886.8	775.5	111.34	7.965	
10,900.0	6,790.0	11,112.3	7,115.0	122.0	0.0	-111.50	-670.6	-5,320.7	886.8	773.2	113.63	7.805	
11,000.0	6,790.0	11,212.3	7,115.0	124.4	0.0	-111.50	-670.3	-5,420.7	886.8	770.9	115.91	7.651	
11,100.0	6,790.0	11,312.3	7,115.0	126.9	0.0	-111.50	-670.1	-5,520.7	886.8	768.7	118.19	7.503	
11,200.0	6,790.0	11,412.3	7,115.0	129.3	0.0	-111.50	-669.8	-5,620.7	886.8	766.4	120.48	7.361	
11,300.0	6,790.0	11,512.3	7,115.0	131.8	0.0	-111.50	-669.6	-5,720.7	886.8	764.1	122.77	7.224	
11,400.0	6,790.0	11,612.3	7,115.0	134.2	0.0	-111.50	-669.3	-5,820.7	886.8	761.8	125.05	7.092	
11,500.0	6,790.0	11,712.3	7,115.0	136.7	0.0	-111.50	-669.1	-5,920.7	886.8	759.5	127.34	6.964	
11,600.0	6,790.0	11,812.3	7,115.0	139.1	0.0	-111.50	-668.8	-6,020.7	886.8	757.2	129.63	6.842	
11,700.0	6,790.0	11,912.3	7,115.0	141.6	0.0	-111.50	-668.6	-6,120.7	886.8	754.9	131.91	6.723	
11,800.0	6,790.0	12,012.3	7,115.0	144.1	0.0	-111.50	-668.3	-6,220.7	886.8	752.6	134.20	6.608	
11,900.0	6,790.0	12,112.3	7,115.0	146.5	0.0	-111.50	-668.1	-6,320.7	886.8	750.4	136.49	6.497	
12,000.0	6,790.0	12,212.3	7,115.0	149.0	0.0	-111.50	-667.8	-6,420.7	886.8	748.1	138.78	6.390	
12,100.0	6,790.0	12,312.3	7,115.0	151.4	0.0	-111.50	-667.6	-6,520.7	886.8	745.8	141.07	6.286	
12,200.0	6,790.0	12,412.3	7,115.0	153.9	0.0	-111.50	-667.3	-6,620.7	886.8	743.5	143.36	6.186	
12,300.0	6,790.0	12,512.3	7,115.0	156.4	0.0	-111.50	-667.1	-6,720.7	886.8	741.2	145.65	6.089	
12,400.0	6,790.0	12,612.3	7,115.0	158.8	0.0	-111.50	-666.8	-6,820.7	886.8	738.9	147.94	5.994	
12,500.0	6,790.0	12,712.3	7,115.0	161.3	0.0	-111.50	-666.6	-6,920.7	886.8	736.6	150.24	5.903	
12,600.0	6,790.0	12,812.3	7,115.0	163.7	0.0	-111.50	-666.3	-7,020.7	886.8	734.3	152.53	5.814	
12,700.0	6,790.0	12,912.3	7,115.0	166.2	0.0	-111.50	-666.1	-7,120.7	886.8	732.0	154.82	5.728	
12,800.0	6,790.0	13,012.3	7,115.0	168.7	0.0	-111.50	-665.8	-7,220.7	886.8	729.7	157.11	5.645	
12,900.0	6,790.0	13,112.3	7,115.0	171.1	0.0	-111.50	-665.6	-7,320.7	886.8	727.4	159.41	5.563	
13,000.0	6,790.0	13,212.3	7,115.0	173.6	0.0	-111.50	-665.4	-7,420.7	886.8	725.1	161.70	5.485	
13,100.0	6,790.0	13,312.3	7,115.0	176.1	0.0	-111.50	-665.1	-7,520.7	886.8	722.9	163.99	5.408	
13,200.0	6,790.0	13,412.3	7,115.0	178.5	0.0	-111.50	-664.9	-7,620.7	886.8	720.6	166.29	5.333	
13,300.0	6,790.0	13,512.3	7,115.0	181.0	0.0	-111.50	-664.6	-7,720.7	886.8	718.3	168.58	5.261	
13,400.0	6,790.0	13,612.3	7,115.0	183.5	0.0	-111.50	-664.4	-7,820.7	886.8	716.0	170.87	5.190	
13,500.0	6,790.0	13,712.3	7,115.0	185.9	0.0	-111.50	-664.1	-7,920.7	886.8	713.7	173.17	5.121	
13,600.0	6,790.0	13,812.3	7,115.0	188.4	0.0	-111.50	-663.9	-8,020.7	886.8	711.4	175.46	5.054	
13,700.0	6,790.0	13,912.3	7,115.0	190.8	0.0	-111.50	-663.6	-8,120.7	886.8	709.1	177.76	4.989	
13,800.0	6,790.0	14,012.3	7,115.0	193.3	0.0	-111.50	-663.4	-8,220.7	886.8	706.8	180.05	4.925	
13,900.0	6,790.0	14,112.3	7,115.0	195.8	0.0	-111.50	-663.1	-8,320.7	886.8	704.5	182.35	4.863	
14,000.0	6,790.0	14,212.3	7,115.0	198.2	0.0	-111.50	-662.9	-8,420.7	886.8	702.2	184.65	4.803	
14,100.0	6,790.0	14,312.3	7,115.0	200.7	0.0	-111.50	-662.6	-8,520.7	886.8	699.9	186.94	4.744	
14,200.0	6,790.0	14,412.3	7,115.0	203.2	0.0	-111.50	-662.4	-8,620.7	886.8	697.6	189.24	4.686	
14,300.0	6,790.0	14,512.3	7,115.0	205.6	0.0	-111.50	-662.1	-8,720.7	886.8	695.3	191.53	4.630	
14,400.0	6,790.0	14,612.3	7,115.0	208.1	0.0	-111.50	-661.9	-8,820.7	886.8	693.0	193.83	4.575	
14,500.0	6,790.0	14,712.3	7,115.0	210.6	0.0	-111.50	-661.6	-8,920.7	886.8	690.7	196.13	4.522	
14,600.0	6,790.0	14,812.3	7,115.0	213.0	0.0	-111.50	-661.4	-9,020.7	886.8	688.4	198.42	4.469	
14,700.0	6,790.0	14,912.3	7,115.0	215.5	0.0	-111.50	-661.1	-9,120.7	886.8	686.1	200.72	4.418	
14,800.0	6,790.0	15,012.3	7,115.0	218.0	0.0	-111.50	-660.9	-9,220.7	886.8	683.8	203.02	4.368	
14,900.0	6,790.0	15,112.3	7,115.0	220.4	0.0	-111.50	-660.6	-9,320.7	886.8	681.5	205.31	4.319	
15,000.0	6,790.0	15,212.3	7,115.0	222.9	0.0	-111.50	-660.4	-9,420.7	886.8	679.2	207.61	4.272	
15,100.0	6,790.0	15,312.3	7,115.0	225.4	0.0	-111.50	-660.1	-9,520.7	886.8	676.9	209.91	4.225	
15,200.0	6,790.0	15,412.3	7,115.0	227.9	0.0	-111.50	-659.9	-9,620.7	886.8	674.6	212.21	4.179	
15,300.0	6,790.0	15,512.3	7,115.0	230.3	0.0	-111.50	-659.6	-9,720.7	886.8	672.3	214.50	4.134	
15,400.0	6,790.0	15,612.3	7,115.0	232.8	0.0	-111.50	-659.4	-9,820.7	886.8	670.0	216.80	4.091	
15,500.0	6,790.0	15,712.3	7,115.0	235.3	0.0	-111.50	-659.1	-9,920.7	886.8	667.7	219.10	4.048	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 6 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
15,600.0	6,790.0	15,812.3	7,115.0	237.7	0.0	-111.50	-658.9	-10,020.7	886.8	665.4	221.40	4.006		
15,700.0	6,790.0	15,912.3	7,115.0	240.2	0.0	-111.50	-658.6	-10,120.7	886.8	663.1	223.70	3.965		
15,800.0	6,790.0	16,012.3	7,115.0	242.7	0.0	-111.50	-658.4	-10,220.7	886.8	660.9	225.99	3.924		
15,900.0	6,790.0	16,112.3	7,115.0	245.1	0.0	-111.50	-658.1	-10,320.7	886.8	658.6	228.29	3.885		
16,000.0	6,790.0	16,212.3	7,115.0	247.6	0.0	-111.50	-657.9	-10,420.7	886.8	656.3	230.59	3.846		
16,100.0	6,790.0	16,312.3	7,115.0	250.1	0.0	-111.50	-657.6	-10,520.7	886.8	654.0	232.89	3.808		
16,200.0	6,790.0	16,412.3	7,115.0	252.5	0.0	-111.50	-657.4	-10,620.7	886.8	651.7	235.19	3.771		
16,300.0	6,790.0	16,512.3	7,115.0	255.0	0.0	-111.50	-657.1	-10,720.7	886.8	649.4	237.49	3.734		
16,400.0	6,790.0	16,612.3	7,115.0	257.5	0.0	-111.50	-656.9	-10,820.7	886.8	647.1	239.79	3.698		
16,500.0	6,790.0	16,712.3	7,115.0	259.9	0.0	-111.50	-656.6	-10,920.7	886.8	644.8	242.08	3.663		
16,600.0	6,790.0	16,812.3	7,115.0	262.4	0.0	-111.50	-656.4	-11,020.7	886.8	642.5	244.38	3.629		
16,700.0	6,790.0	16,912.3	7,115.0	264.9	0.0	-111.50	-656.1	-11,120.7	886.8	640.2	246.68	3.595		
16,800.0	6,790.0	17,012.3	7,115.0	267.4	0.0	-111.50	-655.9	-11,220.7	886.8	637.9	248.98	3.562		
16,900.0	6,790.0	17,112.3	7,115.0	269.8	0.0	-111.50	-655.6	-11,320.7	886.8	635.6	251.28	3.529		
17,000.0	6,790.0	17,212.3	7,115.0	272.3	0.0	-111.50	-655.4	-11,420.7	886.8	633.3	253.58	3.497		
17,100.0	6,790.0	17,312.3	7,115.0	274.8	0.0	-111.50	-655.1	-11,520.7	886.8	631.0	255.88	3.466		
17,200.0	6,790.0	17,412.3	7,115.0	277.2	0.0	-111.50	-654.9	-11,620.7	886.8	628.7	258.18	3.435		
17,300.0	6,790.0	17,512.3	7,115.0	279.7	0.0	-111.50	-654.6	-11,720.7	886.8	626.4	260.48	3.405		
17,368.1	6,790.0	17,580.3	7,115.0	281.4	0.0	-111.50	-654.4	-11,788.8	886.8	624.8	262.04	3.384		
17,395.4	6,790.0	17,606.0	7,115.0	282.1	0.0	-111.50	-654.4	-11,814.4	886.8	624.2	262.67	3.376 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 7 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.07	-120.2	-72.0	140.2					
100.0	100.0	100.0	100.0	0.1	0.0	-149.07	-120.2	-72.0	140.2	0.13	1,054.990			
200.0	200.0	200.0	200.0	0.3	0.0	-149.07	-120.2	-72.0	140.2	0.31	455.954 CC, ES			
300.0	300.0	297.9	297.9	0.5	0.0	-66.43	-120.6	-72.8	140.6	0.48	291.168			
400.0	400.0	395.8	395.7	0.7	0.0	-66.88	-121.9	-74.9	141.8	0.66	214.205			
500.0	499.9	493.6	493.5	0.9	0.0	-67.62	-124.0	-78.5	143.8	0.85	169.571			
600.0	599.7	591.4	591.1	1.1	0.0	-68.62	-127.0	-83.5	146.7	1.04	140.392			
700.0	699.4	689.1	688.5	1.3	0.0	-69.84	-130.8	-90.0	150.4	1.26	119.813			
800.0	798.9	786.7	785.7	1.5	0.0	-71.24	-135.5	-97.9	155.1	1.48	104.534			
900.0	898.3	884.3	882.6	1.8	0.0	-72.79	-141.0	-107.2	160.8	1.73	92.774			
1,000.0	997.4	981.7	979.2	2.0	0.0	-74.44	-147.3	-117.9	167.5	2.01	83.490			
1,100.0	1,096.3	1,078.9	1,075.5	2.3	0.0	-76.16	-154.5	-130.0	175.2	2.30	76.027			
1,200.0	1,194.9	1,176.0	1,171.3	2.7	0.0	-77.89	-162.4	-143.4	184.0	2.63	69.951			
1,300.0	1,293.3	1,273.0	1,266.7	3.0	0.0	-79.62	-171.2	-158.3	193.9	2.98	65.075			
1,400.0	1,391.5	1,369.7	1,361.6	3.4	0.0	-81.06	-180.8	-174.5	205.2	3.34	61.501			
1,500.0	1,489.8	1,466.4	1,456.1	3.7	0.0	-82.04	-191.1	-192.0	217.7	3.69	58.917			
1,600.0	1,588.0	1,562.9	1,550.1	4.1	0.0	-82.63	-202.3	-210.9	231.4	4.06	57.066			
1,700.0	1,686.3	1,661.9	1,646.3	4.4	0.0	-83.03	-214.1	-230.9	245.7	4.42	55.614			
1,800.0	1,784.5	1,760.8	1,742.5	4.8	0.0	-83.40	-225.9	-250.9	260.0	4.78	54.363			
1,900.0	1,882.7	1,859.8	1,838.7	5.2	0.0	-83.72	-237.7	-270.9	274.3	5.15	53.277			
2,000.0	1,981.0	1,958.7	1,934.9	5.5	0.0	-84.02	-249.5	-290.9	288.6	5.52	52.325			
2,100.0	2,079.2	2,057.7	2,031.1	5.9	0.0	-84.28	-261.4	-310.9	302.9	5.88	51.484			
2,200.0	2,177.5	2,156.7	2,127.3	6.3	0.0	-84.53	-273.2	-330.8	317.2	6.25	50.738			
2,300.0	2,275.7	2,255.6	2,223.5	6.6	0.0	-84.75	-285.0	-350.8	331.6	6.62	50.070			
2,400.0	2,374.0	2,354.6	2,319.7	7.0	0.0	-84.95	-296.8	-370.8	345.9	6.99	49.470			
2,500.0	2,472.2	2,453.5	2,415.9	7.4	0.0	-85.14	-308.6	-390.8	360.2	7.36	48.928			
2,600.0	2,570.5	2,552.5	2,512.1	7.8	0.0	-85.31	-320.4	-410.8	374.6	7.73	48.435			
2,700.0	2,668.7	2,651.5	2,608.3	8.1	0.0	-85.47	-332.2	-430.8	388.9	8.10	47.987			
2,800.0	2,767.0	2,750.4	2,704.5	8.5	0.0	-85.62	-344.0	-450.8	403.2	8.48	47.576			
2,900.0	2,865.2	2,849.4	2,800.7	8.9	0.0	-85.75	-355.9	-470.7	417.6	8.85	47.199			
3,000.0	2,963.5	2,948.3	2,896.9	9.2	0.0	-85.88	-367.7	-490.7	431.9	9.22	46.851			
3,100.0	3,061.7	3,047.3	2,993.1	9.6	0.0	-86.00	-379.5	-510.7	446.3	9.59	46.529			
3,200.0	3,160.0	3,146.3	3,089.3	10.0	0.0	-86.12	-391.3	-530.7	460.6	9.96	46.231			
3,300.0	3,258.2	3,245.2	3,185.5	10.4	0.0	-86.22	-403.1	-550.7	475.0	10.34	45.954			
3,400.0	3,356.5	3,344.2	3,281.7	10.7	0.0	-86.32	-414.9	-570.7	489.3	10.71	45.696			
3,500.0	3,454.7	3,443.2	3,377.9	11.1	0.0	-86.42	-426.7	-590.7	503.7	11.08	45.455			
3,600.0	3,552.9	3,542.1	3,474.1	11.5	0.0	-86.51	-438.5	-610.7	518.0	11.45	45.229			
3,700.0	3,651.2	3,641.1	3,570.3	11.8	0.0	-86.59	-450.3	-630.6	532.4	11.83	45.017			
3,800.0	3,749.4	3,740.0	3,666.5	12.2	0.0	-86.67	-462.2	-650.6	546.7	12.20	44.818			
3,900.0	3,847.7	3,839.0	3,762.7	12.6	0.0	-86.75	-474.0	-670.6	561.1	12.57	44.631			
4,000.0	3,945.9	3,938.0	3,858.9	13.0	0.0	-86.82	-485.8	-690.6	575.5	12.95	44.454			
4,100.0	4,044.2	4,036.9	3,955.1	13.3	0.0	-86.89	-497.6	-710.6	589.8	13.32	44.287			
4,200.0	4,142.4	4,135.9	4,051.3	13.7	0.0	-86.95	-509.4	-730.6	604.2	13.69	44.129			
4,300.0	4,240.7	4,234.8	4,147.5	14.1	0.0	-87.02	-521.2	-750.6	618.5	14.06	43.979			
4,400.0	4,338.9	4,333.8	4,243.7	14.5	0.0	-87.07	-533.0	-770.5	632.9	14.44	43.837			
4,500.0	4,437.2	4,432.8	4,339.9	14.8	0.0	-87.13	-544.8	-790.5	647.3	14.81	43.701			
4,600.0	4,535.4	4,531.7	4,436.1	15.2	0.0	-87.19	-556.7	-810.5	661.6	15.18	43.573			
4,700.0	4,633.7	4,630.7	4,532.3	15.6	0.0	-87.24	-568.5	-830.5	676.0	15.56	43.450			
4,800.0	4,731.9	4,729.6	4,628.5	15.9	0.0	-87.29	-580.3	-850.5	690.4	15.93	43.334			
4,900.0	4,830.2	4,828.6	4,724.7	16.3	0.0	-87.34	-592.1	-870.5	704.7	16.30	43.222			
5,000.0	4,928.4	4,927.6	4,820.9	16.7	0.0	-87.38	-603.9	-890.5	719.1	16.68	43.116			
5,100.0	5,026.7	5,026.5	4,917.1	17.1	0.0	-87.43	-615.7	-910.5	733.5	17.05	43.014			

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 7 - Hz - Plan #1												Offset Site Error:	0.0 usft
Survey Program: 0-												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Factor	
5,200.0	5,124.9	5,125.5	5,013.3	17.4	0.0	-87.47	-627.5	-930.4	747.8	730.4	17.43	42.916	
5,300.0	5,223.2	5,224.5	5,109.5	17.8	0.0	-87.51	-639.3	-950.4	762.2	744.4	17.80	42.823	
5,400.0	5,321.4	5,323.4	5,205.7	18.2	0.0	-87.55	-651.1	-970.4	776.6	758.4	18.17	42.733	
5,500.0	5,419.6	5,422.4	5,301.9	18.6	0.0	-87.59	-663.0	-990.4	790.9	772.4	18.55	42.647	
5,600.0	5,517.9	5,521.3	5,398.1	18.9	0.0	-87.62	-674.8	-1,010.4	805.3	786.4	18.92	42.564	
5,700.0	5,616.1	5,620.3	5,494.3	19.3	0.0	-87.66	-686.6	-1,030.4	819.7	800.4	19.29	42.484	
5,800.0	5,714.4	5,719.3	5,590.5	19.7	0.0	-87.69	-698.4	-1,050.4	834.0	814.4	19.67	42.408	
5,900.0	5,812.6	5,818.2	5,686.7	20.1	0.0	-87.72	-710.2	-1,070.3	848.4	828.4	20.04	42.334	
6,000.0	5,910.9	5,917.2	5,782.9	20.4	0.0	-87.76	-722.0	-1,090.3	862.8	842.3	20.41	42.263	
6,100.0	6,009.1	6,016.1	5,879.1	20.8	0.0	-87.79	-733.8	-1,110.3	877.1	856.3	20.79	42.194	
6,200.0	6,107.4	6,115.1	5,975.3	21.2	0.0	-87.82	-745.6	-1,130.3	891.5	870.3	21.16	42.128	
6,300.0	6,205.6	6,214.1	6,071.5	21.5	0.0	-87.85	-757.5	-1,150.3	905.9	884.3	21.54	42.064	
6,400.0	6,303.7	6,313.0	6,167.7	21.9	0.0	-87.89	-769.3	-1,170.3	920.1	898.2	21.93	41.955	
6,500.0	6,398.6	6,411.3	6,263.2	22.6	0.0	-87.91	-781.0	-1,190.1	934.4	909.8	22.55	41.841	
6,600.0	6,487.5	6,500.0	6,348.6	23.5	0.0	-87.93	-791.5	-1,211.3	948.2	919.3	23.42	40.254	
6,700.0	6,568.1	6,583.8	6,426.1	24.6	0.0	-87.95	-800.9	-1,241.8	952.4	927.9	24.53	38.829	
6,800.0	6,638.6	6,672.7	6,503.0	26.0	0.0	-87.96	-810.3	-1,285.0	961.3	935.4	25.88	37.142	
6,900.0	6,697.1	6,765.2	6,576.1	27.6	0.0	-87.97	-819.2	-1,340.9	969.2	941.7	27.47	35.280	
7,000.0	6,742.2	6,862.0	6,643.0	29.4	0.0	-87.98	-827.3	-1,410.3	976.1	946.9	29.28	33.333	
7,100.0	6,772.8	6,963.9	6,701.4	31.4	0.0	-87.99	-834.3	-1,493.4	981.9	950.6	31.28	31.387	
7,200.0	6,788.2	7,071.6	6,748.0	33.5	0.0	-87.81	-839.8	-1,590.2	986.3	952.8	33.41	29.516	
7,300.0	6,790.0	7,186.3	6,779.0	35.7	0.0	-89.36	-843.3	-1,700.3	989.1	953.5	35.62	27.771	
7,400.0	6,790.0	7,307.7	6,790.0	37.9	0.0	-90.00	-844.4	-1,821.1	990.2	952.3	37.84	26.164	
7,500.0	6,790.0	7,407.7	6,790.0	40.2	0.0	-90.00	-844.1	-1,921.1	990.2	950.1	40.10	24.693	
7,600.0	6,790.0	7,507.7	6,790.0	42.4	0.0	-90.00	-843.9	-2,021.1	990.2	947.8	42.38	23.365	
7,700.0	6,790.0	7,607.7	6,790.0	44.7	0.0	-90.00	-843.6	-2,121.1	990.2	945.5	44.68	22.163	
7,800.0	6,790.0	7,707.7	6,790.0	47.1	0.0	-90.00	-843.4	-2,221.1	990.2	943.2	47.00	21.070	
7,900.0	6,790.0	7,807.7	6,790.0	49.4	0.0	-90.00	-843.1	-2,321.1	990.2	940.9	49.33	20.073	
8,000.0	6,790.0	7,907.7	6,790.0	51.7	0.0	-90.00	-842.9	-2,421.1	990.2	938.5	51.67	19.162	
8,100.0	6,790.0	8,007.7	6,790.0	54.1	0.0	-90.00	-842.6	-2,521.1	990.2	936.1	54.03	18.326	
8,200.0	6,790.0	8,107.7	6,790.0	56.4	0.0	-90.00	-842.4	-2,621.1	990.2	933.8	56.40	17.557	
8,300.0	6,790.0	8,207.7	6,790.0	58.8	0.0	-90.00	-842.1	-2,721.1	990.2	931.4	58.78	16.847	
8,400.0	6,790.0	8,307.7	6,790.0	61.2	0.0	-90.00	-841.9	-2,821.1	990.2	929.0	61.16	16.190	
8,500.0	6,790.0	8,407.7	6,790.0	63.6	0.0	-90.00	-841.6	-2,921.1	990.2	926.6	63.55	15.581	
8,600.0	6,790.0	8,507.7	6,790.0	66.0	0.0	-90.00	-841.4	-3,021.1	990.2	924.2	65.95	15.015	
8,700.0	6,790.0	8,607.7	6,790.0	68.4	0.0	-90.00	-841.1	-3,121.1	990.2	921.8	68.35	14.487	
8,800.0	6,790.0	8,707.7	6,790.0	70.8	0.0	-90.00	-840.9	-3,221.1	990.2	919.4	70.76	13.994	
8,900.0	6,790.0	8,807.7	6,790.0	73.2	0.0	-90.00	-840.6	-3,321.1	990.2	917.0	73.17	13.533	
9,000.0	6,790.0	8,907.7	6,790.0	75.6	0.0	-90.00	-840.4	-3,421.1	990.2	914.6	75.59	13.100	
9,100.0	6,790.0	9,007.7	6,790.0	78.0	0.0	-90.00	-840.1	-3,521.1	990.2	912.2	78.01	12.694	
9,200.0	6,790.0	9,107.7	6,790.0	80.5	0.0	-90.00	-839.9	-3,621.1	990.2	909.8	80.43	12.311	
9,300.0	6,790.0	9,207.7	6,790.0	82.9	0.0	-90.00	-839.6	-3,721.1	990.2	907.3	82.85	11.951	
9,400.0	6,790.0	9,307.7	6,790.0	85.3	0.0	-90.00	-839.4	-3,821.1	990.2	904.9	85.28	11.610	
9,500.0	6,790.0	9,407.7	6,790.0	87.7	0.0	-90.00	-839.1	-3,921.1	990.2	902.5	87.72	11.289	
9,600.0	6,790.0	9,507.7	6,790.0	90.2	0.0	-90.00	-838.9	-4,021.1	990.2	900.0	90.15	10.984	
9,700.0	6,790.0	9,607.7	6,790.0	92.6	0.0	-90.00	-838.6	-4,121.1	990.2	897.6	92.58	10.695	
9,800.0	6,790.0	9,707.7	6,790.0	95.1	0.0	-90.00	-838.4	-4,221.1	990.2	895.2	95.02	10.420	
9,900.0	6,790.0	9,807.7	6,790.0	97.5	0.0	-90.00	-838.1	-4,321.1	990.2	892.7	97.46	10.160	
10,000.0	6,790.0	9,907.7	6,790.0	99.9	0.0	-90.00	-837.9	-4,421.1	990.2	890.3	99.90	9.911	
10,100.0	6,790.0	10,007.7	6,790.0	102.4	0.0	-90.00	-837.6	-4,521.1	990.2	887.8	102.35	9.675	
10,200.0	6,790.0	10,107.7	6,790.0	104.8	0.0	-90.00	-837.4	-4,621.1	990.2	885.4	104.79	9.449	
10,300.0	6,790.0	10,207.7	6,790.0	107.3	0.0	-90.00	-837.1	-4,721.1	990.2	882.9	107.24	9.234	

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 7 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-Reference													Offset Well Error:	0.0 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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis		Separation Factor	
10,400.0	6,790.0	10,307.7	6,790.0	109.7	0.0	-90.00	-836.9	-4,821.1	990.2	880.5	109.68	9.028		
10,500.0	6,790.0	10,407.7	6,790.0	112.2	0.0	-90.00	-836.6	-4,921.1	990.2	878.0	112.13	8.830		
10,600.0	6,790.0	10,507.7	6,790.0	114.6	0.0	-90.00	-836.4	-5,021.1	990.2	875.6	114.58	8.642		
10,700.0	6,790.0	10,607.7	6,790.0	117.1	0.0	-90.00	-836.1	-5,121.1	990.2	873.1	117.03	8.461		
10,800.0	6,790.0	10,707.7	6,790.0	119.5	0.0	-90.00	-835.9	-5,221.1	990.2	870.7	119.48	8.287		
10,900.0	6,790.0	10,807.7	6,790.0	122.0	0.0	-90.00	-835.6	-5,321.1	990.2	868.2	121.94	8.120		
11,000.0	6,790.0	10,907.7	6,790.0	124.4	0.0	-90.00	-835.4	-5,421.1	990.2	865.8	124.39	7.960		
11,100.0	6,790.0	11,007.7	6,790.0	126.9	0.0	-90.00	-835.1	-5,521.1	990.2	863.3	126.84	7.806		
11,200.0	6,790.0	11,107.7	6,790.0	129.3	0.0	-90.00	-834.9	-5,621.1	990.2	860.9	129.30	7.658		
11,300.0	6,790.0	11,207.7	6,790.0	131.8	0.0	-90.00	-834.6	-5,721.1	990.2	858.4	131.75	7.515		
11,400.0	6,790.0	11,307.7	6,790.0	134.2	0.0	-90.00	-834.4	-5,821.1	990.2	856.0	134.21	7.378		
11,500.0	6,790.0	11,407.7	6,790.0	136.7	0.0	-90.00	-834.1	-5,921.1	990.2	853.5	136.67	7.245		
11,600.0	6,790.0	11,507.7	6,790.0	139.1	0.0	-90.00	-833.9	-6,021.1	990.2	851.1	139.13	7.117		
11,700.0	6,790.0	11,607.7	6,790.0	141.6	0.0	-90.00	-833.6	-6,121.1	990.2	848.6	141.58	6.994		
11,800.0	6,790.0	11,707.7	6,790.0	144.1	0.0	-90.00	-833.4	-6,221.1	990.2	846.1	144.04	6.874		
11,900.0	6,790.0	11,807.7	6,790.0	146.5	0.0	-90.00	-833.1	-6,321.1	990.2	843.7	146.50	6.759		
12,000.0	6,790.0	11,907.7	6,790.0	149.0	0.0	-90.00	-832.9	-6,421.1	990.2	841.2	148.96	6.647		
12,100.0	6,790.0	12,007.7	6,790.0	151.4	0.0	-90.00	-832.6	-6,521.1	990.2	838.8	151.42	6.539		
12,200.0	6,790.0	12,107.7	6,790.0	153.9	0.0	-90.00	-832.4	-6,621.1	990.2	836.3	153.88	6.435		
12,300.0	6,790.0	12,207.7	6,790.0	156.4	0.0	-90.00	-832.1	-6,721.1	990.2	833.8	156.34	6.333		
12,400.0	6,790.0	12,307.7	6,790.0	158.8	0.0	-90.00	-831.9	-6,821.1	990.2	831.4	158.81	6.235		
12,500.0	6,790.0	12,407.7	6,790.0	161.3	0.0	-90.00	-831.6	-6,921.1	990.2	828.9	161.27	6.140		
12,600.0	6,790.0	12,507.7	6,790.0	163.7	0.0	-90.00	-831.4	-7,021.1	990.2	826.4	163.73	6.048		
12,700.0	6,790.0	12,607.7	6,790.0	166.2	0.0	-90.00	-831.1	-7,121.1	990.2	824.0	166.19	5.958		
12,800.0	6,790.0	12,707.7	6,790.0	168.7	0.0	-90.00	-830.9	-7,221.1	990.2	821.5	168.66	5.871		
12,900.0	6,790.0	12,807.7	6,790.0	171.1	0.0	-90.00	-830.6	-7,321.1	990.2	819.1	171.12	5.787		
13,000.0	6,790.0	12,907.7	6,790.0	173.6	0.0	-90.00	-830.4	-7,421.1	990.2	816.6	173.58	5.704		
13,100.0	6,790.0	13,007.7	6,790.0	176.1	0.0	-90.00	-830.1	-7,521.1	990.2	814.1	176.05	5.625		
13,200.0	6,790.0	13,107.7	6,790.0	178.5	0.0	-90.00	-829.9	-7,621.1	990.2	811.7	178.51	5.547		
13,300.0	6,790.0	13,207.7	6,790.0	181.0	0.0	-90.00	-829.6	-7,721.1	990.2	809.2	180.98	5.471		
13,400.0	6,790.0	13,307.7	6,790.0	183.5	0.0	-90.00	-829.4	-7,821.1	990.2	806.7	183.44	5.398		
13,500.0	6,790.0	13,407.7	6,790.0	185.9	0.0	-90.00	-829.1	-7,921.1	990.2	804.3	185.90	5.326		
13,600.0	6,790.0	13,507.7	6,790.0	188.4	0.0	-90.00	-828.9	-8,021.1	990.2	801.8	188.37	5.257		
13,700.0	6,790.0	13,607.7	6,790.0	190.8	0.0	-90.00	-828.6	-8,121.1	990.2	799.3	190.84	5.189		
13,800.0	6,790.0	13,707.7	6,790.0	193.3	0.0	-90.00	-828.4	-8,221.1	990.2	796.9	193.30	5.122		
13,900.0	6,790.0	13,807.7	6,790.0	195.8	0.0	-90.00	-828.1	-8,321.1	990.2	794.4	195.77	5.058		
14,000.0	6,790.0	13,907.7	6,790.0	198.2	0.0	-90.00	-827.9	-8,421.1	990.2	791.9	198.23	4.995		
14,100.0	6,790.0	14,007.7	6,790.0	200.7	0.0	-90.00	-827.6	-8,521.1	990.2	789.5	200.70	4.934		
14,200.0	6,790.0	14,107.7	6,790.0	203.2	0.0	-90.00	-827.4	-8,621.1	990.2	787.0	203.17	4.874		
14,300.0	6,790.0	14,207.7	6,790.0	205.6	0.0	-90.00	-827.1	-8,721.1	990.2	784.5	205.63	4.815		
14,400.0	6,790.0	14,307.7	6,790.0	208.1	0.0	-90.00	-826.9	-8,821.1	990.2	782.1	208.10	4.758		
14,500.0	6,790.0	14,407.7	6,790.0	210.6	0.0	-90.00	-826.6	-8,921.1	990.2	779.6	210.57	4.702		
14,600.0	6,790.0	14,507.7	6,790.0	213.0	0.0	-90.00	-826.4	-9,021.1	990.2	777.1	213.03	4.648		
14,700.0	6,790.0	14,607.7	6,790.0	215.5	0.0	-90.00	-826.1	-9,121.1	990.2	774.7	215.50	4.595		
14,800.0	6,790.0	14,707.7	6,790.0	218.0	0.0	-90.00	-825.9	-9,221.1	990.2	772.2	217.97	4.543		
14,900.0	6,790.0	14,807.7	6,790.0	220.4	0.0	-90.00	-825.6	-9,321.1	990.2	769.7	220.44	4.492		
15,000.0	6,790.0	14,907.7	6,790.0	222.9	0.0	-90.00	-825.4	-9,421.1	990.2	767.3	222.91	4.442		
15,100.0	6,790.0	15,007.7	6,790.0	225.4	0.0	-90.00	-825.1	-9,521.1	990.2	764.8	225.37	4.393		
15,200.0	6,790.0	15,107.7	6,790.0	227.9	0.0	-90.00	-824.9	-9,621.1	990.2	762.3	227.84	4.346		
15,300.0	6,790.0	15,207.7	6,790.0	230.3	0.0	-90.00	-824.6	-9,721.1	990.2	759.9	230.31	4.299		
15,400.0	6,790.0	15,307.7	6,790.0	232.8	0.0	-90.00	-824.4	-9,821.1	990.2	757.4	232.78	4.254		
15,500.0	6,790.0	15,407.7	6,790.0	235.3	0.0	-90.00	-824.1	-9,921.1	990.2	754.9	235.25	4.209		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 7 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
15,600.0	6,790.0	15,507.7	6,790.0	237.7	0.0	-90.00	-823.9	-10,021.1	990.2	752.5	237.72	4.165		
15,700.0	6,790.0	15,607.7	6,790.0	240.2	0.0	-90.00	-823.6	-10,121.1	990.2	750.0	240.19	4.123		
15,800.0	6,790.0	15,707.7	6,790.0	242.7	0.0	-90.00	-823.4	-10,221.1	990.2	747.5	242.65	4.081		
15,900.0	6,790.0	15,807.7	6,790.0	245.1	0.0	-90.00	-823.1	-10,321.1	990.2	745.1	245.12	4.040		
16,000.0	6,790.0	15,907.7	6,790.0	247.6	0.0	-90.00	-822.9	-10,421.1	990.2	742.6	247.59	3.999		
16,100.0	6,790.0	16,007.7	6,790.0	250.1	0.0	-90.00	-822.6	-10,521.1	990.2	740.1	250.06	3.960		
16,200.0	6,790.0	16,107.7	6,790.0	252.5	0.0	-90.00	-822.4	-10,621.1	990.2	737.6	252.53	3.921		
16,300.0	6,790.0	16,207.7	6,790.0	255.0	0.0	-90.00	-822.1	-10,721.1	990.2	735.2	255.00	3.883		
16,400.0	6,790.0	16,307.7	6,790.0	257.5	0.0	-90.00	-821.9	-10,821.1	990.2	732.7	257.47	3.846		
16,500.0	6,790.0	16,407.7	6,790.0	259.9	0.0	-90.00	-821.6	-10,921.1	990.2	730.2	259.94	3.809		
16,600.0	6,790.0	16,507.7	6,790.0	262.4	0.0	-90.00	-821.4	-11,021.1	990.2	727.8	262.41	3.773		
16,700.0	6,790.0	16,607.7	6,790.0	264.9	0.0	-90.00	-821.1	-11,121.1	990.2	725.3	264.88	3.738		
16,800.0	6,790.0	16,707.7	6,790.0	267.4	0.0	-90.00	-820.9	-11,221.1	990.2	722.8	267.35	3.704		
16,900.0	6,790.0	16,807.7	6,790.0	269.8	0.0	-90.00	-820.6	-11,321.1	990.2	720.4	269.82	3.670		
17,000.0	6,790.0	16,907.7	6,790.0	272.3	0.0	-90.00	-820.4	-11,421.1	990.2	717.9	272.29	3.636		
17,100.0	6,790.0	17,007.7	6,790.0	274.8	0.0	-90.00	-820.1	-11,521.1	990.2	715.4	274.76	3.604		
17,200.0	6,790.0	17,107.7	6,790.0	277.2	0.0	-90.00	-819.9	-11,621.1	990.2	712.9	277.23	3.572		
17,300.0	6,790.0	17,207.7	6,790.0	279.7	0.0	-90.00	-819.6	-11,721.1	990.2	710.5	279.70	3.540		
17,368.0	6,790.0	17,275.7	6,790.0	281.4	0.0	-90.00	-819.5	-11,789.1	990.2	708.8	281.38	3.519		
17,395.4	6,790.0	17,301.1	6,790.0	282.1	0.0	-90.00	-819.4	-11,814.5	990.2	708.1	282.06	3.511 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 8 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.07	-143.9	-86.2	167.8					
100.0	100.0	100.0	100.0	0.1	0.0	-149.07	-143.9	-86.2	167.8	167.6	0.13	1,262.775		
200.0	200.0	200.0	200.0	0.3	0.0	-149.07	-143.9	-86.2	167.8	167.4	0.31	545.756 CC, ES		
300.0	300.0	297.6	297.6	0.5	0.0	-66.39	-144.3	-87.0	168.1	167.6	0.48	348.283		
400.0	400.0	395.2	395.1	0.7	0.0	-66.72	-145.4	-89.2	169.2	168.6	0.66	255.718		
500.0	499.9	492.7	492.6	0.9	0.0	-67.25	-147.2	-92.9	171.1	170.2	0.85	201.779		
600.0	599.7	590.2	589.9	1.1	0.0	-67.98	-149.8	-98.1	173.7	172.7	1.04	166.321		
700.0	699.4	687.7	687.1	1.3	0.0	-68.89	-153.2	-104.8	177.1	175.9	1.25	141.160		
800.0	798.9	785.0	784.0	1.5	0.0	-69.94	-157.2	-112.9	181.3	179.9	1.48	122.355		
900.0	898.3	882.3	880.7	1.8	0.0	-71.13	-162.0	-122.5	186.4	184.7	1.73	107.778		
1,000.0	997.4	979.5	977.1	2.0	0.0	-72.41	-167.6	-133.6	192.4	190.4	2.00	96.179		
1,100.0	1,096.3	1,076.6	1,073.2	2.3	0.0	-73.76	-173.8	-146.1	199.2	196.9	2.30	86.776		
1,200.0	1,194.9	1,173.6	1,168.9	2.7	0.0	-75.17	-180.8	-160.0	207.0	204.4	2.62	79.047		
1,300.0	1,293.3	1,270.4	1,264.2	3.0	0.0	-76.60	-188.5	-175.4	215.8	212.8	2.97	72.758		
1,400.0	1,391.5	1,367.2	1,359.1	3.4	0.0	-77.80	-196.8	-192.2	225.8	222.4	3.32	68.020		
1,500.0	1,489.8	1,463.7	1,453.5	3.7	0.0	-78.62	-205.9	-210.4	237.0	233.3	3.68	64.480		
1,600.0	1,588.0	1,560.1	1,547.3	4.1	0.0	-79.09	-215.7	-230.0	249.5	245.4	4.03	61.838		
1,700.0	1,686.3	1,656.2	1,640.5	4.4	0.0	-79.26	-226.1	-250.9	263.1	258.7	4.39	59.885		
1,800.0	1,784.5	1,751.9	1,733.0	4.8	0.0	-79.17	-237.3	-273.1	277.8	273.1	4.75	58.472		
1,900.0	1,882.7	1,847.3	1,824.7	5.2	0.0	-78.86	-249.0	-296.6	293.7	288.6	5.11	57.494		
2,000.0	1,981.0	1,942.3	1,915.6	5.5	0.0	-78.37	-261.4	-321.4	310.8	305.3	5.46	56.872		
2,100.0	2,079.2	2,036.9	2,005.6	5.9	0.0	-77.74	-274.4	-347.4	329.0	323.2	5.82	56.551		
2,200.0	2,177.5	2,130.9	2,094.5	6.3	0.0	-77.00	-287.9	-374.5	348.5	342.3	6.17	56.487 SF		
2,300.0	2,275.7	2,224.3	2,182.5	6.6	0.0	-76.16	-302.1	-402.8	369.1	362.6	6.52	56.645		
2,400.0	2,374.0	2,317.2	2,269.3	7.0	0.0	-75.27	-316.7	-432.2	391.1	384.2	6.86	56.998		
2,500.0	2,472.2	2,409.4	2,355.0	7.4	0.0	-74.33	-331.9	-462.6	414.2	407.0	7.20	57.525		
2,600.0	2,570.5	2,501.1	2,439.7	7.8	0.0	-73.36	-347.6	-494.0	438.7	431.2	7.54	58.208		
2,700.0	2,668.7	2,597.4	2,528.4	8.1	0.0	-72.38	-364.5	-527.7	463.9	456.0	7.87	58.953		
2,800.0	2,767.0	2,693.9	2,617.2	8.5	0.0	-71.51	-381.3	-561.5	489.2	481.0	8.20	59.659		
2,900.0	2,865.2	2,790.4	2,706.0	8.9	0.0	-70.72	-398.2	-595.2	514.6	506.0	8.53	60.328		
3,000.0	2,963.5	2,886.8	2,794.8	9.2	0.0	-70.00	-415.0	-629.0	540.1	531.2	8.86	60.961		
3,100.0	3,061.7	2,983.3	2,883.6	9.6	0.0	-69.35	-431.9	-662.7	565.6	556.4	9.19	61.560		
3,200.0	3,160.0	3,079.8	2,972.4	10.0	0.0	-68.75	-448.7	-696.4	591.2	581.7	9.52	62.128		
3,300.0	3,258.2	3,176.3	3,061.2	10.4	0.0	-68.20	-465.6	-730.2	616.9	607.0	9.84	62.666		
3,400.0	3,356.5	3,272.8	3,150.0	10.7	0.0	-67.70	-482.4	-763.9	642.6	632.4	10.17	63.177		
3,500.0	3,454.7	3,369.3	3,238.8	11.1	0.0	-67.24	-499.3	-797.7	668.4	657.9	10.50	63.661		
3,600.0	3,552.9	3,465.8	3,327.7	11.5	0.0	-66.81	-516.2	-831.4	694.2	683.3	10.83	64.122		
3,700.0	3,651.2	3,562.3	3,416.5	11.8	0.0	-66.41	-533.0	-865.2	720.0	708.8	11.15	64.559		
3,800.0	3,749.4	3,658.8	3,505.3	12.2	0.0	-66.03	-549.9	-898.9	745.8	734.4	11.48	64.976		
3,900.0	3,847.7	3,755.2	3,594.1	12.6	0.0	-65.69	-566.7	-932.6	771.7	759.9	11.81	65.373		
4,000.0	3,945.9	3,851.7	3,682.9	13.0	0.0	-65.36	-583.6	-966.4	797.7	785.5	12.13	65.751		
4,100.0	4,044.2	3,948.2	3,771.7	13.3	0.0	-65.06	-600.4	-1,000.1	823.6	811.1	12.46	66.112		
4,200.0	4,142.4	4,044.7	3,860.5	13.7	0.0	-64.77	-617.3	-1,033.9	849.5	836.8	12.78	66.457		
4,300.0	4,240.7	4,141.2	3,949.3	14.1	0.0	-64.51	-634.1	-1,067.6	875.5	862.4	13.11	66.786		
4,400.0	4,338.9	4,237.7	4,038.1	14.5	0.0	-64.25	-651.0	-1,101.3	901.5	888.1	13.44	67.102		
4,500.0	4,437.2	4,334.2	4,127.0	14.8	0.0	-64.01	-667.9	-1,135.1	927.5	913.8	13.76	67.404		
4,600.0	4,535.4	4,430.7	4,215.8	15.2	0.0	-63.79	-684.7	-1,168.8	953.5	939.5	14.09	67.693		
4,700.0	4,633.7	4,527.2	4,304.6	15.6	0.0	-63.57	-701.6	-1,202.6	979.6	965.2	14.41	67.970		

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 Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S16-T6N-R67W - Breniman 9 - Hz - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.11	-168.3	-100.7	196.1					
100.0	100.0	100.0	100.0	0.1	0.0	-149.11	-168.3	-100.7	196.1	196.0	0.13	1,476.341		
200.0	200.0	200.0	200.0	0.3	0.0	-149.11	-168.3	-100.7	196.1	195.8	0.31	638.057 CC, ES		
300.0	300.0	297.1	297.1	0.5	0.0	-66.43	-168.7	-101.4	196.5	196.0	0.48	407.103		
400.0	400.0	394.2	394.1	0.7	0.0	-66.74	-169.9	-103.5	197.7	197.0	0.66	298.724		
500.0	499.9	491.2	491.1	0.9	0.0	-67.26	-172.0	-107.1	199.7	198.8	0.85	235.479		
600.0	599.7	588.2	587.9	1.1	0.0	-67.96	-174.9	-112.1	202.4	201.4	1.04	193.835		
700.0	699.4	685.1	684.6	1.3	0.0	-68.83	-178.5	-118.5	206.1	204.8	1.25	164.235		
800.0	798.9	782.0	781.0	1.5	0.0	-69.86	-183.0	-126.3	210.6	209.1	1.48	142.074		
900.0	898.3	878.7	877.2	1.8	0.0	-71.01	-188.3	-135.5	215.9	214.2	1.73	124.867		
1,000.0	997.4	975.4	973.0	2.0	0.0	-72.27	-194.4	-146.1	222.3	220.3	2.00	111.155		
1,100.0	1,096.3	1,071.9	1,068.5	2.3	0.0	-73.60	-201.3	-158.1	229.6	227.3	2.30	100.022		
1,200.0	1,194.9	1,168.2	1,163.6	2.7	0.0	-74.99	-209.0	-171.4	237.9	235.3	2.62	90.861		
1,300.0	1,293.3	1,264.4	1,258.3	3.0	0.0	-76.42	-217.5	-186.1	247.2	244.3	2.96	83.392		
1,400.0	1,391.5	1,360.5	1,352.6	3.4	0.0	-77.67	-226.7	-202.2	257.9	254.6	3.32	77.717		
1,500.0	1,489.8	1,456.4	1,446.3	3.7	0.0	-78.59	-236.7	-219.6	269.9	266.2	3.68	73.428		
1,600.0	1,588.0	1,552.1	1,539.6	4.1	0.0	-79.21	-247.5	-238.3	283.2	279.1	4.03	70.178		
1,700.0	1,686.3	1,647.5	1,632.1	4.4	0.0	-79.56	-259.0	-258.3	297.7	293.3	4.40	67.723		
1,800.0	1,784.5	1,742.5	1,724.0	4.8	0.0	-79.68	-271.2	-279.6	313.4	308.6	4.76	65.890		
1,900.0	1,882.7	1,837.2	1,815.0	5.2	0.0	-79.59	-284.2	-302.1	330.3	325.2	5.12	64.552		
2,000.0	1,981.0	1,931.5	1,905.3	5.5	0.0	-79.34	-297.8	-325.7	348.4	342.9	5.48	63.617		
2,100.0	2,079.2	2,025.3	1,994.6	5.9	0.0	-78.94	-312.1	-350.6	367.6	361.8	5.83	63.016		
2,200.0	2,177.5	2,118.6	2,082.9	6.3	0.0	-78.43	-327.0	-376.5	388.1	381.9	6.19	62.697		
2,300.0	2,275.7	2,211.3	2,170.2	6.6	0.0	-77.83	-342.6	-403.5	409.8	403.3	6.54	62.618 SF		
2,400.0	2,374.0	2,303.4	2,256.5	7.0	0.0	-77.15	-358.7	-431.6	432.7	425.8	6.90	62.749		
2,500.0	2,472.2	2,394.9	2,341.6	7.4	0.0	-76.42	-375.4	-460.6	456.9	449.6	7.25	63.062		
2,600.0	2,570.5	2,491.0	2,430.7	7.8	0.0	-75.66	-393.4	-491.9	481.8	474.2	7.59	63.470		
2,700.0	2,668.7	2,587.7	2,520.3	8.1	0.0	-74.97	-411.5	-523.3	506.8	498.9	7.94	63.858		
2,800.0	2,767.0	2,684.3	2,609.9	8.5	0.0	-74.35	-429.5	-554.7	531.9	523.6	8.28	64.226		
2,900.0	2,865.2	2,781.0	2,699.5	8.9	0.0	-73.78	-447.6	-586.2	557.0	548.4	8.63	64.573		
3,000.0	2,963.5	2,877.7	2,789.1	9.2	0.0	-73.26	-465.7	-617.6	582.2	573.2	8.97	64.903		
3,100.0	3,061.7	2,974.3	2,878.7	9.6	0.0	-72.78	-483.8	-649.0	607.4	598.1	9.31	65.214		
3,200.0	3,160.0	3,071.0	2,968.3	10.0	0.0	-72.34	-501.8	-680.4	632.6	623.0	9.66	65.510		
3,300.0	3,258.2	3,167.6	3,057.9	10.4	0.0	-71.94	-519.9	-711.8	657.9	647.9	10.00	65.790		
3,400.0	3,356.5	3,264.3	3,147.5	10.7	0.0	-71.56	-538.0	-743.2	683.2	672.9	10.34	66.056		
3,500.0	3,454.7	3,360.9	3,237.1	11.1	0.0	-71.21	-556.1	-774.6	708.5	697.9	10.69	66.308		
3,600.0	3,552.9	3,457.6	3,326.7	11.5	0.0	-70.89	-574.1	-806.1	733.9	722.9	11.03	66.549		
3,700.0	3,651.2	3,554.2	3,416.3	11.8	0.0	-70.58	-592.2	-837.5	759.3	747.9	11.37	66.777		
3,800.0	3,749.4	3,650.9	3,505.9	12.2	0.0	-70.30	-610.3	-868.9	784.7	773.0	11.71	66.994		
3,900.0	3,847.7	3,747.5	3,595.5	12.6	0.0	-70.03	-628.4	-900.3	810.1	798.0	12.05	67.202		
4,000.0	3,945.9	3,844.2	3,685.1	13.0	0.0	-69.79	-646.4	-931.7	835.5	823.1	12.40	67.399		
4,100.0	4,044.2	3,940.8	3,774.7	13.3	0.0	-69.55	-664.5	-963.1	861.0	848.2	12.74	67.588		
4,200.0	4,142.4	4,037.5	3,864.3	13.7	0.0	-69.33	-682.6	-994.6	886.4	873.3	13.08	67.769		
4,300.0	4,240.7	4,134.1	3,953.9	14.1	0.0	-69.12	-700.7	-1,026.0	911.9	898.4	13.42	67.942		
4,400.0	4,338.9	4,230.8	4,043.5	14.5	0.0	-68.92	-718.7	-1,057.4	937.3	923.6	13.76	68.107		
4,500.0	4,437.2	4,327.4	4,133.1	14.8	0.0	-68.74	-736.8	-1,088.8	962.8	948.7	14.10	68.265		
4,600.0	4,535.4	4,424.1	4,222.7	15.2	0.0	-68.56	-754.9	-1,120.2	988.3	973.9	14.45	68.417		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 2
Project:	WELD COUNTY, CO	TVD Reference:	24' KB @ 4821.0usft (H&P 319)
Reference Site:	S16-T6N-R67W	MD Reference:	24' KB @ 4821.0usft (H&P 319)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Breniman 2	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 24' KB @ 4821.0usft (H&P 319)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Breniman 2

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.39°

