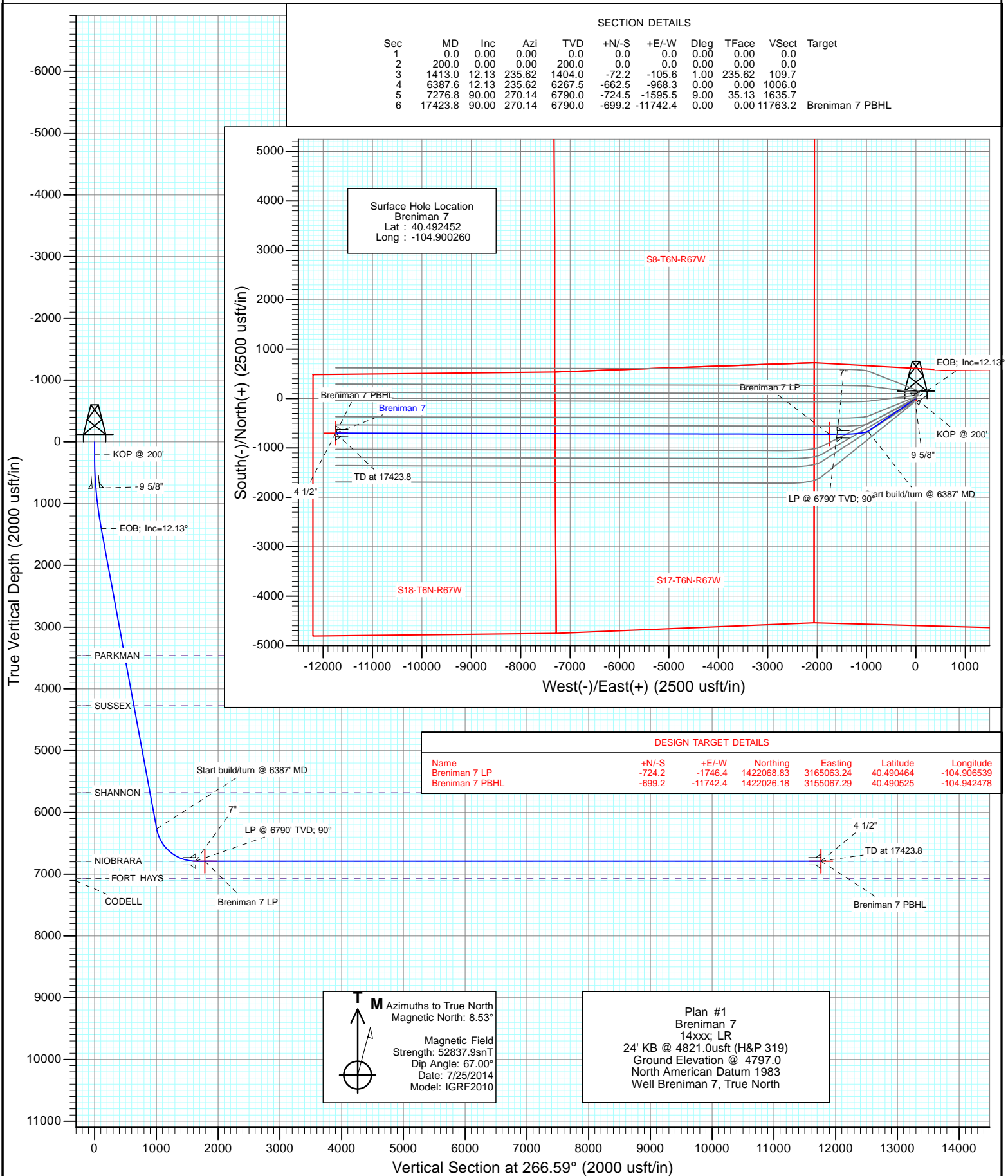




Project: WELD COUNTY, CO
Site: S16-T6N-R67W
Well: Breniman 7
Wellbore: Hz
Design: Plan #1



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 7
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 7	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 7					
Well Position	+N/-S	0.0 usft	Northing:	1,422,804.80 usft	Latitude:	40.492452
	+E/-W	0.0 usft	Easting:	3,166,804.74 usft	Longitude:	-104.900260
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	266.59

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	
1,413.0	12.13	235.62	1,404.0	-72.2	-105.6	1.00	1.00	0.00	235.62	
6,387.6	12.13	235.62	6,267.5	-662.5	-968.3	0.00	0.00	0.00	0.00	
7,276.8	90.00	270.14	6,790.0	-724.5	-1,595.5	9.00	8.76	3.88	35.13	
17,423.8	90.00	270.14	6,790.0	-699.2	-11,742.4	0.00	0.00	0.00	0.00	Breniman 7 PBHL

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 7
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 7	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	235.62	300.0	-0.5	-0.7	0.7	1.00	1.00	
400.0	2.00	235.62	400.0	-2.0	-2.9	3.0	1.00	1.00	
500.0	3.00	235.62	499.9	-4.4	-6.5	6.7	1.00	1.00	
600.0	4.00	235.62	599.7	-7.9	-11.5	12.0	1.00	1.00	
700.0	5.00	235.62	699.4	-12.3	-18.0	18.7	1.00	1.00	
750.0	5.50	235.62	749.2	-14.9	-21.8	22.6	1.00	1.00	9 5/8"
800.0	6.00	235.62	798.9	-17.7	-25.9	26.9	1.00	1.00	
900.0	7.00	235.62	898.3	-24.1	-35.2	36.6	1.00	1.00	
1,000.0	8.00	235.62	997.4	-31.5	-46.0	47.8	1.00	1.00	
1,100.0	9.00	235.62	1,096.3	-39.8	-58.2	60.5	1.00	1.00	
1,200.0	10.00	235.62	1,194.9	-49.1	-71.8	74.6	1.00	1.00	
1,300.0	11.00	235.62	1,293.3	-59.4	-86.9	90.3	1.00	1.00	
1,400.0	12.00	235.62	1,391.2	-70.7	-103.3	107.4	1.00	1.00	
1,413.0	12.13	235.62	1,404.0	-72.2	-105.6	109.7	1.00	1.00	EOB; Inc=12.13°
1,500.0	12.13	235.62	1,489.0	-82.6	-120.7	125.4	0.00	0.00	
1,600.0	12.13	235.62	1,586.8	-94.4	-138.0	143.4	0.00	0.00	
1,700.0	12.13	235.62	1,684.5	-106.3	-155.4	161.4	0.00	0.00	
1,800.0	12.13	235.62	1,782.3	-118.1	-172.7	179.4	0.00	0.00	
1,900.0	12.13	235.62	1,880.1	-130.0	-190.0	197.4	0.00	0.00	
2,000.0	12.13	235.62	1,977.8	-141.9	-207.4	215.4	0.00	0.00	
2,100.0	12.13	235.62	2,075.6	-153.7	-224.7	233.5	0.00	0.00	
2,200.0	12.13	235.62	2,173.4	-165.6	-242.1	251.5	0.00	0.00	
2,300.0	12.13	235.62	2,271.2	-177.5	-259.4	269.5	0.00	0.00	
2,400.0	12.13	235.62	2,368.9	-189.3	-276.8	287.5	0.00	0.00	
2,500.0	12.13	235.62	2,466.7	-201.2	-294.1	305.5	0.00	0.00	
2,600.0	12.13	235.62	2,564.5	-213.1	-311.4	323.6	0.00	0.00	
2,700.0	12.13	235.62	2,662.2	-224.9	-328.8	341.6	0.00	0.00	
2,800.0	12.13	235.62	2,760.0	-236.8	-346.1	359.6	0.00	0.00	
2,900.0	12.13	235.62	2,857.8	-248.7	-363.5	377.6	0.00	0.00	
3,000.0	12.13	235.62	2,955.5	-260.5	-380.8	395.6	0.00	0.00	
3,100.0	12.13	235.62	3,053.3	-272.4	-398.2	413.6	0.00	0.00	
3,200.0	12.13	235.62	3,151.1	-284.3	-415.5	431.7	0.00	0.00	
3,300.0	12.13	235.62	3,248.8	-296.1	-432.8	449.7	0.00	0.00	
3,400.0	12.13	235.62	3,346.6	-308.0	-450.2	467.7	0.00	0.00	
3,500.0	12.13	235.62	3,444.4	-319.9	-467.5	485.7	0.00	0.00	
3,516.0	12.13	235.62	3,460.0	-321.8	-470.3	488.6	0.00	0.00	PARKMAN
3,600.0	12.13	235.62	3,542.1	-331.7	-484.9	503.7	0.00	0.00	
3,700.0	12.13	235.62	3,639.9	-343.6	-502.2	521.7	0.00	0.00	
3,800.0	12.13	235.62	3,737.7	-355.4	-519.6	539.8	0.00	0.00	
3,900.0	12.13	235.62	3,835.4	-367.3	-536.9	557.8	0.00	0.00	
4,000.0	12.13	235.62	3,933.2	-379.2	-554.2	575.8	0.00	0.00	
4,100.0	12.13	235.62	4,031.0	-391.0	-571.6	593.8	0.00	0.00	
4,200.0	12.13	235.62	4,128.7	-402.9	-588.9	611.8	0.00	0.00	
4,300.0	12.13	235.62	4,226.5	-414.8	-606.3	629.9	0.00	0.00	
4,349.6	12.13	235.62	4,275.0	-420.7	-614.9	638.8	0.00	0.00	SUSSEX
4,400.0	12.13	235.62	4,324.3	-426.6	-623.6	647.9	0.00	0.00	
4,500.0	12.13	235.62	4,422.0	-438.5	-641.0	665.9	0.00	0.00	
4,600.0	12.13	235.62	4,519.8	-450.4	-658.3	683.9	0.00	0.00	
4,700.0	12.13	235.62	4,617.6	-462.2	-675.6	701.9	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 7
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 7	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	12.13	235.62	4,715.3	-474.1	-693.0	719.9	0.00	0.00	
4,900.0	12.13	235.62	4,813.1	-486.0	-710.3	738.0	0.00	0.00	
5,000.0	12.13	235.62	4,910.9	-497.8	-727.7	756.0	0.00	0.00	
5,100.0	12.13	235.62	5,008.6	-509.7	-745.0	774.0	0.00	0.00	
5,200.0	12.13	235.62	5,106.4	-521.6	-762.4	792.0	0.00	0.00	
5,300.0	12.13	235.62	5,204.2	-533.4	-779.7	810.0	0.00	0.00	
5,400.0	12.13	235.62	5,301.9	-545.3	-797.0	828.0	0.00	0.00	
5,500.0	12.13	235.62	5,399.7	-557.2	-814.4	846.1	0.00	0.00	
5,600.0	12.13	235.62	5,497.5	-569.0	-831.7	864.1	0.00	0.00	
5,700.0	12.13	235.62	5,595.2	-580.9	-849.1	882.1	0.00	0.00	
5,786.7	12.13	235.62	5,680.0	-591.2	-864.1	897.7	0.00	0.00	SHANNON
5,800.0	12.13	235.62	5,693.0	-592.7	-866.4	900.1	0.00	0.00	
5,900.0	12.13	235.62	5,790.8	-604.6	-883.8	918.1	0.00	0.00	
6,000.0	12.13	235.62	5,888.5	-616.5	-901.1	936.1	0.00	0.00	
6,100.0	12.13	235.62	5,986.3	-628.3	-918.4	954.2	0.00	0.00	
6,200.0	12.13	235.62	6,084.1	-640.2	-935.8	972.2	0.00	0.00	
6,300.0	12.13	235.62	6,181.8	-652.1	-953.1	990.2	0.00	0.00	
6,387.6	12.13	235.62	6,267.5	-662.5	-968.3	1,006.0	0.00	0.00	Start build/turn @ 6387' MD
6,400.0	13.06	238.47	6,279.6	-663.9	-970.6	1,008.3	9.00	7.49	
6,500.0	21.21	251.85	6,375.1	-675.5	-997.5	1,035.9	9.00	8.15	
6,600.0	29.83	257.88	6,465.3	-686.4	-1,039.1	1,078.0	9.00	8.63	
6,700.0	38.62	261.37	6,547.9	-696.3	-1,094.3	1,133.8	9.00	8.79	
6,800.0	47.48	263.73	6,620.9	-705.0	-1,162.0	1,201.8	9.00	8.86	
6,900.0	56.37	265.50	6,682.5	-712.3	-1,240.3	1,280.4	9.00	8.89	
7,000.0	65.28	266.93	6,731.2	-718.1	-1,327.3	1,367.6	9.00	8.91	
7,100.0	74.21	268.17	6,765.8	-722.0	-1,420.9	1,461.3	9.00	8.92	
7,200.0	83.14	269.30	6,785.4	-724.2	-1,518.9	1,559.2	9.00	8.93	
7,276.8	90.00	270.14	6,790.0	-724.5	-1,595.5	1,635.7	9.00	8.93	LP @ 6790' TVD; 90° - NIOBRARA - 7"
7,300.0	90.00	270.14	6,790.0	-724.5	-1,618.7	1,658.9	0.00	0.00	
7,400.0	90.00	270.14	6,790.0	-724.2	-1,718.7	1,758.7	0.00	0.00	
7,500.0	90.00	270.14	6,790.0	-724.0	-1,818.7	1,858.5	0.00	0.00	
7,600.0	90.00	270.14	6,790.0	-723.7	-1,918.7	1,958.3	0.00	0.00	
7,700.0	90.00	270.14	6,790.0	-723.5	-2,018.7	2,058.1	0.00	0.00	
7,800.0	90.00	270.14	6,790.0	-723.2	-2,118.7	2,157.9	0.00	0.00	
7,900.0	90.00	270.14	6,790.0	-723.0	-2,218.7	2,257.7	0.00	0.00	
8,000.0	90.00	270.14	6,790.0	-722.7	-2,318.7	2,357.5	0.00	0.00	
8,100.0	90.00	270.14	6,790.0	-722.5	-2,418.7	2,457.3	0.00	0.00	
8,200.0	90.00	270.14	6,790.0	-722.2	-2,518.7	2,557.1	0.00	0.00	
8,300.0	90.00	270.14	6,790.0	-722.0	-2,618.7	2,657.0	0.00	0.00	
8,400.0	90.00	270.14	6,790.0	-721.7	-2,718.7	2,756.8	0.00	0.00	
8,500.0	90.00	270.14	6,790.0	-721.5	-2,818.7	2,856.6	0.00	0.00	
8,600.0	90.00	270.14	6,790.0	-721.2	-2,918.7	2,956.4	0.00	0.00	
8,700.0	90.00	270.14	6,790.0	-721.0	-3,018.7	3,056.2	0.00	0.00	
8,800.0	90.00	270.14	6,790.0	-720.7	-3,118.7	3,156.0	0.00	0.00	
8,900.0	90.00	270.14	6,790.0	-720.5	-3,218.7	3,255.8	0.00	0.00	
9,000.0	90.00	270.14	6,790.0	-720.2	-3,318.7	3,355.6	0.00	0.00	
9,100.0	90.00	270.14	6,790.0	-720.0	-3,418.7	3,455.4	0.00	0.00	
9,200.0	90.00	270.14	6,790.0	-719.7	-3,518.7	3,555.2	0.00	0.00	
9,300.0	90.00	270.14	6,790.0	-719.5	-3,618.7	3,655.0	0.00	0.00	
9,400.0	90.00	270.14	6,790.0	-719.2	-3,718.7	3,754.8	0.00	0.00	
9,500.0	90.00	270.14	6,790.0	-719.0	-3,818.7	3,854.6	0.00	0.00	
9,600.0	90.00	270.14	6,790.0	-718.7	-3,918.7	3,954.5	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 7	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	-718.5	-4,018.7	4,054.3	0.00	0.00	
9,800.0	90.00	270.14	6,790.0	-718.2	-4,118.7	4,154.1	0.00	0.00	
9,900.0	90.00	270.14	6,790.0	-718.0	-4,218.7	4,253.9	0.00	0.00	
10,000.0	90.00	270.14	6,790.0	-717.7	-4,318.7	4,353.7	0.00	0.00	
10,100.0	90.00	270.14	6,790.0	-717.5	-4,418.7	4,453.5	0.00	0.00	
10,200.0	90.00	270.14	6,790.0	-717.2	-4,518.7	4,553.3	0.00	0.00	
10,300.0	90.00	270.14	6,790.0	-717.0	-4,618.7	4,653.1	0.00	0.00	
10,400.0	90.00	270.14	6,790.0	-716.7	-4,718.7	4,752.9	0.00	0.00	
10,500.0	90.00	270.14	6,790.0	-716.5	-4,818.7	4,852.7	0.00	0.00	
10,600.0	90.00	270.14	6,790.0	-716.2	-4,918.7	4,952.5	0.00	0.00	
10,700.0	90.00	270.14	6,790.0	-716.0	-5,018.7	5,052.3	0.00	0.00	
10,800.0	90.00	270.14	6,790.0	-715.7	-5,118.7	5,152.1	0.00	0.00	
10,900.0	90.00	270.14	6,790.0	-715.5	-5,218.7	5,252.0	0.00	0.00	
11,000.0	90.00	270.14	6,790.0	-715.2	-5,318.7	5,351.8	0.00	0.00	
11,100.0	90.00	270.14	6,790.0	-715.0	-5,418.7	5,451.6	0.00	0.00	
11,200.0	90.00	270.14	6,790.0	-714.7	-5,518.7	5,551.4	0.00	0.00	
11,300.0	90.00	270.14	6,790.0	-714.5	-5,618.7	5,651.2	0.00	0.00	
11,400.0	90.00	270.14	6,790.0	-714.3	-5,718.7	5,751.0	0.00	0.00	
11,500.0	90.00	270.14	6,790.0	-714.0	-5,818.7	5,850.8	0.00	0.00	
11,600.0	90.00	270.14	6,790.0	-713.8	-5,918.7	5,950.6	0.00	0.00	
11,700.0	90.00	270.14	6,790.0	-713.5	-6,018.7	6,050.4	0.00	0.00	
11,800.0	90.00	270.14	6,790.0	-713.3	-6,118.7	6,150.2	0.00	0.00	
11,900.0	90.00	270.14	6,790.0	-713.0	-6,218.6	6,250.0	0.00	0.00	
12,000.0	90.00	270.14	6,790.0	-712.8	-6,318.6	6,349.8	0.00	0.00	
12,100.0	90.00	270.14	6,790.0	-712.5	-6,418.6	6,449.7	0.00	0.00	
12,200.0	90.00	270.14	6,790.0	-712.3	-6,518.6	6,549.5	0.00	0.00	
12,300.0	90.00	270.14	6,790.0	-712.0	-6,618.6	6,649.3	0.00	0.00	
12,400.0	90.00	270.14	6,790.0	-711.8	-6,718.6	6,749.1	0.00	0.00	
12,500.0	90.00	270.14	6,790.0	-711.5	-6,818.6	6,848.9	0.00	0.00	
12,600.0	90.00	270.14	6,790.0	-711.3	-6,918.6	6,948.7	0.00	0.00	
12,700.0	90.00	270.14	6,790.0	-711.0	-7,018.6	7,048.5	0.00	0.00	
12,800.0	90.00	270.14	6,790.0	-710.8	-7,118.6	7,148.3	0.00	0.00	
12,900.0	90.00	270.14	6,790.0	-710.5	-7,218.6	7,248.1	0.00	0.00	
13,000.0	90.00	270.14	6,790.0	-710.3	-7,318.6	7,347.9	0.00	0.00	
13,100.0	90.00	270.14	6,790.0	-710.0	-7,418.6	7,447.7	0.00	0.00	
13,200.0	90.00	270.14	6,790.0	-709.8	-7,518.6	7,547.5	0.00	0.00	
13,300.0	90.00	270.14	6,790.0	-709.5	-7,618.6	7,647.3	0.00	0.00	
13,400.0	90.00	270.14	6,790.0	-709.3	-7,718.6	7,747.2	0.00	0.00	
13,500.0	90.00	270.14	6,790.0	-709.0	-7,818.6	7,847.0	0.00	0.00	
13,600.0	90.00	270.14	6,790.0	-708.8	-7,918.6	7,946.8	0.00	0.00	
13,700.0	90.00	270.14	6,790.0	-708.5	-8,018.6	8,046.6	0.00	0.00	
13,800.0	90.00	270.14	6,790.0	-708.3	-8,118.6	8,146.4	0.00	0.00	
13,900.0	90.00	270.14	6,790.0	-708.0	-8,218.6	8,246.2	0.00	0.00	
14,000.0	90.00	270.14	6,790.0	-707.8	-8,318.6	8,346.0	0.00	0.00	
14,100.0	90.00	270.14	6,790.0	-707.5	-8,418.6	8,445.8	0.00	0.00	
14,200.0	90.00	270.14	6,790.0	-707.3	-8,518.6	8,545.6	0.00	0.00	
14,300.0	90.00	270.14	6,790.0	-707.0	-8,618.6	8,645.4	0.00	0.00	
14,400.0	90.00	270.14	6,790.0	-706.8	-8,718.6	8,745.2	0.00	0.00	
14,500.0	90.00	270.14	6,790.0	-706.5	-8,818.6	8,845.0	0.00	0.00	
14,600.0	90.00	270.14	6,790.0	-706.3	-8,918.6	8,944.8	0.00	0.00	
14,700.0	90.00	270.14	6,790.0	-706.0	-9,018.6	9,044.7	0.00	0.00	
14,800.0	90.00	270.14	6,790.0	-705.8	-9,118.6	9,144.5	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 7
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 7	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	-705.5	-9,218.6	9,244.3	0.00	0.00	
15,000.0	90.00	270.14	6,790.0	-705.3	-9,318.6	9,344.1	0.00	0.00	
15,100.0	90.00	270.14	6,790.0	-705.0	-9,418.6	9,443.9	0.00	0.00	
15,200.0	90.00	270.14	6,790.0	-704.8	-9,518.6	9,543.7	0.00	0.00	
15,300.0	90.00	270.14	6,790.0	-704.5	-9,618.6	9,643.5	0.00	0.00	
15,400.0	90.00	270.14	6,790.0	-704.3	-9,718.6	9,743.3	0.00	0.00	
15,500.0	90.00	270.14	6,790.0	-704.0	-9,818.6	9,843.1	0.00	0.00	
15,600.0	90.00	270.14	6,790.0	-703.8	-9,918.6	9,942.9	0.00	0.00	
15,700.0	90.00	270.14	6,790.0	-703.5	-10,018.6	10,042.7	0.00	0.00	
15,800.0	90.00	270.14	6,790.0	-703.3	-10,118.6	10,142.5	0.00	0.00	
15,900.0	90.00	270.14	6,790.0	-703.0	-10,218.6	10,242.3	0.00	0.00	
16,000.0	90.00	270.14	6,790.0	-702.8	-10,318.6	10,342.2	0.00	0.00	
16,100.0	90.00	270.14	6,790.0	-702.5	-10,418.6	10,442.0	0.00	0.00	
16,200.0	90.00	270.14	6,790.0	-702.3	-10,518.6	10,541.8	0.00	0.00	
16,300.0	90.00	270.14	6,790.0	-702.0	-10,618.6	10,641.6	0.00	0.00	
16,400.0	90.00	270.14	6,790.0	-701.8	-10,718.6	10,741.4	0.00	0.00	
16,500.0	90.00	270.14	6,790.0	-701.5	-10,818.6	10,841.2	0.00	0.00	
16,600.0	90.00	270.14	6,790.0	-701.3	-10,918.6	10,941.0	0.00	0.00	
16,700.0	90.00	270.14	6,790.0	-701.0	-11,018.6	11,040.8	0.00	0.00	
16,800.0	90.00	270.14	6,790.0	-700.8	-11,118.6	11,140.6	0.00	0.00	
16,900.0	90.00	270.14	6,790.0	-700.5	-11,218.6	11,240.4	0.00	0.00	
17,000.0	90.00	270.14	6,790.0	-700.3	-11,318.6	11,340.2	0.00	0.00	
17,100.0	90.00	270.14	6,790.0	-700.0	-11,418.6	11,440.0	0.00	0.00	
17,200.0	90.00	270.14	6,790.0	-699.8	-11,518.6	11,539.9	0.00	0.00	
17,300.0	90.00	270.14	6,790.0	-699.5	-11,618.6	11,639.7	0.00	0.00	
17,400.0	90.00	270.14	6,790.0	-699.3	-11,718.6	11,739.5	0.00	0.00	
17,423.8	90.00	270.14	6,790.0	-699.2	-11,742.4	11,763.2	0.00	0.00	TD at 17423.8

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Breniman 7 PBHL - hit/miss target - Shape - Point	0.00	0.00	6,790.0	-699.2	-11,742.4	1,422,026.18	3,155,067.29	40.490525	-104.942478
Breniman 7 LP - plan hits target center - Point	0.00	0.00	6,790.0	-724.2	-1,746.4	1,422,068.83	3,165,063.24	40.490464	-104.906539

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
750.0	749.2	9 5/8"	0	0	
17,423.8	6,790.0	4 1/2"	0	0	
7,276.8	6,790.0	7"	0	0	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Breniman 7
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 7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,516.0	3,460.0	PARKMAN				
4,349.6	4,275.0	SUSSEX				
5,786.7	5,680.0	SHANNON				
7,276.8	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'	
1,413.0	1,404.0	-72.2	-105.6	EOB; Inc=12.13°	
6,387.6	6,267.5	-662.5	-968.3	Start build/turn @ 6387' MD	
7,276.8	6,790.0	-724.5	-1,595.5	LP @ 6790' TVD; 90°	
17,423.8	6,790.0	-699.2	-11,742.4	TD at 17423.8	

Extraction Oil & Gas

WELD COUNTY, CO

S16-T6N-R67W

Breniman 7

Hz

Plan #1

Anticollision Report

28 July, 2014

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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 1,215.7usft	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	17,423.8	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	168.1	167.5	273.565	CC, ES
Breniman 1 - Hz - Plan #1	6,300.0	6,203.7	1,197.6	1,156.4	29.015	SF
Breniman 10 - Hz - Plan #1	1,438.6	1,422.6	80.8	78.1	30.471	CC, ES
Breniman 10 - Hz - Plan #1	17,423.8	16,829.6	659.8	378.9	2.349	SF
Breniman 11 - Hz - Plan #1	200.0	200.0	111.8	111.5	363.654	CC
Breniman 11 - Hz - Plan #1	1,000.0	985.6	112.5	110.8	63.533	ES
Breniman 11 - Hz - Plan #1	17,423.8	16,900.9	989.8	709.0	3.525	SF
Breniman 2 - Hz - Plan #1	200.0	200.0	140.2	139.5	228.126	CC, ES
Breniman 2 - Hz - Plan #1	17,423.8	17,393.4	990.2	427.3	1.759	SF
Breniman 3 - Hz - Plan #1	200.0	200.0	112.1	111.5	182.454	CC
Breniman 3 - Hz - Plan #1	300.0	301.0	112.4	111.5	116.387	ES
Breniman 3 - Hz - Plan #1	17,423.8	17,709.3	886.8	363.0	1.693	SF
Breniman 4 - Hz - Plan #1	200.0	199.0	84.5	83.9	137.921	CC
Breniman 4 - Hz - Plan #1	300.0	299.9	84.8	83.8	87.922	ES
Breniman 4 - Hz - Plan #1	17,423.8	17,388.7	660.1	97.8	1.174	Level 2, SF
Breniman 5 - Hz - Plan #1	200.0	200.0	56.3	55.7	91.621	CC
Breniman 5 - Hz - Plan #1	17,423.8	17,401.3	330.1	-232.1	0.587	Level 1, ES, SF
Breniman 6 - Hz - Plan #1	200.0	200.0	28.4	27.8	46.181	CC
Breniman 6 - Hz - Plan #1	600.0	601.7	29.0	27.0	14.241	ES
Breniman 6 - Hz - Plan #1	17,423.8	17,729.8	364.5	104.3	1.401	Level 3, SF
Breniman 8 - Hz - Plan #1	1,285.8	1,281.2	23.8	21.6	10.803	CC
Breniman 8 - Hz - Plan #1	1,400.0	1,394.9	24.0	21.6	9.791	ES
Breniman 8 - Hz - Plan #1	17,423.8	16,783.6	330.1	49.2	1.175	Level 2, SF
Breniman 9 - Hz - Plan #1	1,449.7	1,439.1	51.1	48.5	19.908	CC, ES
Breniman 9 - Hz - Plan #1	17,423.8	17,104.5	591.9	356.7	2.516	SF

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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	30.86	144.3	86.2	168.1					
100.0	100.0	100.0	100.0	0.1	0.1	30.86	144.3	86.2	168.1	167.8	0.27	633.518		
200.0	200.0	200.0	200.0	0.3	0.3	30.86	144.3	86.2	168.1	167.5	0.61	273.565 CC, ES		
300.0	300.0	300.5	300.5	0.5	0.5	155.07	144.6	85.4	168.7	167.7	0.97	174.773		
400.0	400.0	400.9	400.9	0.7	0.7	154.56	145.5	82.9	170.7	169.3	1.32	129.169		
500.0	499.9	501.3	501.2	0.9	0.9	153.73	147.1	78.8	173.9	172.3	1.69	103.128		
600.0	599.7	601.5	601.2	1.1	1.1	152.63	149.4	73.1	178.6	176.5	2.07	86.427		
700.0	699.4	701.6	701.0	1.3	1.3	151.29	152.2	65.8	184.6	182.2	2.47	74.902		
800.0	798.9	801.5	800.4	1.5	1.5	149.77	155.7	56.8	192.2	189.3	2.89	66.538		
900.0	898.3	901.1	899.4	1.8	1.8	148.12	159.8	46.3	201.2	197.9	3.34	60.243		
1,000.0	997.4	1,000.5	997.9	2.0	2.0	146.39	164.5	34.2	211.8	208.0	3.82	55.373		
1,100.0	1,096.3	1,099.6	1,095.9	2.3	2.3	144.62	169.8	20.6	224.0	219.6	4.35	51.521		
1,200.0	1,194.9	1,198.3	1,193.2	2.7	2.6	142.87	175.8	5.4	237.8	232.9	4.91	48.423		
1,300.0	1,293.3	1,296.6	1,289.9	3.0	3.0	141.14	182.2	-11.3	253.3	247.7	5.52	45.897		
1,400.0	1,391.2	1,394.6	1,386.0	3.4	3.4	139.49	189.3	-29.3	270.4	264.2	6.16	43.861		
1,500.0	1,489.0	1,492.8	1,482.1	3.8	3.7	138.17	196.5	-47.8	288.5	281.6	6.83	42.231		
1,600.0	1,586.8	1,590.9	1,578.2	4.2	4.1	137.02	203.7	-66.3	306.7	299.2	7.51	40.847		
1,700.0	1,684.6	1,689.1	1,674.3	4.6	4.5	136.00	210.9	-84.8	325.1	316.9	8.20	39.664		
1,800.0	1,782.3	1,787.2	1,770.5	5.0	4.9	135.09	218.1	-103.3	343.5	334.7	8.89	38.646		
1,900.0	1,880.1	1,885.3	1,866.6	5.4	5.2	134.27	225.3	-121.8	362.1	352.5	9.59	37.763		
2,000.0	1,977.9	1,983.5	1,962.7	5.8	5.6	133.54	232.5	-140.3	380.7	370.4	10.29	36.992		
2,100.0	2,075.6	2,081.6	2,058.8	6.2	6.0	132.87	239.7	-158.8	399.3	388.3	11.00	36.313		
2,200.0	2,173.4	2,179.8	2,154.9	6.6	6.4	132.26	246.9	-177.3	418.0	406.3	11.70	35.712		
2,300.0	2,271.2	2,277.9	2,251.0	7.0	6.8	131.70	254.1	-195.8	436.7	424.3	12.42	35.176		
2,400.0	2,368.9	2,376.1	2,347.2	7.4	7.2	131.19	261.3	-214.3	455.5	442.4	13.13	34.697		
2,500.0	2,466.7	2,474.2	2,443.3	7.8	7.6	130.72	268.5	-232.8	474.3	460.5	13.84	34.265		
2,600.0	2,564.5	2,572.3	2,539.4	8.2	7.9	130.28	275.7	-251.3	493.1	478.6	14.56	33.875		
2,700.0	2,662.2	2,670.5	2,635.5	8.6	8.3	129.88	283.0	-269.8	512.0	496.7	15.27	33.521		
2,800.0	2,760.0	2,768.6	2,731.6	9.0	8.7	129.50	290.2	-288.3	530.9	514.9	15.99	33.198		
2,900.0	2,857.8	2,866.8	2,827.7	9.4	9.1	129.16	297.4	-306.8	549.8	533.1	16.71	32.902		
3,000.0	2,955.5	2,964.9	2,923.9	9.8	9.5	128.83	304.6	-325.2	568.7	551.3	17.43	32.631		
3,100.0	3,053.3	3,063.1	3,020.0	10.2	9.9	128.52	311.8	-343.7	587.6	569.5	18.15	32.380		
3,200.0	3,151.1	3,161.2	3,116.1	10.6	10.3	128.24	319.0	-362.2	606.6	587.7	18.87	32.149		
3,300.0	3,248.8	3,259.4	3,212.2	11.0	10.7	127.97	326.2	-380.7	625.6	606.0	19.59	31.935		
3,400.0	3,346.6	3,357.5	3,308.3	11.5	11.1	127.72	333.4	-399.2	644.5	624.2	20.31	31.736		
3,500.0	3,444.4	3,455.6	3,404.4	11.9	11.4	127.48	340.6	-417.7	663.5	642.5	21.03	31.551		
3,600.0	3,542.1	3,553.8	3,500.6	12.3	11.8	127.25	347.8	-436.2	682.5	660.8	21.75	31.378		
3,700.0	3,639.9	3,651.9	3,596.7	12.7	12.2	127.04	355.0	-454.7	701.5	679.1	22.47	31.216		
3,800.0	3,737.7	3,750.1	3,692.8	13.1	12.6	126.84	362.2	-473.2	720.6	697.4	23.20	31.065		
3,900.0	3,835.4	3,848.2	3,788.9	13.5	13.0	126.65	369.4	-491.7	739.6	715.7	23.92	30.922		
4,000.0	3,933.2	3,946.4	3,885.0	13.9	13.4	126.47	376.6	-510.2	758.6	734.0	24.64	30.788		
4,100.0	4,031.0	4,044.5	3,981.1	14.3	13.8	126.29	383.8	-528.7	777.7	752.3	25.36	30.662		
4,200.0	4,128.7	4,142.7	4,077.3	14.7	14.2	126.13	391.0	-547.2	796.7	770.6	26.08	30.543		
4,300.0	4,226.5	4,240.8	4,173.4	15.1	14.6	125.97	398.2	-565.7	815.8	788.9	26.81	30.430		
4,400.0	4,324.3	4,338.9	4,269.5	15.6	15.0	125.82	405.4	-584.2	834.8	807.3	27.53	30.324		
4,500.0	4,422.0	4,437.1	4,365.6	16.0	15.4	125.68	412.6	-602.7	853.9	825.6	28.25	30.222		
4,600.0	4,519.8	4,535.2	4,461.7	16.4	15.7	125.54	419.9	-621.2	872.9	844.0	28.98	30.126		
4,700.0	4,617.6	4,633.4	4,557.8	16.8	16.1	125.41	427.1	-639.6	892.0	862.3	29.70	30.035		
4,800.0	4,715.3	4,731.5	4,653.9	17.2	16.5	125.29	434.3	-658.1	911.1	880.7	30.42	29.948		
4,900.0	4,813.1	4,829.7	4,750.1	17.6	16.9	125.17	441.5	-676.6	930.2	899.0	31.15	29.865		
5,000.0	4,910.9	4,927.8	4,846.2	18.0	17.3	125.05	448.7	-695.1	949.3	917.4	31.87	29.786		
5,100.0	5,008.6	5,026.0	4,942.3	18.4	17.7	124.94	455.9	-713.6	968.4	935.8	32.59	29.711		

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 7
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 7	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		
5,200.0	5,106.4	5,124.1	5,038.4	18.8	18.1	124.84	463.1	-732.1	987.4	954.1	33.32	29.639		
5,300.0	5,204.2	5,222.2	5,134.5	19.2	18.5	124.73	470.3	-750.6	1,006.5	972.5	34.04	29.570		
5,400.0	5,301.9	5,320.4	5,230.6	19.7	18.9	124.63	477.5	-769.1	1,025.6	990.9	34.76	29.504		
5,500.0	5,399.7	5,418.5	5,326.8	20.1	19.3	124.54	484.7	-787.6	1,044.7	1,009.3	35.49	29.440		
5,600.0	5,497.5	5,516.7	5,422.9	20.5	19.7	124.45	491.9	-806.1	1,063.8	1,027.6	36.21	29.380		
5,700.0	5,595.2	5,614.8	5,519.0	20.9	20.0	124.36	499.1	-824.6	1,083.0	1,046.0	36.93	29.321		
5,800.0	5,693.0	5,713.0	5,615.1	21.3	20.4	124.27	506.3	-843.1	1,102.1	1,064.4	37.66	29.265		
5,900.0	5,790.8	5,811.1	5,711.2	21.7	20.8	124.19	513.5	-861.6	1,121.2	1,082.8	38.38	29.211		
6,000.0	5,888.5	5,909.3	5,807.3	22.1	21.2	124.11	520.7	-880.1	1,140.3	1,101.2	39.11	29.160		
6,100.0	5,986.3	6,007.4	5,903.5	22.5	21.6	124.03	527.9	-898.6	1,159.4	1,119.6	39.83	29.110		
6,200.0	6,084.1	6,105.5	5,999.6	22.9	22.0	123.96	535.1	-917.1	1,178.5	1,138.0	40.55	29.061		
6,300.0	6,181.8	6,203.7	6,095.7	23.3	22.4	123.89	542.3	-935.6	1,197.6	1,156.4	41.28	29.015 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.01	-71.8	-43.1	83.7					
100.0	100.0	100.0	100.0	0.1	0.0	-149.01	-71.8	-43.1	83.7	83.6	0.13	630.212		
200.0	200.0	200.0	200.0	0.3	0.0	-149.01	-71.8	-43.1	83.7	83.4	0.31	272.370		
300.0	300.0	298.7	298.7	0.5	0.0	-24.62	-72.2	-43.8	83.7	83.2	0.48	173.636		
400.0	400.0	397.4	397.4	0.7	0.0	-24.59	-73.6	-46.0	83.6	83.0	0.66	127.226		
500.0	499.9	496.1	496.0	0.9	0.0	-24.53	-75.9	-49.5	83.5	82.7	0.83	100.152		
600.0	599.7	594.8	594.5	1.1	0.0	-24.46	-79.1	-54.5	83.4	82.4	1.01	82.343		
700.0	699.4	693.5	692.9	1.3	0.0	-24.36	-83.3	-61.0	83.2	82.0	1.19	69.693		
800.0	798.9	792.2	791.2	1.5	0.0	-24.24	-88.4	-68.8	83.0	81.6	1.38	60.213		
900.0	898.3	891.0	889.3	1.8	0.0	-24.10	-94.3	-78.1	82.7	81.2	1.57	52.824		
1,000.0	997.4	989.7	987.2	2.0	0.0	-23.94	-101.3	-88.7	82.4	80.7	1.76	46.891		
1,100.0	1,096.3	1,088.4	1,084.8	2.3	0.0	-23.76	-109.1	-100.8	82.1	80.2	1.95	42.014		
1,200.0	1,194.9	1,187.1	1,182.2	2.7	0.0	-23.55	-117.8	-114.4	81.7	79.6	2.15	37.930		
1,300.0	1,293.3	1,285.8	1,279.3	3.0	0.0	-23.31	-127.4	-129.3	81.3	79.0	2.36	34.460		
1,400.0	1,391.2	1,384.6	1,376.1	3.4	0.0	-23.05	-138.0	-145.6	80.9	78.3	2.57	31.475		
1,438.6	1,429.0	1,422.6	1,413.4	3.5	0.0	-22.92	-142.3	-152.3	80.8	78.1	2.65	30.471 CC, ES		
1,500.0	1,489.0	1,483.3	1,472.6	3.8	0.0	-22.59	-149.4	-163.3	81.0	78.2	2.78	29.148		
1,600.0	1,586.8	1,582.0	1,568.6	4.2	0.0	-21.66	-161.8	-182.4	82.7	79.7	2.98	27.770		
1,700.0	1,684.6	1,680.6	1,664.1	4.6	0.0	-20.34	-175.0	-202.9	86.0	82.9	3.16	27.186		
1,800.0	1,782.3	1,779.0	1,759.1	5.0	0.0	-18.74	-189.1	-224.7	91.0	87.6	3.34	27.265		
1,900.0	1,880.1	1,877.2	1,853.3	5.4	0.0	-17.00	-204.0	-247.8	97.6	94.1	3.50	27.902		
2,000.0	1,977.9	1,975.1	1,946.9	5.8	0.0	-15.21	-219.8	-272.2	106.0	102.4	3.65	29.010		
2,100.0	2,075.6	2,072.7	2,039.6	6.2	0.0	-13.47	-236.4	-297.9	116.1	112.3	3.81	30.514		
2,200.0	2,173.4	2,170.0	2,131.4	6.6	0.0	-11.84	-253.7	-324.8	128.0	124.0	3.96	32.350		
2,300.0	2,271.2	2,266.8	2,222.2	7.0	0.0	-10.35	-271.9	-352.8	141.5	137.4	4.11	34.466		
2,400.0	2,368.9	2,363.1	2,312.0	7.4	0.0	-9.01	-290.7	-382.0	156.8	152.6	4.26	36.817		
2,500.0	2,466.7	2,458.8	2,400.8	7.8	0.0	-7.83	-310.3	-412.3	173.8	169.4	4.42	39.365		
2,600.0	2,564.5	2,554.0	2,488.3	8.2	0.0	-6.79	-330.5	-443.6	192.5	187.9	4.57	42.082		
2,700.0	2,662.2	2,649.3	2,575.4	8.6	0.0	-5.87	-351.5	-476.2	212.8	208.1	4.74	44.936		
2,800.0	2,760.0	2,747.1	2,664.5	9.0	0.0	-5.08	-373.4	-509.9	233.6	228.7	4.90	47.684		
2,900.0	2,857.8	2,844.8	2,753.6	9.4	0.0	-4.42	-395.2	-543.7	254.5	249.5	5.07	50.236		
3,000.0	2,955.5	2,942.6	2,842.7	9.8	0.0	-3.85	-417.0	-577.4	275.4	270.2	5.23	52.613		
3,100.0	3,053.3	3,040.3	2,931.9	10.2	0.0	-3.37	-438.8	-611.2	296.3	290.9	5.40	54.831		
3,200.0	3,151.1	3,138.1	3,021.0	10.6	0.0	-2.95	-460.6	-645.0	317.3	311.7	5.58	56.905		
3,300.0	3,248.8	3,235.9	3,110.1	11.0	0.0	-2.59	-482.4	-678.7	338.2	332.5	5.75	58.851		
3,400.0	3,346.6	3,333.6	3,199.2	11.5	0.0	-2.26	-504.2	-712.5	359.2	353.3	5.92	60.678		
3,500.0	3,444.4	3,431.4	3,288.3	11.9	0.0	-1.97	-526.0	-746.2	380.2	374.1	6.09	62.398		
3,600.0	3,542.1	3,529.1	3,377.4	12.3	0.0	-1.72	-547.9	-780.0	401.2	394.9	6.27	64.020		
3,700.0	3,639.9	3,626.9	3,466.5	12.7	0.0	-1.48	-569.7	-813.8	422.2	415.7	6.44	65.551		
3,800.0	3,737.7	3,724.6	3,555.6	13.1	0.0	-1.27	-591.5	-847.5	443.2	436.6	6.61	67.000		
3,900.0	3,835.4	3,822.4	3,644.8	13.5	0.0	-1.08	-613.3	-881.3	464.2	457.4	6.79	68.373		
4,000.0	3,933.2	3,920.2	3,733.9	13.9	0.0	-0.91	-635.1	-915.0	485.2	478.2	6.96	69.676		
4,100.0	4,031.0	4,017.9	3,823.0	14.3	0.0	-0.75	-656.9	-948.8	506.2	499.1	7.14	70.914		
4,200.0	4,128.7	4,115.7	3,912.1	14.7	0.0	-0.60	-678.7	-982.6	527.2	519.9	7.31	72.091		
4,300.0	4,226.5	4,213.4	4,001.2	15.1	0.0	-0.46	-700.5	-1,016.3	548.2	540.7	7.49	73.212		
4,400.0	4,324.3	4,311.2	4,090.3	15.6	0.0	-0.34	-722.4	-1,050.1	569.3	561.6	7.66	74.281		
4,500.0	4,422.0	4,408.9	4,179.4	16.0	0.0	-0.22	-744.2	-1,083.8	590.3	582.4	7.84	75.302		
4,600.0	4,519.8	4,506.7	4,268.5	16.4	0.0	-0.11	-766.0	-1,117.6	611.3	603.3	8.01	76.278		
4,700.0	4,617.6	4,604.5	4,357.7	16.8	0.0	-0.01	-787.8	-1,151.4	632.3	624.1	8.19	77.211		
4,800.0	4,715.3	4,702.2	4,446.8	17.2	0.0	0.09	-809.6	-1,185.1	653.4	645.0	8.37	78.104		
4,900.0	4,813.1	4,800.0	4,535.9	17.6	0.0	0.18	-831.4	-1,218.9	674.4	665.9	8.54	78.960		
5,000.0	4,910.9	4,897.7	4,625.0	18.0	0.0	0.26	-853.2	-1,252.6	695.4	686.7	8.72	79.782		

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 7
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 7	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-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		
5,100.0	5,008.6	4,995.5	4,714.1	18.4	0.0	0.34	-875.0	-1,286.4	716.5	707.6	8.89	80.570		
5,200.0	5,106.4	5,093.3	4,803.2	18.8	0.0	0.42	-896.8	-1,320.2	737.5	728.4	9.07	81.328		
5,300.0	5,204.2	5,191.0	4,892.3	19.2	0.0	0.49	-918.7	-1,353.9	758.5	749.3	9.24	82.057		
5,400.0	5,301.9	5,288.8	4,981.4	19.7	0.0	0.55	-940.5	-1,387.7	779.6	770.2	9.42	82.758		
5,500.0	5,399.7	5,386.5	5,070.6	20.1	0.0	0.62	-962.3	-1,421.4	800.6	791.0	9.60	83.433		
5,600.0	5,497.5	5,484.3	5,159.7	20.5	0.0	0.68	-984.1	-1,455.2	821.7	811.9	9.77	84.084		
5,700.0	5,595.2	5,582.0	5,248.8	20.9	0.0	0.73	-1,005.9	-1,489.0	842.7	832.7	9.95	84.711		
5,800.0	5,693.0	5,679.8	5,337.9	21.3	0.0	0.79	-1,027.7	-1,522.7	863.7	853.6	10.12	85.317		
5,900.0	5,790.8	5,777.6	5,427.0	21.7	0.0	0.84	-1,049.5	-1,556.5	884.8	874.5	10.30	85.902		
6,000.0	5,888.5	5,875.3	5,516.1	22.1	0.0	0.89	-1,071.3	-1,590.2	905.8	895.3	10.48	86.466		
6,100.0	5,986.3	5,973.1	5,605.2	22.5	0.0	0.93	-1,093.2	-1,624.0	926.9	916.2	10.65	87.012		
6,200.0	6,084.1	6,070.8	5,694.4	22.9	0.0	0.98	-1,115.0	-1,657.8	947.9	937.1	10.83	87.541		
6,300.0	6,181.8	6,168.6	5,783.5	23.3	0.0	1.02	-1,136.8	-1,691.5	969.0	958.0	11.00	88.052		
6,400.0	6,279.6	6,266.4	5,872.6	23.8	0.0	-1.59	-1,158.6	-1,725.3	989.9	978.7	11.18	88.559		
6,500.0	6,375.1	6,365.3	5,962.8	24.4	0.0	-14.03	-1,180.7	-1,759.5	1,002.9	991.7	11.24	89.193		
6,600.0	6,465.3	6,464.3	6,053.0	25.1	0.0	-20.25	-1,202.8	-1,793.6	1,003.0	991.8	11.22	89.417		
6,700.0	6,547.9	6,560.9	6,141.1	26.2	0.0	-25.05	-1,224.3	-1,827.0	990.5	979.1	11.36	87.221		
6,800.0	6,620.9	6,652.8	6,224.8	27.4	0.0	-29.93	-1,244.8	-1,858.7	966.3	954.1	12.14	79.592		
6,900.0	6,682.5	6,737.6	6,302.1	28.8	0.0	-35.54	-1,263.7	-1,888.0	931.8	917.7	14.10	66.083		
7,000.0	6,731.2	6,813.3	6,371.2	30.4	0.0	-42.21	-1,280.6	-1,914.2	889.1	871.7	17.46	50.929		
7,100.0	6,765.8	6,850.0	6,404.5	32.2	0.0	-48.30	-1,288.8	-1,927.2	841.4	820.1	21.39	39.344		
7,200.0	6,785.4	6,887.2	6,437.6	34.1	0.0	-55.04	-1,296.9	-1,942.2	792.6	766.7	25.87	30.640		
7,300.0	6,790.0	6,916.7	6,463.1	36.1	0.0	-60.57	-1,303.1	-1,955.5	745.1	715.3	29.82	24.988		
7,400.0	6,790.0	6,950.0	6,491.2	38.1	0.0	-63.00	-1,310.0	-1,972.0	704.7	672.3	32.40	21.750		
7,500.0	6,790.0	6,987.8	6,522.1	40.2	0.0	-65.72	-1,317.5	-1,992.5	674.0	638.9	35.12	19.194		
7,600.0	6,790.0	7,034.9	6,558.8	42.4	0.0	-69.02	-1,326.5	-2,020.6	653.6	615.5	38.01	17.192		
7,700.0	6,790.0	7,092.8	6,600.9	44.6	0.0	-72.87	-1,336.7	-2,058.9	643.0	602.0	41.02	15.673		
7,777.8	6,790.0	7,146.8	6,637.1	46.3	0.0	-76.20	-1,345.5	-2,098.0	640.7	597.3	43.38	14.769		
7,800.0	6,790.0	7,163.9	6,647.9	46.8	0.0	-77.19	-1,348.1	-2,111.1	640.9	596.8	44.05	14.549		
7,900.0	6,790.0	7,251.2	6,697.3	49.0	0.0	-81.72	-1,360.1	-2,181.9	644.9	597.9	46.96	13.734		
8,000.0	6,790.0	7,356.1	6,743.6	51.3	0.0	-85.91	-1,371.2	-2,275.2	651.6	602.0	49.63	13.129		
8,100.0	6,790.0	7,477.3	6,777.7	53.5	0.0	-88.93	-1,379.3	-2,391.0	657.5	605.5	52.09	12.624		
8,200.0	6,790.0	7,607.4	6,790.0	55.8	0.0	-90.00	-1,382.0	-2,520.3	659.8	605.3	54.46	12.116		
8,300.0	6,790.0	7,707.4	6,790.0	58.1	0.0	-90.00	-1,381.8	-2,620.3	659.8	603.0	56.83	11.610		
8,400.0	6,790.0	7,807.4	6,790.0	60.4	0.0	-90.00	-1,381.5	-2,720.3	659.8	600.6	59.21	11.143		
8,500.0	6,790.0	7,907.4	6,790.0	62.8	0.0	-90.00	-1,381.3	-2,820.3	659.8	598.2	61.60	10.710		
8,600.0	6,790.0	8,007.4	6,790.0	65.1	0.0	-90.00	-1,381.0	-2,920.3	659.8	595.8	64.00	10.309		
8,700.0	6,790.0	8,107.4	6,790.0	67.5	0.0	-90.00	-1,380.8	-3,020.3	659.8	593.4	66.40	9.936		
8,800.0	6,790.0	8,207.4	6,790.0	69.8	0.0	-90.00	-1,380.5	-3,120.3	659.8	591.0	68.81	9.589		
8,900.0	6,790.0	8,307.4	6,790.0	72.2	0.0	-90.00	-1,380.3	-3,220.3	659.8	588.6	71.22	9.264		
9,000.0	6,790.0	8,407.4	6,790.0	74.6	0.0	-90.00	-1,380.0	-3,320.3	659.8	586.2	73.64	8.960		
9,100.0	6,790.0	8,507.4	6,790.0	77.0	0.0	-90.00	-1,379.8	-3,420.3	659.8	583.7	76.06	8.675		
9,200.0	6,790.0	8,607.4	6,790.0	79.4	0.0	-90.00	-1,379.5	-3,520.3	659.8	581.3	78.48	8.407		
9,300.0	6,790.0	8,707.4	6,790.0	81.8	0.0	-90.00	-1,379.3	-3,620.3	659.8	578.9	80.90	8.155		
9,400.0	6,790.0	8,807.4	6,790.0	84.2	0.0	-90.00	-1,379.0	-3,720.3	659.8	576.5	83.33	7.917		
9,500.0	6,790.0	8,907.4	6,790.0	86.6	0.0	-90.00	-1,378.8	-3,820.3	659.8	574.0	85.76	7.693		
9,600.0	6,790.0	9,007.4	6,790.0	89.0	0.0	-90.00	-1,378.5	-3,920.3	659.8	571.6	88.20	7.481		
9,700.0	6,790.0	9,107.4	6,790.0	91.4	0.0	-90.00	-1,378.3	-4,020.3	659.8	569.1	90.63	7.280		
9,800.0	6,790.0	9,207.4	6,790.0	93.8	0.0	-90.00	-1,378.0	-4,120.3	659.8	566.7	93.07	7.089		
9,900.0	6,790.0	9,307.4	6,790.0	96.2	0.0	-90.00	-1,377.8	-4,220.3	659.8	564.3	95.51	6.908		
10,000.0	6,790.0	9,407.4	6,790.0	98.7	0.0	-90.00	-1,377.5	-4,320.3	659.8	561.8	97.95	6.736		
10,100.0	6,790.0	9,507.4	6,790.0	101.1	0.0	-90.00	-1,377.3	-4,420.3	659.8	559.4	100.40	6.572		

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 7
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 7	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		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		
10,200.0	6,790.0	9,607.4	6,790.0	103.5	0.0	-90.00	-1,377.0	-4,520.3	659.8	556.9	102.84	6.415	
10,300.0	6,790.0	9,707.4	6,790.0	105.9	0.0	-90.00	-1,376.8	-4,620.3	659.8	554.5	105.29	6.266	
10,400.0	6,790.0	9,807.4	6,790.0	108.4	0.0	-90.00	-1,376.5	-4,720.3	659.8	552.0	107.74	6.124	
10,500.0	6,790.0	9,907.4	6,790.0	110.8	0.0	-90.00	-1,376.3	-4,820.3	659.8	549.6	110.19	5.988	
10,600.0	6,790.0	10,007.4	6,790.0	113.2	0.0	-90.00	-1,376.0	-4,920.3	659.8	547.1	112.64	5.858	
10,700.0	6,790.0	10,107.4	6,790.0	115.7	0.0	-90.00	-1,375.8	-5,020.3	659.8	544.7	115.09	5.733	
10,800.0	6,790.0	10,207.4	6,790.0	118.1	0.0	-90.00	-1,375.5	-5,120.3	659.8	542.2	117.54	5.613	
10,900.0	6,790.0	10,307.4	6,790.0	120.5	0.0	-90.00	-1,375.3	-5,220.3	659.8	539.8	119.99	5.499	
11,000.0	6,790.0	10,407.4	6,790.0	123.0	0.0	-90.00	-1,375.0	-5,320.3	659.8	537.3	122.44	5.388	
11,100.0	6,790.0	10,507.4	6,790.0	125.4	0.0	-90.00	-1,374.8	-5,420.3	659.8	534.9	124.90	5.282	
11,200.0	6,790.0	10,607.4	6,790.0	127.9	0.0	-90.00	-1,374.5	-5,520.3	659.8	532.4	127.35	5.181	
11,300.0	6,790.0	10,707.4	6,790.0	130.3	0.0	-90.00	-1,374.3	-5,620.3	659.8	530.0	129.81	5.083	
11,400.0	6,790.0	10,807.4	6,790.0	132.8	0.0	-90.00	-1,374.0	-5,720.3	659.8	527.5	132.27	4.988	
11,500.0	6,790.0	10,907.4	6,790.0	135.2	0.0	-90.00	-1,373.8	-5,820.3	659.8	525.1	134.72	4.897	
11,600.0	6,790.0	11,007.4	6,790.0	137.7	0.0	-90.00	-1,373.5	-5,920.3	659.8	522.6	137.18	4.809	
11,700.0	6,790.0	11,107.4	6,790.0	140.1	0.0	-90.00	-1,373.3	-6,020.3	659.8	520.1	139.64	4.725	
11,800.0	6,790.0	11,207.4	6,790.0	142.6	0.0	-90.00	-1,373.0	-6,120.3	659.8	517.7	142.10	4.643	
11,900.0	6,790.0	11,307.4	6,790.0	145.0	0.0	-90.00	-1,372.8	-6,220.3	659.8	515.2	144.56	4.564	
12,000.0	6,790.0	11,407.4	6,790.0	147.5	0.0	-90.00	-1,372.5	-6,320.3	659.8	512.8	147.02	4.488	
12,100.0	6,790.0	11,507.4	6,790.0	149.9	0.0	-90.00	-1,372.3	-6,420.3	659.8	510.3	149.48	4.414	
12,200.0	6,790.0	11,607.4	6,790.0	152.4	0.0	-90.00	-1,372.0	-6,520.3	659.8	507.8	151.94	4.342	
12,300.0	6,790.0	11,707.4	6,790.0	154.8	0.0	-90.00	-1,371.8	-6,620.3	659.8	505.4	154.40	4.273	
12,400.0	6,790.0	11,807.4	6,790.0	157.3	0.0	-90.00	-1,371.5	-6,720.3	659.8	502.9	156.86	4.206	
12,500.0	6,790.0	11,907.4	6,790.0	159.7	0.0	-90.00	-1,371.3	-6,820.3	659.8	500.4	159.33	4.141	
12,600.0	6,790.0	12,007.4	6,790.0	162.2	0.0	-90.00	-1,371.0	-6,920.3	659.8	498.0	161.79	4.078	
12,700.0	6,790.0	12,107.4	6,790.0	164.6	0.0	-90.00	-1,370.8	-7,020.3	659.8	495.5	164.25	4.017	
12,800.0	6,790.0	12,207.4	6,790.0	167.1	0.0	-90.00	-1,370.5	-7,120.3	659.8	493.1	166.72	3.957	
12,900.0	6,790.0	12,307.4	6,790.0	169.6	0.0	-90.00	-1,370.3	-7,220.3	659.8	490.6	169.18	3.900	
13,000.0	6,790.0	12,407.4	6,790.0	172.0	0.0	-90.00	-1,370.0	-7,320.3	659.8	488.1	171.64	3.844	
13,100.0	6,790.0	12,507.4	6,790.0	174.5	0.0	-90.00	-1,369.8	-7,420.3	659.8	485.7	174.11	3.789	
13,200.0	6,790.0	12,607.4	6,790.0	176.9	0.0	-90.00	-1,369.5	-7,520.3	659.8	483.2	176.57	3.737	
13,300.0	6,790.0	12,707.4	6,790.0	179.4	0.0	-90.00	-1,369.3	-7,620.3	659.8	480.7	179.04	3.685	
13,400.0	6,790.0	12,807.4	6,790.0	181.9	0.0	-90.00	-1,369.0	-7,720.3	659.8	478.3	181.50	3.635	
13,500.0	6,790.0	12,907.4	6,790.0	184.3	0.0	-90.00	-1,368.8	-7,820.3	659.8	475.8	183.97	3.586	
13,600.0	6,790.0	13,007.4	6,790.0	186.8	0.0	-90.00	-1,368.5	-7,920.3	659.8	473.3	186.43	3.539	
13,700.0	6,790.0	13,107.4	6,790.0	189.2	0.0	-90.00	-1,368.3	-8,020.3	659.8	470.9	188.90	3.493	
13,800.0	6,790.0	13,207.4	6,790.0	191.7	0.0	-90.00	-1,368.0	-8,120.3	659.8	468.4	191.36	3.448	
13,900.0	6,790.0	13,307.4	6,790.0	194.2	0.0	-90.00	-1,367.8	-8,220.3	659.8	465.9	193.83	3.404	
14,000.0	6,790.0	13,407.4	6,790.0	196.6	0.0	-90.00	-1,367.5	-8,320.3	659.8	463.5	196.30	3.361	
14,100.0	6,790.0	13,507.4	6,790.0	199.1	0.0	-90.00	-1,367.3	-8,420.3	659.8	461.0	198.76	3.319	
14,200.0	6,790.0	13,607.4	6,790.0	201.5	0.0	-90.00	-1,367.0	-8,520.3	659.8	458.5	201.23	3.279	
14,300.0	6,790.0	13,707.4	6,790.0	204.0	0.0	-90.00	-1,366.8	-8,620.3	659.8	456.1	203.70	3.239	
14,400.0	6,790.0	13,807.4	6,790.0	206.5	0.0	-90.00	-1,366.5	-8,720.3	659.8	453.6	206.16	3.200	
14,500.0	6,790.0	13,907.4	6,790.0	208.9	0.0	-90.00	-1,366.3	-8,820.3	659.8	451.1	208.63	3.162	
14,600.0	6,790.0	14,007.4	6,790.0	211.4	0.0	-90.00	-1,366.0	-8,920.3	659.8	448.7	211.10	3.125	
14,700.0	6,790.0	14,107.4	6,790.0	213.9	0.0	-90.00	-1,365.8	-9,020.3	659.8	446.2	213.57	3.089	
14,800.0	6,790.0	14,207.4	6,790.0	216.3	0.0	-90.00	-1,365.5	-9,120.3	659.8	443.7	216.03	3.054	
14,900.0	6,790.0	14,307.4	6,790.0	218.8	0.0	-90.00	-1,365.3	-9,220.3	659.8	441.3	218.50	3.019	
15,000.0	6,790.0	14,407.4	6,790.0	221.3	0.0	-90.00	-1,365.0	-9,320.3	659.8	438.8	220.97	2.986	
15,100.0	6,790.0	14,507.4	6,790.0	223.7	0.0	-90.00	-1,364.8	-9,420.3	659.8	436.3	223.44	2.953	
15,200.0	6,790.0	14,607.4	6,790.0	226.2	0.0	-90.00	-1,364.5	-9,520.3	659.8	433.9	225.91	2.920	
15,300.0	6,790.0	14,707.4	6,790.0	228.7	0.0	-90.00	-1,364.3	-9,620.3	659.8	431.4	228.38	2.889	

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 7
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 7	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		Between Centres (usft)	Between Ellipses (usft)	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	14,807.4	6,790.0	231.1	0.0	-90.00	-1,364.0	-9,720.3	659.8	428.9	230.84	2.858		
15,500.0	6,790.0	14,907.4	6,790.0	233.6	0.0	-90.00	-1,363.8	-9,820.3	659.8	426.4	233.31	2.828		
15,600.0	6,790.0	15,007.4	6,790.0	236.1	0.0	-90.00	-1,363.5	-9,920.3	659.8	424.0	235.78	2.798		
15,700.0	6,790.0	15,107.4	6,790.0	238.5	0.0	-90.00	-1,363.3	-10,020.3	659.8	421.5	238.25	2.769		
15,800.0	6,790.0	15,207.4	6,790.0	241.0	0.0	-90.00	-1,363.0	-10,120.3	659.8	419.0	240.72	2.741		
15,900.0	6,790.0	15,307.4	6,790.0	243.4	0.0	-90.00	-1,362.8	-10,220.3	659.8	416.6	243.19	2.713		
16,000.0	6,790.0	15,407.4	6,790.0	245.9	0.0	-90.00	-1,362.5	-10,320.3	659.8	414.1	245.66	2.686		
16,100.0	6,790.0	15,507.4	6,790.0	248.4	0.0	-90.00	-1,362.3	-10,420.3	659.8	411.6	248.13	2.659		
16,200.0	6,790.0	15,607.4	6,790.0	250.8	0.0	-90.00	-1,362.0	-10,520.3	659.8	409.2	250.60	2.633		
16,300.0	6,790.0	15,707.4	6,790.0	253.3	0.0	-90.00	-1,361.8	-10,620.3	659.8	406.7	253.07	2.607		
16,400.0	6,790.0	15,807.4	6,790.0	255.8	0.0	-90.00	-1,361.5	-10,720.3	659.8	404.2	255.54	2.582		
16,500.0	6,790.0	15,907.4	6,790.0	258.3	0.0	-90.00	-1,361.3	-10,820.3	659.8	401.7	258.01	2.557		
16,600.0	6,790.0	16,007.4	6,790.0	260.7	0.0	-90.00	-1,361.0	-10,920.3	659.8	399.3	260.48	2.533		
16,700.0	6,790.0	16,107.4	6,790.0	263.2	0.0	-90.00	-1,360.8	-11,020.3	659.8	396.8	262.95	2.509		
16,800.0	6,790.0	16,207.4	6,790.0	265.7	0.0	-90.00	-1,360.5	-11,120.3	659.8	394.3	265.42	2.486		
16,900.0	6,790.0	16,307.4	6,790.0	268.1	0.0	-90.00	-1,360.3	-11,220.3	659.8	391.9	267.89	2.463		
17,000.0	6,790.0	16,407.4	6,790.0	270.6	0.0	-90.00	-1,360.0	-11,320.3	659.8	389.4	270.36	2.440		
17,100.0	6,790.0	16,507.4	6,790.0	273.1	0.0	-90.00	-1,359.8	-11,420.3	659.8	386.9	272.83	2.418		
17,200.0	6,790.0	16,607.4	6,790.0	275.5	0.0	-90.00	-1,359.5	-11,520.3	659.8	384.5	275.30	2.397		
17,300.0	6,790.0	16,707.4	6,790.0	278.0	0.0	-90.00	-1,359.3	-11,620.3	659.8	382.0	277.77	2.375		
17,400.0	6,790.0	16,807.4	6,790.0	280.5	0.0	-90.00	-1,359.0	-11,720.3	659.8	379.5	280.24	2.354		
17,420.4	6,790.0	16,827.8	6,790.0	281.0	0.0	-90.00	-1,359.0	-11,740.7	659.8	379.0	280.74	2.350		
17,423.8	6,790.0	16,829.6	6,790.0	281.1	0.0	-90.00	-1,359.0	-11,742.5	659.8	378.9	280.83	2.349 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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		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		
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	841.426		
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		
300.0	300.0	298.2	298.2	0.5	0.0	-24.65	-96.3	-58.2	111.8	111.3	0.48	231.907		
400.0	400.0	396.4	396.4	0.7	0.0	-24.76	-97.9	-60.2	111.8	111.2	0.66	170.090		
500.0	499.9	494.6	494.5	0.9	0.0	-24.92	-100.6	-63.5	111.9	111.0	0.83	134.106		
600.0	599.7	592.8	592.5	1.1	0.0	-25.16	-104.2	-68.1	112.0	110.9	1.01	110.489		
700.0	699.4	691.0	690.4	1.3	0.0	-25.46	-109.0	-74.0	112.1	110.9	1.20	93.741		
800.0	798.9	789.2	788.2	1.5	0.0	-25.83	-114.8	-81.2	112.2	110.8	1.38	81.199		
900.0	898.3	887.4	885.8	1.8	0.0	-26.26	-121.6	-89.7	112.4	110.8	1.57	71.415		
1,000.0	997.4	985.6	983.2	2.0	0.0	-26.76	-129.5	-99.5	112.5	110.8	1.77	63.533 ES		
1,100.0	1,096.3	1,083.9	1,080.4	2.3	0.0	-27.32	-138.4	-110.6	112.8	110.8	1.98	57.019		
1,200.0	1,194.9	1,182.1	1,177.3	2.7	0.0	-27.95	-148.4	-123.0	113.0	110.8	2.19	51.518		
1,300.0	1,293.3	1,280.3	1,273.9	3.0	0.0	-28.63	-159.4	-136.8	113.4	110.9	2.42	46.791		
1,400.0	1,391.2	1,378.5	1,370.2	3.4	0.0	-29.38	-171.4	-151.8	113.7	111.1	2.67	42.668		
1,500.0	1,489.0	1,476.7	1,466.2	3.8	0.0	-30.02	-184.5	-168.0	114.7	111.8	2.92	39.326		
1,600.0	1,586.8	1,574.9	1,561.7	4.2	0.0	-30.29	-198.6	-185.6	117.2	114.1	3.17	37.017		
1,700.0	1,684.6	1,673.0	1,656.8	4.6	0.0	-30.20	-213.7	-204.4	121.3	117.9	3.41	35.561		
1,800.0	1,782.3	1,770.9	1,751.3	5.0	0.0	-29.78	-229.8	-224.5	126.9	123.3	3.65	34.809		
1,900.0	1,880.1	1,868.6	1,845.1	5.4	0.0	-29.10	-246.8	-245.7	134.1	130.2	3.87	34.649		
2,000.0	1,977.9	1,966.1	1,938.3	5.8	0.0	-28.21	-264.9	-268.2	142.8	138.7	4.08	34.992		
2,100.0	2,075.6	2,063.2	2,030.5	6.2	0.0	-27.18	-283.8	-291.7	153.1	148.8	4.28	35.767		
2,200.0	2,173.4	2,160.0	2,122.0	6.6	0.0	-26.07	-303.6	-316.5	165.0	160.5	4.47	36.916		
2,300.0	2,271.2	2,256.3	2,212.4	7.0	0.0	-24.92	-324.3	-342.2	178.5	173.9	4.65	38.391		
2,400.0	2,368.9	2,352.1	2,301.9	7.4	0.0	-23.77	-345.9	-369.1	193.7	188.9	4.82	40.150		
2,500.0	2,466.7	2,447.5	2,390.3	7.8	0.0	-22.65	-368.2	-396.9	210.5	205.5	4.99	42.158		
2,600.0	2,564.5	2,542.2	2,477.5	8.2	0.0	-21.58	-391.4	-425.7	228.9	223.8	5.16	44.383		
2,700.0	2,662.2	2,636.3	2,563.6	8.6	0.0	-20.56	-415.2	-455.5	249.0	243.7	5.32	46.797		
2,800.0	2,760.0	2,729.8	2,648.4	9.0	0.0	-19.61	-439.8	-486.1	270.6	265.2	5.48	49.375		
2,900.0	2,857.8	2,822.8	2,732.1	9.4	0.0	-18.73	-465.1	-517.6	293.9	288.2	5.64	52.098		
3,000.0	2,955.5	2,919.8	2,819.2	9.8	0.0	-17.91	-491.9	-550.9	317.9	312.1	5.80	54.798		
3,100.0	3,053.3	3,016.8	2,906.2	10.2	0.0	-17.20	-518.6	-584.3	341.9	336.0	5.96	57.329		
3,200.0	3,151.1	3,113.7	2,993.3	10.6	0.0	-16.59	-545.4	-617.6	366.0	359.9	6.13	59.704		
3,300.0	3,248.8	3,210.7	3,080.3	11.0	0.0	-16.05	-572.2	-651.0	390.1	383.8	6.30	61.938		
3,400.0	3,346.6	3,307.7	3,167.4	11.5	0.0	-15.57	-599.0	-684.3	414.3	407.8	6.47	64.042		
3,500.0	3,444.4	3,404.7	3,254.4	11.9	0.0	-15.15	-625.7	-717.7	438.4	431.8	6.64	66.026		
3,600.0	3,542.1	3,501.7	3,341.5	12.3	0.0	-14.77	-652.5	-751.0	462.6	455.8	6.81	67.901		
3,700.0	3,639.9	3,598.7	3,428.5	12.7	0.0	-14.43	-679.3	-784.4	486.8	479.8	6.99	69.675		
3,800.0	3,737.7	3,695.7	3,515.6	13.1	0.0	-14.12	-706.1	-817.8	511.1	503.9	7.16	71.355		
3,900.0	3,835.4	3,792.7	3,602.6	13.5	0.0	-13.84	-732.8	-851.1	535.3	527.9	7.34	72.949		
4,000.0	3,933.2	3,889.6	3,689.7	13.9	0.0	-13.59	-759.6	-884.5	559.5	552.0	7.51	74.464		
4,100.0	4,031.0	3,986.6	3,776.7	14.3	0.0	-13.35	-786.4	-917.8	583.8	576.1	7.69	75.905		
4,200.0	4,128.7	4,083.6	3,863.8	14.7	0.0	-13.14	-813.2	-951.2	608.1	600.2	7.87	77.277		
4,300.0	4,226.5	4,180.6	3,950.8	15.1	0.0	-12.94	-839.9	-984.5	632.3	624.3	8.05	78.585		
4,400.0	4,324.3	4,277.6	4,037.9	15.6	0.0	-12.75	-866.7	-1,017.9	656.6	648.4	8.22	79.833		
4,500.0	4,422.0	4,374.6	4,124.9	16.0	0.0	-12.58	-893.5	-1,051.2	680.9	672.5	8.40	81.026		
4,600.0	4,519.8	4,471.6	4,211.9	16.4	0.0	-12.42	-920.2	-1,084.6	705.2	696.6	8.58	82.167		
4,700.0	4,617.6	4,568.6	4,299.0	16.8	0.0	-12.27	-947.0	-1,117.9	729.5	720.7	8.76	83.259		
4,800.0	4,715.3	4,665.5	4,386.0	17.2	0.0	-12.13	-973.8	-1,151.3	753.8	744.8	8.94	84.306		
4,900.0	4,813.1	4,762.5	4,473.1	17.6	0.0	-12.00	-1,000.6	-1,184.6	778.1	769.0	9.12	85.309		
5,000.0	4,910.9	4,859.5	4,560.1	18.0	0.0	-11.88	-1,027.3	-1,218.0	802.4	793.1	9.30	86.272		
5,100.0	5,008.6	4,956.5	4,647.2	18.4	0.0	-11.76	-1,054.1	-1,251.3	826.7	817.2	9.48	87.198		

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 7
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 7	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		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	5,106.4	5,053.5	4,734.2	18.8	0.0	-11.65	-1,080.9	-1,284.7	851.0	841.3	9.66	88.087	
5,300.0	5,204.2	5,150.5	4,821.3	19.2	0.0	-11.55	-1,107.7	-1,318.0	875.3	865.5	9.84	88.943	
5,400.0	5,301.9	5,247.5	4,908.3	19.7	0.0	-11.45	-1,134.4	-1,351.4	899.6	889.6	10.02	89.767	
5,500.0	5,399.7	5,344.4	4,995.4	20.1	0.0	-11.36	-1,161.2	-1,384.7	924.0	913.7	10.20	90.562	
5,600.0	5,497.5	5,441.4	5,082.4	20.5	0.0	-11.27	-1,188.0	-1,418.1	948.3	937.9	10.38	91.327	
5,700.0	5,595.2	5,538.4	5,169.5	20.9	0.0	-11.19	-1,214.8	-1,451.5	972.6	962.0	10.56	92.066	
5,800.0	5,693.0	5,635.4	5,256.5	21.3	0.0	-11.11	-1,241.5	-1,484.8	996.9	986.2	10.75	92.779	
5,900.0	5,790.8	5,732.4	5,343.6	21.7	0.0	-11.03	-1,268.3	-1,518.2	1,021.3	1,010.3	10.93	93.467	
6,000.0	5,888.5	5,829.4	5,430.6	22.1	0.0	-10.96	-1,295.1	-1,551.5	1,045.6	1,034.5	11.11	94.133	
6,100.0	5,986.3	5,926.4	5,517.7	22.5	0.0	-10.89	-1,321.9	-1,584.9	1,069.9	1,058.6	11.29	94.777	
6,200.0	6,084.1	6,023.4	5,604.7	22.9	0.0	-10.83	-1,348.6	-1,618.2	1,094.2	1,082.8	11.47	95.400	
6,300.0	6,181.8	6,120.3	5,691.8	23.3	0.0	-10.76	-1,375.4	-1,651.6	1,118.6	1,106.9	11.65	96.003	
6,400.0	6,279.6	6,217.4	5,778.8	23.8	0.0	-10.69	-1,402.2	-1,684.9	1,142.8	1,131.0	11.81	96.777	
6,500.0	6,375.1	6,315.5	5,866.9	24.4	0.0	-10.62	-1,429.3	-1,718.7	1,160.4	1,148.5	11.92	97.357	
6,600.0	6,465.3	6,413.8	5,955.1	25.1	0.0	-10.55	-1,456.4	-1,752.5	1,167.1	1,154.9	12.26	95.184	
6,700.0	6,547.9	6,509.6	6,041.2	26.2	0.0	-10.48	-1,482.9	-1,785.4	1,163.2	1,150.2	13.03	89.306	
6,800.0	6,620.9	6,600.8	6,123.0	27.4	0.0	-10.40	-1,508.1	-1,816.8	1,149.6	1,135.1	14.49	79.361	
6,900.0	6,682.5	6,685.1	6,198.6	28.8	0.0	-10.32	-1,531.3	-1,845.8	1,127.6	1,110.8	16.84	66.976	
7,000.0	6,731.2	6,760.3	6,266.1	30.4	0.0	-10.25	-1,552.1	-1,871.6	1,099.2	1,079.1	20.04	54.847	
7,100.0	6,765.8	6,824.6	6,323.9	32.2	0.0	-10.18	-1,569.8	-1,893.8	1,066.6	1,042.8	23.82	44.782	
7,200.0	6,785.4	6,876.5	6,370.4	34.1	0.0	-10.11	-1,584.2	-1,911.6	1,032.5	1,004.7	27.74	37.214	
7,300.0	6,790.0	6,909.6	6,400.1	36.1	0.0	-10.04	-1,593.3	-1,923.1	999.7	968.6	31.10	32.147	
7,400.0	6,790.0	6,935.9	6,423.4	38.1	0.0	-9.97	-1,600.4	-1,933.0	973.7	940.3	33.44	29.115	
7,500.0	6,790.0	6,968.5	6,451.6	40.2	0.0	-9.90	-1,609.1	-1,946.8	956.2	920.3	35.91	26.626	
7,600.0	6,790.0	7,009.5	6,486.2	42.4	0.0	-9.83	-1,619.7	-1,966.2	947.3	908.8	38.52	24.595	
7,661.2	6,790.0	7,040.2	6,511.1	43.7	0.0	-9.76	-1,627.4	-1,982.2	945.9	905.7	40.17	23.544	
7,700.0	6,790.0	7,062.3	6,528.7	44.6	0.0	-9.70	-1,632.8	-1,994.5	946.4	905.2	41.24	22.947	
7,800.0	6,790.0	7,131.6	6,580.9	46.8	0.0	-9.63	-1,648.8	-2,037.0	952.4	908.3	44.06	21.614	
7,900.0	6,790.0	7,223.8	6,643.0	49.0	0.0	-9.56	-1,667.8	-2,102.4	963.2	916.3	46.89	20.541	
8,000.0	6,790.0	7,346.2	6,710.3	51.3	0.0	-9.49	-1,688.3	-2,202.4	975.8	926.2	49.59	19.676	
8,100.0	6,790.0	7,502.3	6,767.5	53.5	0.0	-9.42	-1,705.6	-2,346.1	986.0	934.0	52.08	18.932	
8,200.0	6,790.0	7,679.4	6,790.0	55.8	0.0	-9.35	-1,712.1	-2,521.2	989.8	935.4	54.46	18.177	
8,300.0	6,790.0	7,779.4	6,790.0	58.1	0.0	-9.28	-1,711.8	-2,621.2	989.8	933.0	56.83	17.417	
8,400.0	6,790.0	7,879.4	6,790.0	60.4	0.0	-9.21	-1,711.6	-2,721.2	989.8	930.6	59.21	16.717	
8,500.0	6,790.0	7,979.4	6,790.0	62.8	0.0	-9.14	-1,711.3	-2,821.2	989.8	928.2	61.60	16.068	
8,600.0	6,790.0	8,079.4	6,790.0	65.1	0.0	-9.07	-1,711.1	-2,921.2	989.8	925.8	64.00	15.467	
8,700.0	6,790.0	8,179.4	6,790.0	67.5	0.0	-9.00	-1,710.8	-3,021.2	989.8	923.4	66.40	14.907	
8,800.0	6,790.0	8,279.4	6,790.0	69.8	0.0	-8.93	-1,710.6	-3,121.2	989.8	921.0	68.81	14.386	
8,900.0	6,790.0	8,379.4	6,790.0	72.2	0.0	-8.86	-1,710.3	-3,221.2	989.8	918.6	71.22	13.898	
9,000.0	6,790.0	8,479.4	6,790.0	74.6	0.0	-8.79	-1,710.1	-3,321.2	989.8	916.2	73.64	13.443	
9,100.0	6,790.0	8,579.4	6,790.0	77.0	0.0	-8.72	-1,709.8	-3,421.2	989.8	913.8	76.06	13.015	
9,200.0	6,790.0	8,679.4	6,790.0	79.4	0.0	-8.65	-1,709.6	-3,521.2	989.8	911.4	78.48	12.613	
9,300.0	6,790.0	8,779.4	6,790.0	81.8	0.0	-8.58	-1,709.3	-3,621.2	989.8	908.9	80.90	12.235	
9,400.0	6,790.0	8,879.4	6,790.0	84.2	0.0	-8.51	-1,709.1	-3,721.2	989.8	906.5	83.33	11.878	
9,500.0	6,790.0	8,979.4	6,790.0	86.6	0.0	-8.44	-1,708.8	-3,821.2	989.8	904.1	85.76	11.541	
9,600.0	6,790.0	9,079.4	6,790.0	89.0	0.0	-8.37	-1,708.6	-3,921.2	989.8	901.6	88.20	11.223	
9,700.0	6,790.0	9,179.4	6,790.0	91.4	0.0	-8.30	-1,708.3	-4,021.2	989.8	899.2	90.63	10.921	
9,800.0	6,790.0	9,279.4	6,790.0	93.8	0.0	-8.23	-1,708.1	-4,121.2	989.8	896.8	93.07	10.635	
9,900.0	6,790.0	9,379.4	6,790.0	96.2	0.0	-8.16	-1,707.8	-4,221.2	989.8	894.3	95.51	10.363	
10,000.0	6,790.0	9,479.4	6,790.0	98.7	0.0	-8.09	-1,707.6	-4,321.2	989.8	891.9	97.95	10.105	
10,100.0	6,790.0	9,579.4	6,790.0	101.1	0.0	-8.02	-1,707.3	-4,421.2	989.8	889.4	100.40	9.859	
10,200.0	6,790.0	9,679.4	6,790.0	103.5	0.0	-7.95	-1,707.1	-4,521.2	989.8	887.0	102.84	9.625	

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 7
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 7	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		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			
10,300.0	6,790.0	9,779.4	6,790.0	105.9	0.0	-90.00	-1,706.8	-4,621.2	989.8	884.6	105.29	9.401		
10,400.0	6,790.0	9,879.4	6,790.0	108.4	0.0	-90.00	-1,706.6	-4,721.2	989.8	882.1	107.74	9.188		
10,500.0	6,790.0	9,979.4	6,790.0	110.8	0.0	-90.00	-1,706.3	-4,821.2	989.8	879.7	110.19	8.983		
10,600.0	6,790.0	10,079.4	6,790.0	113.2	0.0	-90.00	-1,706.1	-4,921.2	989.8	877.2	112.64	8.788		
10,700.0	6,790.0	10,179.4	6,790.0	115.7	0.0	-90.00	-1,705.8	-5,021.2	989.8	874.8	115.09	8.601		
10,800.0	6,790.0	10,279.4	6,790.0	118.1	0.0	-90.00	-1,705.6	-5,121.2	989.8	872.3	117.54	8.421		
10,900.0	6,790.0	10,379.4	6,790.0	120.5	0.0	-90.00	-1,705.3	-5,221.2	989.8	869.8	119.99	8.249		
11,000.0	6,790.0	10,479.4	6,790.0	123.0	0.0	-90.00	-1,705.1	-5,321.2	989.8	867.4	122.44	8.084		
11,100.0	6,790.0	10,579.4	6,790.0	125.4	0.0	-90.00	-1,704.8	-5,421.2	989.8	864.9	124.90	7.925		
11,200.0	6,790.0	10,679.4	6,790.0	127.9	0.0	-90.00	-1,704.6	-5,521.2	989.8	862.5	127.35	7.772		
11,300.0	6,790.0	10,779.4	6,790.0	130.3	0.0	-90.00	-1,704.3	-5,621.2	989.8	860.0	129.81	7.625		
11,400.0	6,790.0	10,879.4	6,790.0	132.8	0.0	-90.00	-1,704.1	-5,721.2	989.8	857.6	132.27	7.484		
11,500.0	6,790.0	10,979.4	6,790.0	135.2	0.0	-90.00	-1,703.8	-5,821.1	989.8	855.1	134.72	7.347		
11,600.0	6,790.0	11,079.4	6,790.0	137.7	0.0	-90.00	-1,703.6	-5,921.1	989.8	852.7	137.18	7.215		
11,700.0	6,790.0	11,179.4	6,790.0	140.1	0.0	-90.00	-1,703.3	-6,021.1	989.8	850.2	139.64	7.088		
11,800.0	6,790.0	11,279.4	6,790.0	142.6	0.0	-90.00	-1,703.1	-6,121.1	989.8	847.7	142.10	6.966		
11,900.0	6,790.0	11,379.4	6,790.0	145.0	0.0	-90.00	-1,702.8	-6,221.1	989.8	845.3	144.56	6.847		
12,000.0	6,790.0	11,479.4	6,790.0	147.5	0.0	-90.00	-1,702.6	-6,321.1	989.8	842.8	147.02	6.733		
12,100.0	6,790.0	11,579.4	6,790.0	149.9	0.0	-90.00	-1,702.3	-6,421.1	989.8	840.4	149.48	6.622		
12,200.0	6,790.0	11,679.4	6,790.0	152.4	0.0	-90.00	-1,702.1	-6,521.1	989.8	837.9	151.94	6.515		
12,300.0	6,790.0	11,779.4	6,790.0	154.8	0.0	-90.00	-1,701.8	-6,621.1	989.8	835.4	154.40	6.411		
12,400.0	6,790.0	11,879.4	6,790.0	157.3	0.0	-90.00	-1,701.6	-6,721.1	989.8	833.0	156.86	6.310		
12,500.0	6,790.0	11,979.4	6,790.0	159.7	0.0	-90.00	-1,701.3	-6,821.1	989.8	830.5	159.33	6.213		
12,600.0	6,790.0	12,079.4	6,790.0	162.2	0.0	-90.00	-1,701.1	-6,921.1	989.8	828.0	161.79	6.118		
12,700.0	6,790.0	12,179.4	6,790.0	164.6	0.0	-90.00	-1,700.8	-7,021.1	989.8	825.6	164.25	6.026		
12,800.0	6,790.0	12,279.4	6,790.0	167.1	0.0	-90.00	-1,700.6	-7,121.1	989.8	823.1	166.72	5.937		
12,900.0	6,790.0	12,379.4	6,790.0	169.6	0.0	-90.00	-1,700.3	-7,221.1	989.8	820.7	169.18	5.851		
13,000.0	6,790.0	12,479.4	6,790.0	172.0	0.0	-90.00	-1,700.1	-7,321.1	989.8	818.2	171.64	5.767		
13,100.0	6,790.0	12,579.4	6,790.0	174.5	0.0	-90.00	-1,699.8	-7,421.1	989.8	815.7	174.11	5.685		
13,200.0	6,790.0	12,679.4	6,790.0	176.9	0.0	-90.00	-1,699.6	-7,521.1	989.8	813.3	176.57	5.606		
13,300.0	6,790.0	12,779.4	6,790.0	179.4	0.0	-90.00	-1,699.3	-7,621.1	989.8	810.8	179.04	5.529		
13,400.0	6,790.0	12,879.4	6,790.0	181.9	0.0	-90.00	-1,699.1	-7,721.1	989.8	808.3	181.50	5.454		
13,500.0	6,790.0	12,979.4	6,790.0	184.3	0.0	-90.00	-1,698.8	-7,821.1	989.8	805.9	183.97	5.380		
13,600.0	6,790.0	13,079.4	6,790.0	186.8	0.0	-90.00	-1,698.6	-7,921.1	989.8	803.4	186.43	5.309		
13,700.0	6,790.0	13,179.4	6,790.0	189.2	0.0	-90.00	-1,698.3	-8,021.1	989.8	800.9	188.90	5.240		
13,800.0	6,790.0	13,279.4	6,790.0	191.7	0.0	-90.00	-1,698.1	-8,121.1	989.8	798.5	191.36	5.172		
13,900.0	6,790.0	13,379.4	6,790.0	194.2	0.0	-90.00	-1,697.8	-8,221.1	989.8	796.0	193.83	5.107		
14,000.0	6,790.0	13,479.4	6,790.0	196.6	0.0	-90.00	-1,697.6	-8,321.1	989.8	793.5	196.30	5.042		
14,100.0	6,790.0	13,579.4	6,790.0	199.1	0.0	-90.00	-1,697.3	-8,421.1	989.8	791.1	198.76	4.980		
14,200.0	6,790.0	13,679.4	6,790.0	201.5	0.0	-90.00	-1,697.1	-8,521.1	989.8	788.6	201.23	4.919		
14,300.0	6,790.0	13,779.4	6,790.0	204.0	0.0	-90.00	-1,696.8	-8,621.1	989.8	786.1	203.70	4.859		
14,400.0	6,790.0	13,879.4	6,790.0	206.5	0.0	-90.00	-1,696.6	-8,721.1	989.8	783.7	206.16	4.801		
14,500.0	6,790.0	13,979.4	6,790.0	208.9	0.0	-90.00	-1,696.3	-8,821.1	989.8	781.2	208.63	4.744		
14,600.0	6,790.0	14,079.4	6,790.0	211.4	0.0	-90.00	-1,696.1	-8,921.1	989.8	778.7	211.10	4.689		
14,700.0	6,790.0	14,179.4	6,790.0	213.9	0.0	-90.00	-1,695.8	-9,021.1	989.8	776.3	213.57	4.635		
14,800.0	6,790.0	14,279.4	6,790.0	216.3	0.0	-90.00	-1,695.6	-9,121.1	989.8	773.8	216.03	4.582		
14,900.0	6,790.0	14,379.4	6,790.0	218.8	0.0	-90.00	-1,695.3	-9,221.1	989.8	771.3	218.50	4.530		
15,000.0	6,790.0	14,479.4	6,790.0	221.3	0.0	-90.00	-1,695.1	-9,321.1	989.8	768.9	220.97	4.479		
15,100.0	6,790.0	14,579.4	6,790.0	223.7	0.0	-90.00	-1,694.8	-9,421.1	989.8	766.4	223.44	4.430		
15,200.0	6,790.0	14,679.4	6,790.0	226.2	0.0	-90.00	-1,694.6	-9,521.1	989.8	763.9	225.91	4.382		
15,300.0	6,790.0	14,779.4	6,790.0	228.7	0.0	-90.00	-1,694.3	-9,621.1	989.8	761.4	228.38	4.334		
15,400.0	6,790.0	14,879.4	6,790.0	231.1	0.0	-90.00	-1,694.1	-9,721.1	989.8	759.0	230.84	4.288		

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 7
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 7	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 (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	6,790.0	14,979.4	6,790.0	233.6	0.0	-90.00	-1,693.8	-9,821.1	989.8	756.5	233.31	4.242	
15,600.0	6,790.0	15,079.4	6,790.0	236.1	0.0	-90.00	-1,693.6	-9,921.1	989.8	754.0	235.78	4.198	
15,700.0	6,790.0	15,179.4	6,790.0	238.5	0.0	-90.00	-1,693.3	-10,021.1	989.8	751.6	238.25	4.155	
15,800.0	6,790.0	15,279.4	6,790.0	241.0	0.0	-90.00	-1,693.1	-10,121.1	989.8	749.1	240.72	4.112	
15,900.0	6,790.0	15,379.4	6,790.0	243.4	0.0	-90.00	-1,692.8	-10,221.1	989.8	746.6	243.19	4.070	
16,000.0	6,790.0	15,479.4	6,790.0	245.9	0.0	-90.00	-1,692.6	-10,321.1	989.8	744.2	245.66	4.029	
16,100.0	6,790.0	15,579.4	6,790.0	248.4	0.0	-90.00	-1,692.3	-10,421.1	989.8	741.7	248.13	3.989	
16,200.0	6,790.0	15,679.4	6,790.0	250.8	0.0	-90.00	-1,692.1	-10,521.1	989.8	739.2	250.60	3.950	
16,300.0	6,790.0	15,779.4	6,790.0	253.3	0.0	-90.00	-1,691.8	-10,621.1	989.8	736.7	253.07	3.911	
16,400.0	6,790.0	15,879.4	6,790.0	255.8	0.0	-90.00	-1,691.6	-10,721.1	989.8	734.3	255.54	3.873	
16,500.0	6,790.0	15,979.4	6,790.0	258.3	0.0	-90.00	-1,691.3	-10,821.1	989.8	731.8	258.01	3.836	
16,600.0	6,790.0	16,079.4	6,790.0	260.7	0.0	-90.00	-1,691.1	-10,921.1	989.8	729.3	260.48	3.800	
16,700.0	6,790.0	16,179.4	6,790.0	263.2	0.0	-90.00	-1,690.8	-11,021.1	989.8	726.9	262.95	3.764	
16,800.0	6,790.0	16,279.4	6,790.0	265.7	0.0	-90.00	-1,690.6	-11,121.1	989.8	724.4	265.42	3.729	
16,900.0	6,790.0	16,379.4	6,790.0	268.1	0.0	-90.00	-1,690.3	-11,221.1	989.8	721.9	267.89	3.695	
17,000.0	6,790.0	16,479.4	6,790.0	270.6	0.0	-90.00	-1,690.1	-11,321.1	989.8	719.5	270.36	3.661	
17,100.0	6,790.0	16,579.4	6,790.0	273.1	0.0	-90.00	-1,689.8	-11,421.1	989.8	717.0	272.83	3.628	
17,200.0	6,790.0	16,679.4	6,790.0	275.5	0.0	-90.00	-1,689.6	-11,521.1	989.8	714.5	275.30	3.595	
17,300.0	6,790.0	16,779.4	6,790.0	278.0	0.0	-90.00	-1,689.3	-11,621.1	989.8	712.0	277.77	3.563	
17,400.0	6,790.0	16,879.4	6,790.0	280.5	0.0	-90.00	-1,689.1	-11,721.1	989.8	709.6	280.24	3.532	
17,420.1	6,790.0	16,899.5	6,790.0	281.0	0.0	-90.00	-1,689.0	-11,741.2	989.8	709.1	280.74	3.526	
17,423.8	6,790.0	16,900.9	6,790.0	281.1	0.0	-90.00	-1,689.0	-11,742.6	989.8	709.0	280.83	3.525 SF	

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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 2 - 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							
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	
0.0	0.0	0.0	0.0	0.0	0.0	30.93	120.2	72.0	140.2					
100.0	100.0	100.0	100.0	0.1	0.1	30.93	120.2	72.0	140.2	139.9	0.27	528.290		
200.0	200.0	200.0	200.0	0.3	0.3	30.93	120.2	72.0	140.2	139.5	0.61	228.126 CC, ES		
300.0	300.0	301.0	301.0	0.5	0.5	155.12	120.3	71.2	140.6	139.6	0.97	145.522		
400.0	400.0	402.0	401.9	0.7	0.7	154.58	120.7	68.5	141.9	140.6	1.32	107.319		
500.0	499.9	502.9	502.7	0.9	0.9	153.69	121.2	64.1	144.2	142.5	1.69	85.425		
600.0	599.7	603.7	603.4	1.1	1.1	152.50	122.0	57.9	147.3	145.3	2.07	71.307		
700.0	699.4	704.5	703.8	1.3	1.3	151.04	123.0	50.0	151.5	149.0	2.46	61.491		
800.0	798.9	805.1	804.0	1.5	1.5	149.36	124.2	40.4	156.7	153.9	2.89	54.299		
900.0	898.3	905.6	903.8	1.8	1.8	147.52	125.7	29.0	163.1	159.7	3.34	48.821		
1,000.0	997.4	1,005.9	1,003.3	2.0	2.0	145.57	127.3	15.9	170.6	166.7	3.83	44.526		
1,100.0	1,096.3	1,106.1	1,102.3	2.3	2.3	143.56	129.2	1.1	179.2	174.9	4.36	41.081		
1,200.0	1,194.9	1,206.0	1,200.9	2.7	2.7	141.53	131.3	-15.4	189.2	184.2	4.94	38.274		
1,300.0	1,293.3	1,305.6	1,298.7	3.0	3.0	139.55	133.6	-33.4	200.3	194.8	5.57	36.001		
1,400.0	1,391.2	1,404.6	1,396.0	3.4	3.4	137.97	135.9	-51.7	213.0	206.8	6.21	34.289		
1,500.0	1,489.0	1,503.6	1,493.3	3.8	3.7	136.82	138.2	-70.0	226.5	219.6	6.87	32.955		
1,600.0	1,586.8	1,602.6	1,590.5	4.2	4.1	135.81	140.5	-88.3	240.2	232.6	7.55	31.818		
1,700.0	1,684.6	1,701.6	1,687.8	4.6	4.4	134.91	142.8	-106.6	253.8	245.6	8.23	30.843		
1,800.0	1,782.3	1,800.6	1,785.0	5.0	4.8	134.11	145.1	-124.9	267.6	258.7	8.92	29.999		
1,900.0	1,880.1	1,899.5	1,882.3	5.4	5.2	133.38	147.5	-143.2	281.4	271.8	9.62	29.264		
2,000.0	1,977.9	1,998.5	1,979.5	5.8	5.5	132.72	149.8	-161.5	295.2	284.9	10.32	28.620		
2,100.0	2,075.6	2,097.5	2,076.8	6.2	5.9	132.12	152.1	-179.8	309.1	298.1	11.02	28.051		
2,200.0	2,173.4	2,196.5	2,174.0	6.6	6.3	131.57	154.4	-198.1	323.0	311.3	11.73	27.545		
2,300.0	2,271.2	2,295.5	2,271.3	7.0	6.6	131.07	156.7	-216.4	336.9	324.5	12.44	27.093		
2,400.0	2,368.9	2,394.5	2,368.5	7.4	7.0	130.60	159.0	-234.8	350.9	337.7	13.15	26.687		
2,500.0	2,466.7	2,493.4	2,465.8	7.8	7.4	130.17	161.3	-253.1	364.9	351.0	13.86	26.321		
2,600.0	2,564.5	2,592.4	2,563.0	8.2	7.7	129.78	163.7	-271.4	378.9	364.3	14.58	25.989		
2,700.0	2,662.2	2,691.4	2,660.3	8.6	8.1	129.41	166.0	-289.7	392.9	377.6	15.29	25.687		
2,800.0	2,760.0	2,790.4	2,757.5	9.0	8.5	129.07	168.3	-308.0	406.9	390.9	16.01	25.411		
2,900.0	2,857.8	2,889.4	2,854.8	9.4	8.8	128.75	170.6	-326.3	420.9	404.2	16.73	25.158		
3,000.0	2,955.5	2,988.4	2,952.0	9.8	9.2	128.45	172.9	-344.6	435.0	417.5	17.45	24.925		
3,100.0	3,053.3	3,087.3	3,049.3	10.2	9.6	128.17	175.2	-362.9	449.0	430.9	18.17	24.710		
3,200.0	3,151.1	3,186.3	3,146.5	10.6	9.9	127.90	177.6	-381.2	463.1	444.2	18.89	24.511		
3,300.0	3,248.8	3,285.3	3,243.8	11.0	10.3	127.65	179.9	-399.5	477.2	457.6	19.62	24.326		
3,400.0	3,346.6	3,384.3	3,341.0	11.5	10.7	127.42	182.2	-417.8	491.3	470.9	20.34	24.155		
3,500.0	3,444.4	3,483.3	3,438.3	11.9	11.0	127.20	184.5	-436.1	505.4	484.3	21.06	23.994		
3,600.0	3,542.1	3,582.3	3,535.5	12.3	11.4	126.99	186.8	-454.4	519.5	497.7	21.79	23.845		
3,700.0	3,639.9	3,681.2	3,632.8	12.7	11.8	126.79	189.1	-472.7	533.6	511.1	22.51	23.704		
3,800.0	3,737.7	3,780.2	3,730.0	13.1	12.1	126.60	191.5	-491.0	547.7	524.5	23.23	23.573		
3,900.0	3,835.4	3,879.2	3,827.3	13.5	12.5	126.43	193.8	-509.3	561.8	537.9	23.96	23.449		
4,000.0	3,933.2	3,978.2	3,924.5	13.9	12.9	126.26	196.1	-527.7	575.9	551.3	24.68	23.332		
4,100.0	4,031.0	4,077.2	4,021.8	14.3	13.2	126.10	198.4	-546.0	590.1	564.7	25.41	23.222		
4,200.0	4,128.7	4,176.2	4,119.0	14.7	13.6	125.94	200.7	-564.3	604.2	578.1	26.14	23.118		
4,300.0	4,226.5	4,275.1	4,216.3	15.1	14.0	125.79	203.0	-582.6	618.3	591.5	26.86	23.020		
4,400.0	4,324.3	4,374.1	4,313.5	15.6	14.4	125.65	205.3	-600.9	632.5	604.9	27.59	22.927		
4,500.0	4,422.0	4,473.1	4,410.7	16.0	14.7	125.52	207.7	-619.2	646.6	618.3	28.31	22.838		
4,600.0	4,519.8	4,572.1	4,508.0	16.4	15.1	125.39	210.0	-637.5	660.8	631.7	29.04	22.754		
4,700.0	4,617.6	4,671.1	4,605.2	16.8	15.5	125.27	212.3	-655.8	674.9	645.2	29.77	22.674		
4,800.0	4,715.3	4,770.1	4,702.5	17.2	15.8	125.15	214.6	-674.1	689.1	658.6	30.49	22.598		
4,900.0	4,813.1	4,869.0	4,799.7	17.6	16.2	125.04	216.9	-692.4	703.2	672.0	31.22	22.526		
5,000.0	4,910.9	4,968.0	4,897.0	18.0	16.6	124.93	219.2	-710.7	717.4	685.5	31.95	22.456		
5,100.0	5,008.6	5,067.0	4,994.2	18.4	16.9	124.82	221.6	-729.0	731.6	698.9	32.67	22.390		

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 7
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 7	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 2 - 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 Uncertainty Axis	Separation Factor	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)				
5,200.0	5,106.4	5,166.0	5,091.5	18.8	17.3	124.72	223.9	-747.3	745.7	712.3	33.40	22.327		
5,300.0	5,204.2	5,265.0	5,188.7	19.2	17.7	124.63	226.2	-765.6	759.9	725.8	34.13	22.266		
5,400.0	5,301.9	5,364.0	5,286.0	19.7	18.0	124.53	228.5	-783.9	774.1	739.2	34.86	22.208		
5,500.0	5,399.7	5,462.9	5,383.2	20.1	18.4	124.44	230.8	-802.2	788.2	752.7	35.58	22.152		
5,600.0	5,497.5	5,561.9	5,480.5	20.5	18.8	124.36	233.1	-820.5	802.4	766.1	36.31	22.098		
5,700.0	5,595.2	5,660.9	5,577.7	20.9	19.2	124.27	235.5	-838.9	816.6	779.5	37.04	22.047		
5,800.0	5,693.0	5,759.9	5,675.0	21.3	19.5	124.19	237.8	-857.2	830.8	793.0	37.77	21.998		
5,900.0	5,790.8	5,858.9	5,772.2	21.7	19.9	124.11	240.1	-875.5	844.9	806.4	38.49	21.950		
6,000.0	5,888.5	5,957.9	5,869.5	22.1	20.3	124.04	242.4	-893.8	859.1	819.9	39.22	21.904		
6,100.0	5,986.3	6,056.8	5,966.7	22.5	20.6	123.97	244.7	-912.1	873.3	833.4	39.95	21.860		
6,200.0	6,084.1	6,155.8	6,064.0	22.9	21.0	123.90	247.0	-930.4	887.5	846.8	40.68	21.817		
6,300.0	6,181.8	6,254.8	6,161.2	23.3	21.4	123.83	249.3	-948.7	901.7	860.3	41.41	21.776		
6,400.0	6,279.6	6,353.8	6,258.5	23.8	21.7	120.83	251.7	-967.0	915.8	873.7	42.16	21.723		
6,500.0	6,375.1	6,453.2	6,354.8	24.4	22.3	106.93	254.0	-991.1	929.7	886.3	43.39	21.429		
6,600.0	6,465.3	6,553.2	6,446.8	25.1	23.0	100.48	256.2	-1,030.0	942.8	897.7	45.09	20.908		
6,700.0	6,547.9	6,653.9	6,532.1	26.2	24.0	96.69	258.3	-1,083.2	954.8	907.6	47.27	20.200		
6,800.0	6,620.9	6,755.2	6,608.4	27.4	25.3	94.19	260.3	-1,149.7	965.5	915.6	49.90	19.348		
6,900.0	6,682.5	6,857.3	6,673.6	28.8	26.9	92.46	262.0	-1,228.1	974.5	921.5	52.98	18.394		
7,000.0	6,731.2	6,960.0	6,725.8	30.4	28.7	91.27	263.4	-1,316.3	981.6	925.1	56.47	17.383		
7,100.0	6,765.8	7,063.1	6,763.2	32.2	30.6	90.49	264.6	-1,412.3	986.6	926.3	60.31	16.359		
7,200.0	6,785.4	7,166.7	6,784.8	34.1	32.8	90.08	265.3	-1,513.5	989.5	925.1	64.42	15.361		
7,300.0	6,790.0	7,269.6	6,790.0	36.1	35.0	90.00	265.7	-1,616.2	990.2	921.5	68.69	14.415		
7,400.0	6,790.0	7,369.6	6,790.0	38.1	37.3	90.00	265.9	-1,716.2	990.2	917.1	73.12	13.542		
7,500.0	6,790.0	7,469.6	6,790.0	40.2	39.5	90.00	266.2	-1,816.2	990.2	912.6	77.61	12.759		
7,600.0	6,790.0	7,569.6	6,790.0	42.4	41.8	90.00	266.4	-1,916.2	990.2	908.0	82.15	12.053		
7,700.0	6,790.0	7,669.6	6,790.0	44.6	44.0	90.00	266.7	-2,016.2	990.2	903.4	86.73	11.416		
7,800.0	6,790.0	7,769.6	6,790.0	46.8	46.4	90.00	266.9	-2,116.2	990.2	898.8	91.36	10.838		
7,900.0	6,790.0	7,869.6	6,790.0	49.0	48.7	90.00	267.2	-2,216.2	990.2	894.2	96.01	10.313		
8,000.0	6,790.0	7,969.6	6,790.0	51.3	51.0	90.00	267.4	-2,316.2	990.2	889.5	100.70	9.833		
8,100.0	6,790.0	8,069.6	6,790.0	53.5	53.4	90.00	267.7	-2,416.2	990.2	884.8	105.41	9.394		
8,200.0	6,790.0	8,169.6	6,790.0	55.8	55.7	90.00	267.9	-2,516.2	990.2	880.0	110.14	8.991		
8,300.0	6,790.0	8,269.6	6,790.0	58.1	58.1	90.00	268.2	-2,616.2	990.2	875.3	114.88	8.619		
8,400.0	6,790.0	8,369.6	6,790.0	60.4	60.5	90.00	268.4	-2,716.2	990.2	870.5	119.65	8.276		
8,500.0	6,790.0	8,469.6	6,790.0	62.8	62.9	90.00	268.7	-2,816.2	990.2	865.8	124.43	7.958		
8,600.0	6,790.0	8,569.6	6,790.0	65.1	65.3	90.00	268.9	-2,916.2	990.2	861.0	129.22	7.663		
8,700.0	6,790.0	8,669.6	6,790.0	67.5	67.7	90.00	269.2	-3,016.2	990.2	856.2	134.02	7.388		
8,800.0	6,790.0	8,769.6	6,790.0	69.8	70.1	90.00	269.4	-3,116.2	990.2	851.3	138.83	7.132		
8,900.0	6,790.0	8,869.6	6,790.0	72.2	72.5	90.00	269.7	-3,216.2	990.2	846.5	143.66	6.893		
9,000.0	6,790.0	8,969.6	6,790.0	74.6	74.9	90.00	269.9	-3,316.2	990.2	841.7	148.49	6.668		
9,100.0	6,790.0	9,069.6	6,790.0	77.0	77.3	90.00	270.2	-3,416.2	990.2	836.9	153.32	6.458		
9,200.0	6,790.0	9,169.6	6,790.0	79.4	79.7	90.00	270.4	-3,516.2	990.2	832.0	158.17	6.260		
9,300.0	6,790.0	9,269.6	6,790.0	81.8	82.1	90.00	270.7	-3,616.2	990.2	827.2	163.02	6.074		
9,400.0	6,790.0	9,369.6	6,790.0	84.2	84.6	90.00	270.9	-3,716.2	990.2	822.3	167.88	5.898		
9,500.0	6,790.0	9,469.6	6,790.0	86.6	87.0	90.00	271.2	-3,816.2	990.2	817.4	172.74	5.732		
9,600.0	6,790.0	9,569.6	6,790.0	89.0	89.4	90.00	271.4	-3,916.2	990.2	812.6	177.61	5.575		
9,700.0	6,790.0	9,669.6	6,790.0	91.4	91.9	90.00	271.7	-4,016.2	990.2	807.7	182.48	5.426		
9,800.0	6,790.0	9,769.6	6,790.0	93.8	94.3	90.00	271.9	-4,116.2	990.2	802.8	187.35	5.285		
9,900.0	6,790.0	9,869.6	6,790.0	96.2	96.7	90.00	272.2	-4,216.2	990.2	797.9	192.23	5.151		
10,000.0	6,790.0	9,969.6	6,790.0	98.7	99.2	90.00	272.4	-4,316.2	990.2	793.1	197.12	5.023		
10,100.0	6,790.0	10,069.6	6,790.0	101.1	101.6	90.00	272.7	-4,416.2	990.2	788.2	202.00	4.902		
10,200.0	6,790.0	10,169.6	6,790.0	103.5	104.1	90.00	272.9	-4,516.2	990.2	783.3	206.89	4.786		
10,300.0	6,790.0	10,269.6	6,790.0	105.9	106.5	90.00	273.2	-4,616.2	990.2	778.4	211.78	4.675		

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 7
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 7	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 2 - 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		
10,400.0	6,790.0	10,369.6	6,790.0	108.4	109.0	90.00	273.4	-4,716.2	990.2	773.5	216.68	4.570		
10,500.0	6,790.0	10,469.6	6,790.0	110.8	111.4	90.00	273.7	-4,816.2	990.2	768.6	221.57	4.469		
10,600.0	6,790.0	10,569.6	6,790.0	113.2	113.9	90.00	273.9	-4,916.2	990.2	763.7	226.47	4.372		
10,700.0	6,790.0	10,669.6	6,790.0	115.7	116.3	90.00	274.2	-5,016.2	990.2	758.8	231.37	4.280		
10,800.0	6,790.0	10,769.6	6,790.0	118.1	118.8	90.00	274.4	-5,116.2	990.2	753.9	236.28	4.191		
10,900.0	6,790.0	10,869.6	6,790.0	120.5	121.2	90.00	274.7	-5,216.2	990.2	749.0	241.18	4.106		
11,000.0	6,790.0	10,969.6	6,790.0	123.0	123.7	90.00	274.9	-5,316.2	990.2	744.1	246.09	4.024		
11,100.0	6,790.0	11,069.6	6,790.0	125.4	126.1	90.00	275.2	-5,416.2	990.2	739.2	251.00	3.945		
11,200.0	6,790.0	11,169.6	6,790.0	127.9	128.6	90.00	275.4	-5,516.2	990.2	734.3	255.91	3.869		
11,300.0	6,790.0	11,269.6	6,790.0	130.3	131.0	90.00	275.7	-5,616.2	990.2	729.4	260.82	3.796		
11,400.0	6,790.0	11,369.6	6,790.0	132.8	133.5	90.00	275.9	-5,716.2	990.2	724.4	265.73	3.726		
11,500.0	6,790.0	11,469.6	6,790.0	135.2	135.9	90.00	276.2	-5,816.2	990.2	719.5	270.64	3.659		
11,600.0	6,790.0	11,569.6	6,790.0	137.7	138.4	90.00	276.4	-5,916.2	990.2	714.6	275.56	3.593		
11,700.0	6,790.0	11,669.6	6,790.0	140.1	140.9	90.00	276.7	-6,016.2	990.2	709.7	280.48	3.530		
11,800.0	6,790.0	11,769.6	6,790.0	142.6	143.3	90.00	276.9	-6,116.2	990.2	704.8	285.39	3.470		
11,900.0	6,790.0	11,869.6	6,790.0	145.0	145.8	90.00	277.2	-6,216.2	990.2	699.9	290.31	3.411		
12,000.0	6,790.0	11,969.6	6,790.0	147.5	148.2	90.00	277.4	-6,316.2	990.2	694.9	295.23	3.354		
12,100.0	6,790.0	12,069.6	6,790.0	149.9	150.7	90.00	277.7	-6,416.2	990.2	690.0	300.15	3.299		
12,200.0	6,790.0	12,169.6	6,790.0	152.4	153.2	90.00	277.9	-6,516.2	990.2	685.1	305.08	3.246		
12,300.0	6,790.0	12,269.6	6,790.0	154.8	155.6	90.00	278.2	-6,616.2	990.2	680.2	310.00	3.194		
12,400.0	6,790.0	12,369.6	6,790.0	157.3	158.1	90.00	278.4	-6,716.2	990.2	675.3	314.92	3.144		
12,500.0	6,790.0	12,469.6	6,790.0	159.7	160.5	90.00	278.7	-6,816.2	990.2	670.3	319.84	3.096		
12,600.0	6,790.0	12,569.6	6,790.0	162.2	163.0	90.00	278.9	-6,916.2	990.2	665.4	324.77	3.049		
12,700.0	6,790.0	12,669.6	6,790.0	164.6	165.5	90.00	279.2	-7,016.2	990.2	660.5	329.70	3.003		
12,800.0	6,790.0	12,769.6	6,790.0	167.1	167.9	90.00	279.4	-7,116.2	990.2	655.6	334.62	2.959		
12,900.0	6,790.0	12,869.6	6,790.0	169.6	170.4	90.00	279.7	-7,216.2	990.2	650.6	339.55	2.916		
13,000.0	6,790.0	12,969.6	6,790.0	172.0	172.8	90.00	279.9	-7,316.2	990.2	645.7	344.48	2.874		
13,100.0	6,790.0	13,069.6	6,790.0	174.5	175.3	90.00	280.2	-7,416.2	990.2	640.8	349.40	2.834		
13,200.0	6,790.0	13,169.6	6,790.0	176.9	177.8	90.00	280.4	-7,516.2	990.2	635.8	354.33	2.794		
13,300.0	6,790.0	13,269.6	6,790.0	179.4	180.2	90.00	280.7	-7,616.2	990.2	630.9	359.26	2.756		
13,400.0	6,790.0	13,369.6	6,790.0	181.9	182.7	90.00	280.9	-7,716.2	990.2	626.0	364.19	2.719		
13,500.0	6,790.0	13,469.6	6,790.0	184.3	185.2	90.00	281.2	-7,816.2	990.2	621.1	369.12	2.683		
13,600.0	6,790.0	13,569.6	6,790.0	186.8	187.6	90.00	281.4	-7,916.2	990.2	616.1	374.05	2.647		
13,700.0	6,790.0	13,669.6	6,790.0	189.2	190.1	90.00	281.7	-8,016.2	990.2	611.2	378.98	2.613		
13,800.0	6,790.0	13,769.6	6,790.0	191.7	192.6	90.00	281.9	-8,116.2	990.2	606.3	383.92	2.579		
13,900.0	6,790.0	13,869.6	6,790.0	194.2	195.0	90.00	282.2	-8,216.2	990.2	601.3	388.85	2.546		
14,000.0	6,790.0	13,969.6	6,790.0	196.6	197.5	90.00	282.4	-8,316.2	990.2	596.4	393.78	2.515		
14,100.0	6,790.0	14,069.6	6,790.0	199.1	200.0	90.00	282.7	-8,416.2	990.2	591.5	398.71	2.483		
14,200.0	6,790.0	14,169.6	6,790.0	201.5	202.4	90.00	282.9	-8,516.2	990.2	586.5	403.65	2.453		
14,300.0	6,790.0	14,269.6	6,790.0	204.0	204.9	90.00	283.2	-8,616.2	990.2	581.6	408.58	2.423		
14,400.0	6,790.0	14,369.6	6,790.0	206.5	207.4	90.00	283.4	-8,716.2	990.2	576.7	413.51	2.395		
14,500.0	6,790.0	14,469.6	6,790.0	208.9	209.8	90.00	283.7	-8,816.2	990.2	571.7	418.45	2.366		
14,600.0	6,790.0	14,569.6	6,790.0	211.4	212.3	90.00	283.9	-8,916.2	990.2	566.8	423.38	2.339		
14,700.0	6,790.0	14,669.6	6,790.0	213.9	214.8	90.00	284.2	-9,016.2	990.2	561.9	428.32	2.312		
14,800.0	6,790.0	14,769.6	6,790.0	216.3	217.2	90.00	284.4	-9,116.2	990.2	556.9	433.25	2.285		
14,900.0	6,790.0	14,869.6	6,790.0	218.8	219.7	90.00	284.7	-9,216.2	990.2	552.0	438.19	2.260		
15,000.0	6,790.0	14,969.6	6,790.0	221.3	222.2	90.00	284.9	-9,316.2	990.2	547.1	443.13	2.235		
15,100.0	6,790.0	15,069.6	6,790.0	223.7	224.6	90.00	285.2	-9,416.2	990.2	542.1	448.06	2.210		
15,200.0	6,790.0	15,169.6	6,790.0	226.2	227.1	90.00	285.4	-9,516.2	990.2	537.2	453.00	2.186		
15,300.0	6,790.0	15,269.6	6,790.0	228.7	229.6	90.00	285.7	-9,616.2	990.2	532.2	457.94	2.162		
15,400.0	6,790.0	15,369.6	6,790.0	231.1	232.0	90.00	285.9	-9,716.2	990.2	527.3	462.87	2.139		
15,500.0	6,790.0	15,469.6	6,790.0	233.6	234.5	90.00	286.2	-9,816.2	990.2	522.4	467.81	2.117		

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 7
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 7	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 2 - 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		
15,600.0	6,790.0	15,569.6	6,790.0	236.1	237.0	90.00	286.4	-9,916.2	990.2	517.4	472.75	2.095		
15,700.0	6,790.0	15,669.6	6,790.0	238.5	239.4	90.00	286.7	-10,016.2	990.2	512.5	477.69	2.073		
15,800.0	6,790.0	15,769.6	6,790.0	241.0	241.9	90.00	286.9	-10,116.2	990.2	507.6	482.62	2.052		
15,900.0	6,790.0	15,869.6	6,790.0	243.4	244.4	90.00	287.2	-10,216.2	990.2	502.6	487.56	2.031		
16,000.0	6,790.0	15,969.6	6,790.0	245.9	246.9	90.00	287.4	-10,316.2	990.2	497.7	492.50	2.011		
16,100.0	6,790.0	16,069.6	6,790.0	248.4	249.3	90.00	287.7	-10,416.2	990.2	492.7	497.44	1.991		
16,200.0	6,790.0	16,169.6	6,790.0	250.8	251.8	90.00	287.9	-10,516.2	990.2	487.8	502.38	1.971		
16,300.0	6,790.0	16,269.6	6,790.0	253.3	254.3	90.00	288.2	-10,616.2	990.2	482.9	507.32	1.952		
16,400.0	6,790.0	16,369.6	6,790.0	255.8	256.7	90.00	288.4	-10,716.2	990.2	477.9	512.26	1.933		
16,500.0	6,790.0	16,469.6	6,790.0	258.3	259.2	90.00	288.7	-10,816.2	990.2	473.0	517.20	1.915		
16,600.0	6,790.0	16,569.6	6,790.0	260.7	261.7	90.00	288.9	-10,916.2	990.2	468.0	522.14	1.896		
16,700.0	6,790.0	16,669.6	6,790.0	263.2	264.1	90.00	289.2	-11,016.2	990.2	463.1	527.08	1.879		
16,800.0	6,790.0	16,769.6	6,790.0	265.7	266.6	90.00	289.4	-11,116.2	990.2	458.2	532.02	1.861		
16,900.0	6,790.0	16,869.6	6,790.0	268.1	269.1	90.00	289.7	-11,216.2	990.2	453.2	536.96	1.844		
17,000.0	6,790.0	16,969.6	6,790.0	270.6	271.5	90.00	289.9	-11,316.2	990.2	448.3	541.90	1.827		
17,100.0	6,790.0	17,069.6	6,790.0	273.1	274.0	90.00	290.2	-11,416.2	990.2	443.3	546.84	1.811		
17,200.0	6,790.0	17,169.6	6,790.0	275.5	276.5	90.00	290.4	-11,516.2	990.2	438.4	551.78	1.795		
17,300.0	6,790.0	17,269.6	6,790.0	278.0	279.0	90.00	290.7	-11,616.2	990.2	433.5	556.72	1.779		
17,400.0	6,790.0	17,369.6	6,790.0	280.5	281.4	90.00	290.9	-11,716.2	990.2	428.5	561.66	1.763		
17,423.8	6,790.0	17,393.4	6,790.0	281.1	282.0	90.00	291.0	-11,740.0	990.2	427.3	562.83	1.759 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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: 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	30.91	96.2	57.6	112.1					
100.0	100.0	100.0	100.0	0.1	0.1	30.91	96.2	57.6	112.1	111.8	0.27	422.525		
200.0	200.0	200.0	200.0	0.3	0.3	30.91	96.2	57.6	112.1	111.5	0.61	182.454 CC		
300.0	300.0	301.0	301.0	0.5	0.5	155.08	96.2	56.7	112.4	111.5	0.97	116.387 ES		
400.0	400.0	402.0	402.0	0.7	0.7	154.48	96.2	54.0	113.5	112.1	1.32	85.844		
500.0	499.9	503.0	502.8	0.9	0.9	153.50	96.2	49.6	115.2	113.5	1.69	68.350		
600.0	599.7	603.9	603.5	1.1	1.1	152.17	96.2	43.3	117.7	115.7	2.06	57.075		
700.0	699.4	704.7	704.1	1.3	1.3	150.55	96.2	35.4	121.0	118.6	2.46	49.237		
800.0	798.9	805.5	804.3	1.5	1.5	148.69	96.3	25.6	125.2	122.3	2.88	43.491		
900.0	898.3	906.1	904.3	1.8	1.8	146.65	96.3	14.1	130.3	126.9	3.33	39.110		
1,000.0	997.4	1,006.7	1,004.0	2.0	2.0	144.49	96.3	0.9	136.3	132.5	3.82	35.667		
1,100.0	1,096.3	1,107.1	1,103.3	2.3	2.4	142.26	96.4	-14.1	143.3	139.0	4.36	32.900		
1,200.0	1,194.9	1,207.2	1,202.0	2.7	2.7	140.03	96.4	-30.7	151.4	146.5	4.94	30.666		
1,300.0	1,293.3	1,306.6	1,300.0	3.0	3.0	138.25	96.5	-47.7	160.9	155.3	5.54	29.020		
1,400.0	1,391.2	1,406.0	1,397.9	3.4	3.3	137.05	96.5	-64.8	171.7	165.6	6.17	27.840		
1,500.0	1,489.0	1,505.3	1,495.7	3.8	3.7	136.28	96.6	-81.8	183.4	176.6	6.80	26.955		
1,600.0	1,586.8	1,604.6	1,593.5	4.2	4.0	135.62	96.6	-98.8	195.1	187.7	7.45	26.192		
1,700.0	1,684.6	1,703.9	1,691.3	4.6	4.3	135.03	96.7	-115.8	206.9	198.8	8.10	25.531		
1,800.0	1,782.3	1,803.1	1,789.1	5.0	4.7	134.50	96.7	-132.9	218.6	209.9	8.76	24.953		
1,900.0	1,880.1	1,902.4	1,887.0	5.4	5.0	134.03	96.8	-149.9	230.4	221.0	9.42	24.446		
2,000.0	1,977.9	2,001.7	1,984.8	5.8	5.4	133.61	96.8	-166.9	242.2	232.1	10.09	23.998		
2,100.0	2,075.6	2,101.0	2,082.6	6.2	5.7	133.22	96.8	-183.9	254.0	243.2	10.76	23.599		
2,200.0	2,173.4	2,200.3	2,180.4	6.6	6.1	132.87	96.9	-201.0	265.8	254.4	11.44	23.243		
2,300.0	2,271.2	2,299.6	2,278.2	7.0	6.4	132.55	96.9	-218.0	277.6	265.5	12.11	22.922		
2,400.0	2,368.9	2,398.9	2,376.1	7.4	6.7	132.25	97.0	-235.0	289.4	276.7	12.79	22.632		
2,500.0	2,466.7	2,498.2	2,473.9	7.8	7.1	131.98	97.0	-252.0	301.3	287.8	13.47	22.369		
2,600.0	2,564.5	2,597.4	2,571.7	8.2	7.4	131.73	97.1	-269.0	313.1	299.0	14.15	22.130		
2,700.0	2,662.2	2,696.7	2,669.5	8.6	7.8	131.49	97.1	-286.1	325.0	310.1	14.83	21.911		
2,800.0	2,760.0	2,796.0	2,767.3	9.0	8.1	131.28	97.2	-303.1	336.8	321.3	15.51	21.710		
2,900.0	2,857.8	2,895.3	2,865.1	9.4	8.5	131.08	97.2	-320.1	348.7	332.5	16.20	21.524		
3,000.0	2,955.5	2,994.6	2,963.0	9.8	8.8	130.89	97.3	-337.1	360.5	343.6	16.88	21.353		
3,100.0	3,053.3	3,093.9	3,060.8	10.2	9.2	130.71	97.3	-354.2	372.4	354.8	17.57	21.195		
3,200.0	3,151.1	3,193.2	3,158.6	10.6	9.5	130.54	97.4	-371.2	384.3	366.0	18.26	21.048		
3,300.0	3,248.8	3,292.5	3,256.4	11.0	9.9	130.39	97.4	-388.2	396.1	377.2	18.94	20.911		
3,400.0	3,346.6	3,391.7	3,354.2	11.5	10.2	130.24	97.5	-405.2	408.0	388.4	19.63	20.783		
3,500.0	3,444.4	3,491.0	3,452.0	11.9	10.5	130.10	97.5	-422.2	419.9	399.6	20.32	20.663		
3,600.0	3,542.1	3,590.3	3,549.9	12.3	10.9	129.97	97.6	-439.3	431.8	410.7	21.01	20.551		
3,700.0	3,639.9	3,689.6	3,647.7	12.7	11.2	129.85	97.6	-456.3	443.6	421.9	21.70	20.446		
3,800.0	3,737.7	3,788.9	3,745.5	13.1	11.6	129.73	97.6	-473.3	455.5	433.1	22.39	20.347		
3,900.0	3,835.4	3,888.2	3,843.3	13.5	11.9	129.62	97.7	-490.3	467.4	444.3	23.08	20.253		
4,000.0	3,933.2	3,987.5	3,941.1	13.9	12.3	129.51	97.7	-507.4	479.3	455.5	23.77	20.165		
4,100.0	4,031.0	4,086.8	4,038.9	14.3	12.6	129.41	97.8	-524.4	491.2	466.7	24.46	20.082		
4,200.0	4,128.7	4,186.0	4,136.8	14.7	13.0	129.31	97.8	-541.4	503.1	477.9	25.15	20.003		
4,300.0	4,226.5	4,285.3	4,234.6	15.1	13.3	129.22	97.9	-558.4	514.9	489.1	25.84	19.928		
4,400.0	4,324.3	4,384.6	4,332.4	15.6	13.7	129.13	97.9	-575.5	526.8	500.3	26.53	19.857		
4,500.0	4,422.0	4,483.9	4,430.2	16.0	14.0	129.05	98.0	-592.5	538.7	511.5	27.22	19.789		
4,600.0	4,519.8	4,583.2	4,528.0	16.4	14.4	128.97	98.0	-609.5	550.6	522.7	27.92	19.725		
4,700.0	4,617.6	4,682.5	4,625.8	16.8	14.7	128.89	98.1	-626.5	562.5	533.9	28.61	19.663		
4,800.0	4,715.3	4,781.8	4,723.7	17.2	15.0	128.82	98.1	-643.5	574.4	545.1	29.30	19.605		
4,900.0	4,813.1	4,881.1	4,821.5	17.6	15.4	128.75	98.2	-660.6	586.3	556.3	29.99	19.549		
5,000.0	4,910.9	4,980.3	4,919.3	18.0	15.7	128.68	98.2	-677.6	598.2	567.5	30.68	19.495		
5,100.0	5,008.6	5,079.6	5,017.1	18.4	16.1	128.62	98.3	-694.6	610.1	578.7	31.38	19.444		

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 7
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 7	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-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	5,106.4	5,178.9	5,114.9	18.8	16.4	128.55	98.3	-711.6	622.0	589.9	32.07	19.395		
5,300.0	5,204.2	5,278.2	5,212.8	19.2	16.8	128.49	98.4	-728.7	633.9	601.1	32.76	19.348		
5,400.0	5,301.9	5,377.5	5,310.6	19.7	17.1	128.44	98.4	-745.7	645.8	612.3	33.46	19.303		
5,500.0	5,399.7	5,476.8	5,408.4	20.1	17.5	128.38	98.4	-762.7	657.7	623.5	34.15	19.260		
5,600.0	5,497.5	5,576.1	5,506.2	20.5	17.8	128.33	98.5	-779.7	669.6	634.8	34.84	19.218		
5,700.0	5,595.2	5,675.4	5,604.0	20.9	18.2	128.27	98.5	-796.7	681.5	646.0	35.54	19.178		
5,800.0	5,693.0	5,774.6	5,701.8	21.3	18.5	128.22	98.6	-813.8	693.4	657.2	36.23	19.140		
5,900.0	5,790.8	5,873.9	5,799.7	21.7	18.9	128.18	98.6	-830.8	705.3	668.4	36.92	19.102		
6,000.0	5,888.5	5,973.2	5,897.5	22.1	19.2	128.13	98.7	-847.8	717.2	679.6	37.62	19.067		
6,100.0	5,986.3	6,072.5	5,995.3	22.5	19.6	128.08	98.7	-864.8	729.1	690.8	38.31	19.032		
6,200.0	6,084.1	6,171.8	6,093.1	22.9	19.9	128.04	98.8	-881.9	741.0	702.0	39.00	18.999		
6,300.0	6,181.8	6,271.1	6,190.9	23.3	20.3	128.00	98.8	-898.9	752.9	713.2	39.70	18.967		
6,400.0	6,279.6	6,370.4	6,288.7	23.8	20.6	125.05	98.9	-915.9	764.8	724.4	40.42	18.923		
6,500.0	6,375.1	6,469.1	6,386.0	24.4	21.0	111.79	98.9	-932.8	777.2	735.8	41.39	18.778		
6,600.0	6,465.3	6,565.0	6,480.5	25.1	21.3	106.84	99.0	-949.3	790.6	748.2	42.40	18.648		
6,700.0	6,547.9	6,655.9	6,570.0	26.2	21.6	105.11	99.0	-964.9	806.1	762.6	43.49	18.537		
6,800.0	6,620.9	6,765.4	6,676.5	27.4	22.1	105.46	99.1	-990.1	824.2	779.3	44.81	18.394		
6,900.0	6,682.5	6,894.7	6,794.4	28.8	23.2	106.68	99.2	-1,042.5	842.8	796.0	46.74	18.031		
7,000.0	6,731.2	7,043.2	6,913.6	30.4	24.8	108.28	99.4	-1,130.5	860.4	810.9	49.49	17.384		
7,100.0	6,765.8	7,213.8	7,021.1	32.2	27.4	109.93	99.8	-1,262.3	875.0	821.7	53.33	16.409		
7,200.0	6,785.4	7,405.0	7,095.3	34.1	31.0	111.15	100.2	-1,437.8	884.4	826.0	58.46	15.128		
7,300.0	6,790.0	7,585.5	7,115.0	36.1	34.8	111.50	100.7	-1,616.6	886.8	822.6	64.22	13.810		
7,400.0	6,790.0	7,685.5	7,115.0	38.1	37.0	111.50	100.9	-1,716.6	886.8	818.5	68.31	12.982		
7,500.0	6,790.0	7,785.5	7,115.0	40.2	39.3	111.50	101.2	-1,816.6	886.8	814.4	72.47	12.237		
7,600.0	6,790.0	7,885.5	7,115.0	42.4	41.5	111.50	101.4	-1,916.6	886.8	810.2	76.68	11.565		
7,700.0	6,790.0	7,985.5	7,115.0	44.6	43.8	111.50	101.7	-2,016.6	886.8	805.9	80.94	10.957		
7,800.0	6,790.0	8,085.5	7,115.0	46.8	46.1	111.50	101.9	-2,116.6	886.8	801.6	85.23	10.406		
7,900.0	6,790.0	8,185.5	7,115.0	49.0	48.4	111.50	102.2	-2,216.6	886.8	797.3	89.55	9.904		
8,000.0	6,790.0	8,285.5	7,115.0	51.3	50.8	111.50	102.4	-2,316.6	886.8	793.0	93.90	9.445		
8,100.0	6,790.0	8,385.5	7,115.0	53.5	53.1	111.50	102.7	-2,416.6	886.8	788.6	98.27	9.025		
8,200.0	6,790.0	8,485.5	7,115.0	55.8	55.5	111.50	102.9	-2,516.6	886.8	784.2	102.66	8.639		
8,300.0	6,790.0	8,585.5	7,115.0	58.1	57.8	111.50	103.2	-2,616.6	886.8	779.8	107.07	8.283		
8,400.0	6,790.0	8,685.5	7,115.0	60.4	60.2	111.50	103.4	-2,716.6	886.8	775.3	111.50	7.954		
8,500.0	6,790.0	8,785.5	7,115.0	62.8	62.6	111.50	103.7	-2,816.6	886.8	770.9	115.94	7.649		
8,600.0	6,790.0	8,885.5	7,115.0	65.1	65.0	111.50	103.9	-2,916.6	886.8	766.5	120.39	7.366		
8,700.0	6,790.0	8,985.5	7,115.0	67.5	67.4	111.50	104.2	-3,016.6	886.8	762.0	124.85	7.103		
8,800.0	6,790.0	9,085.5	7,115.0	69.8	69.8	111.50	104.4	-3,116.6	886.8	757.5	129.33	6.857		
8,900.0	6,790.0	9,185.5	7,115.0	72.2	72.2	111.50	104.7	-3,216.6	886.8	753.0	133.81	6.628		
9,000.0	6,790.0	9,285.5	7,115.0	74.6	74.6	111.50	104.9	-3,316.6	886.8	748.5	138.30	6.412		
9,100.0	6,790.0	9,385.5	7,115.0	77.0	77.0	111.50	105.2	-3,416.6	886.8	744.0	142.80	6.210		
9,200.0	6,790.0	9,485.5	7,115.0	79.4	79.4	111.50	105.4	-3,516.6	886.8	739.5	147.31	6.020		
9,300.0	6,790.0	9,585.5	7,115.0	81.8	81.9	111.50	105.7	-3,616.6	886.8	735.0	151.82	5.841		
9,400.0	6,790.0	9,685.5	7,115.0	84.2	84.3	111.50	105.9	-3,716.6	886.8	730.5	156.34	5.673		
9,500.0	6,790.0	9,785.5	7,115.0	86.6	86.7	111.50	106.2	-3,816.6	886.8	726.0	160.86	5.513		
9,600.0	6,790.0	9,885.5	7,115.0	89.0	89.2	111.50	106.4	-3,916.6	886.8	721.5	165.38	5.362		
9,700.0	6,790.0	9,985.5	7,115.0	91.4	91.6	111.50	106.7	-4,016.6	886.8	716.9	169.92	5.219		
9,800.0	6,790.0	10,085.5	7,115.0	93.8	94.0	111.50	106.9	-4,116.6	886.8	712.4	174.45	5.084		
9,900.0	6,790.0	10,185.5	7,115.0	96.2	96.5	111.50	107.2	-4,216.6	886.8	707.9	178.99	4.955		
10,000.0	6,790.0	10,285.5	7,115.0	98.7	98.9	111.50	107.4	-4,316.6	886.8	703.3	183.53	4.832		
10,100.0	6,790.0	10,385.5	7,115.0	101.1	101.3	111.50	107.7	-4,416.6	886.8	698.8	188.08	4.715		
10,200.0	6,790.0	10,485.5	7,115.0	103.5	103.8	111.50	107.9	-4,516.6	886.8	694.2	192.62	4.604		
10,300.0	6,790.0	10,585.5	7,115.0	105.9	106.2	111.50	108.1	-4,616.6	886.8	689.7	197.18	4.498		

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 7
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 7	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-Geolink MWD												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	10,685.5	7,115.0	108.4	108.7	111.50	108.4	-4,716.6	886.8	685.1	201.73	4.396	
10,500.0	6,790.0	10,785.5	7,115.0	110.8	111.1	111.50	108.6	-4,816.6	886.8	680.6	206.29	4.299	
10,600.0	6,790.0	10,885.5	7,115.0	113.2	113.6	111.50	108.9	-4,916.6	886.8	676.0	210.84	4.206	
10,700.0	6,790.0	10,985.5	7,115.0	115.7	116.0	111.50	109.1	-5,016.6	886.8	671.4	215.40	4.117	
10,800.0	6,790.0	11,085.5	7,115.0	118.1	118.5	111.50	109.4	-5,116.6	886.8	666.9	219.97	4.032	
10,900.0	6,790.0	11,185.5	7,115.0	120.5	120.9	111.50	109.6	-5,216.6	886.8	662.3	224.53	3.950	
11,000.0	6,790.0	11,285.5	7,115.0	123.0	123.4	111.50	109.9	-5,316.6	886.8	657.8	229.09	3.871	
11,100.0	6,790.0	11,385.5	7,115.0	125.4	125.8	111.50	110.1	-5,416.6	886.8	653.2	233.66	3.795	
11,200.0	6,790.0	11,485.5	7,115.0	127.9	128.3	111.50	110.4	-5,516.6	886.8	648.6	238.23	3.723	
11,300.0	6,790.0	11,585.5	7,115.0	130.3	130.7	111.50	110.6	-5,616.6	886.8	644.0	242.80	3.653	
11,400.0	6,790.0	11,685.5	7,115.0	132.8	133.2	111.50	110.9	-5,716.6	886.8	639.5	247.37	3.585	
11,500.0	6,790.0	11,785.5	7,115.0	135.2	135.6	111.50	111.1	-5,816.6	886.8	634.9	251.95	3.520	
11,600.0	6,790.0	11,885.5	7,115.0	137.7	138.1	111.50	111.4	-5,916.6	886.8	630.3	256.52	3.457	
11,700.0	6,790.0	11,985.5	7,115.0	140.1	140.6	111.50	111.6	-6,016.6	886.8	625.8	261.09	3.397	
11,800.0	6,790.0	12,085.5	7,115.0	142.6	143.0	111.50	111.9	-6,116.6	886.8	621.2	265.67	3.338	
11,900.0	6,790.0	12,185.5	7,115.0	145.0	145.5	111.50	112.1	-6,216.6	886.8	616.6	270.25	3.282	
12,000.0	6,790.0	12,285.5	7,115.0	147.5	147.9	111.50	112.4	-6,316.6	886.8	612.0	274.83	3.227	
12,100.0	6,790.0	12,385.5	7,115.0	149.9	150.4	111.50	112.6	-6,416.6	886.8	607.4	279.41	3.174	
12,200.0	6,790.0	12,485.5	7,115.0	152.4	152.8	111.50	112.9	-6,516.6	886.8	602.9	283.99	3.123	
12,300.0	6,790.0	12,585.5	7,115.0	154.8	155.3	111.50	113.1	-6,616.6	886.8	598.3	288.57	3.073	
12,400.0	6,790.0	12,685.5	7,115.0	157.3	157.8	111.50	113.4	-6,716.6	886.8	593.7	293.15	3.025	
12,500.0	6,790.0	12,785.5	7,115.0	159.7	160.2	111.50	113.6	-6,816.6	886.8	589.1	297.73	2.979	
12,600.0	6,790.0	12,885.5	7,115.0	162.2	162.7	111.50	113.9	-6,916.6	886.8	584.5	302.31	2.934	
12,700.0	6,790.0	12,985.5	7,115.0	164.6	165.2	111.50	114.1	-7,016.6	886.8	579.9	306.90	2.890	
12,800.0	6,790.0	13,085.5	7,115.0	167.1	167.6	111.50	114.4	-7,116.6	886.8	575.4	311.48	2.847	
12,900.0	6,790.0	13,185.5	7,115.0	169.6	170.1	111.50	114.6	-7,216.6	886.8	570.8	316.07	2.806	
13,000.0	6,790.0	13,285.5	7,115.0	172.0	172.5	111.50	114.9	-7,316.6	886.8	566.2	320.65	2.766	
13,100.0	6,790.0	13,385.5	7,115.0	174.5	175.0	111.50	115.1	-7,416.6	886.8	561.6	325.24	2.727	
13,200.0	6,790.0	13,485.5	7,115.0	176.9	177.5	111.50	115.4	-7,516.6	886.8	557.0	329.83	2.689	
13,300.0	6,790.0	13,585.5	7,115.0	179.4	179.9	111.50	115.6	-7,616.6	886.8	552.4	334.41	2.652	
13,400.0	6,790.0	13,685.5	7,115.0	181.9	182.4	111.50	115.9	-7,716.6	886.8	547.8	339.00	2.616	
13,500.0	6,790.0	13,785.5	7,115.0	184.3	184.9	111.50	116.1	-7,816.6	886.8	543.3	343.59	2.581	
13,600.0	6,790.0	13,885.5	7,115.0	186.8	187.3	111.50	116.4	-7,916.6	886.8	538.7	348.18	2.547	
13,700.0	6,790.0	13,985.5	7,115.0	189.2	189.8	111.50	116.6	-8,016.6	886.8	534.1	352.77	2.514	
13,800.0	6,790.0	14,085.5	7,115.0	191.7	192.3	111.50	116.9	-8,116.6	886.8	529.5	357.36	2.482	
13,900.0	6,790.0	14,185.5	7,115.0	194.2	194.7	111.50	117.1	-8,216.6	886.8	524.9	361.95	2.450	
14,000.0	6,790.0	14,285.5	7,115.0	196.6	197.2	111.50	117.4	-8,316.6	886.8	520.3	366.54	2.419	
14,100.0	6,790.0	14,385.5	7,115.0	199.1	199.7	111.50	117.6	-8,416.6	886.8	515.7	371.13	2.390	
14,200.0	6,790.0	14,485.5	7,115.0	201.5	202.1	111.50	117.9	-8,516.6	886.8	511.1	375.72	2.360	
14,300.0	6,790.0	14,585.5	7,115.0	204.0	204.6	111.50	118.1	-8,616.6	886.8	506.5	380.32	2.332	
14,400.0	6,790.0	14,685.5	7,115.0	206.5	207.1	111.50	118.4	-8,716.6	886.8	501.9	384.91	2.304	
14,500.0	6,790.0	14,785.5	7,115.0	208.9	209.5	111.50	118.6	-8,816.6	886.8	497.3	389.50	2.277	
14,600.0	6,790.0	14,885.5	7,115.0	211.4	212.0	111.50	118.9	-8,916.6	886.8	492.8	394.09	2.250	
14,700.0	6,790.0	14,985.5	7,115.0	213.9	214.5	111.50	119.1	-9,016.6	886.8	488.2	398.69	2.224	
14,800.0	6,790.0	15,085.5	7,115.0	216.3	216.9	111.50	119.4	-9,116.6	886.8	483.6	403.28	2.199	
14,900.0	6,790.0	15,185.5	7,115.0	218.8	219.4	111.50	119.6	-9,216.6	886.8	479.0	407.88	2.174	
15,000.0	6,790.0	15,285.5	7,115.0	221.3	221.9	111.50	119.9	-9,316.6	886.8	474.4	412.47	2.150	
15,100.0	6,790.0	15,385.5	7,115.0	223.7	224.3	111.50	120.1	-9,416.6	886.8	469.8	417.06	2.126	
15,200.0	6,790.0	15,485.5	7,115.0	226.2	226.8	111.50	120.4	-9,516.6	886.8	465.2	421.66	2.103	
15,300.0	6,790.0	15,585.5	7,115.0	228.7	229.3	111.50	120.6	-9,616.6	886.8	460.6	426.25	2.081	
15,400.0	6,790.0	15,685.5	7,115.0	231.1	231.7	111.50	120.9	-9,716.6	886.8	456.0	430.85	2.058	
15,500.0	6,790.0	15,785.5	7,115.0	233.6	234.2	111.50	121.1	-9,816.6	886.8	451.4	435.44	2.037	

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 7
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 7	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-Geolink MWD													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		
15,600.0	6,790.0	15,885.5	7,115.0	236.1	236.7	111.50	121.4	-9,916.6	886.8	446.8	440.04	2.015		
15,700.0	6,790.0	15,985.5	7,115.0	238.5	239.1	111.50	121.6	-10,016.6	886.8	442.2	444.64	1.995		
15,800.0	6,790.0	16,085.5	7,115.0	241.0	241.6	111.50	121.9	-10,116.6	886.8	437.6	449.23	1.974		
15,900.0	6,790.0	16,185.5	7,115.0	243.4	244.1	111.50	122.1	-10,216.6	886.8	433.0	453.83	1.954		
16,000.0	6,790.0	16,285.5	7,115.0	245.9	246.5	111.50	122.4	-10,316.6	886.8	428.4	458.43	1.935		
16,100.0	6,790.0	16,385.5	7,115.0	248.4	249.0	111.50	122.6	-10,416.6	886.8	423.8	463.02	1.915		
16,200.0	6,790.0	16,485.5	7,115.0	250.8	251.5	111.50	122.9	-10,516.6	886.8	419.2	467.62	1.897		
16,300.0	6,790.0	16,585.5	7,115.0	253.3	253.9	111.50	123.1	-10,616.6	886.8	414.6	472.22	1.878		
16,400.0	6,790.0	16,685.5	7,115.0	255.8	256.4	111.50	123.4	-10,716.6	886.8	410.0	476.81	1.860		
16,500.0	6,790.0	16,785.5	7,115.0	258.3	258.9	111.50	123.6	-10,816.6	886.8	405.4	481.41	1.842		
16,600.0	6,790.0	16,885.5	7,115.0	260.7	261.4	111.50	123.9	-10,916.6	886.8	400.8	486.01	1.825		
16,700.0	6,790.0	16,985.5	7,115.0	263.2	263.8	111.50	124.1	-11,016.6	886.8	396.2	490.61	1.808		
16,800.0	6,790.0	17,085.5	7,115.0	265.7	266.3	111.50	124.4	-11,116.6	886.8	391.6	495.21	1.791		
16,900.0	6,790.0	17,185.5	7,115.0	268.1	268.8	111.50	124.6	-11,216.6	886.8	387.0	499.80	1.774		
17,000.0	6,790.0	17,285.5	7,115.0	270.6	271.2	111.50	124.9	-11,316.6	886.8	382.4	504.40	1.758		
17,100.0	6,790.0	17,385.5	7,115.0	273.1	273.7	111.50	125.1	-11,416.6	886.8	377.8	509.00	1.742		
17,200.0	6,790.0	17,485.5	7,115.0	275.5	276.2	111.50	125.4	-11,516.6	886.8	373.2	513.60	1.727		
17,300.0	6,790.0	17,585.5	7,115.0	278.0	278.6	111.50	125.6	-11,616.6	886.8	368.6	518.20	1.711		
17,400.0	6,790.0	17,685.5	7,115.0	280.5	281.1	111.50	125.9	-11,716.6	886.8	364.0	522.80	1.696		
17,423.8	6,790.0	17,709.3	7,115.0	281.1	281.7	111.50	125.9	-11,740.4	886.8	363.0	523.89	1.693 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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: 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	30.90	72.5	43.4	84.5					
100.0	100.0	99.0	99.0	0.1	0.1	30.90	72.5	43.4	84.5	84.2	0.26	320.089		
200.0	200.0	199.0	199.0	0.3	0.3	30.90	72.5	43.4	84.5	83.9	0.61	137.921 CC		
300.0	300.0	299.9	299.9	0.5	0.5	155.06	72.4	42.5	84.8	83.8	0.96	87.922 ES		
400.0	400.0	400.8	400.8	0.7	0.7	154.40	72.1	39.9	85.5	84.2	1.32	64.845		
500.0	499.9	501.7	501.6	0.9	0.9	153.32	71.5	35.5	86.8	85.1	1.68	51.646		
600.0	599.7	602.5	602.2	1.1	1.1	151.87	70.7	29.4	88.7	86.6	2.06	43.150		
700.0	699.4	703.4	702.7	1.3	1.3	150.08	69.8	21.5	91.2	88.7	2.45	37.249		
800.0	798.9	804.1	803.0	1.5	1.5	148.02	68.6	11.8	94.3	91.4	2.86	32.925		
900.0	898.3	904.8	903.0	1.8	1.8	145.76	67.1	0.4	98.1	94.8	3.31	29.625		
1,000.0	997.4	1,005.4	1,002.8	2.0	2.0	143.37	65.5	-12.7	102.7	98.9	3.80	27.028		
1,100.0	1,096.3	1,106.0	1,102.2	2.3	2.3	140.91	63.6	-27.5	108.2	103.8	4.34	24.935		
1,200.0	1,194.9	1,206.4	1,201.3	2.7	2.7	138.44	61.6	-44.1	114.4	109.5	4.93	23.223		
1,300.0	1,293.3	1,306.3	1,299.5	3.0	3.0	136.17	59.4	-61.9	121.6	116.1	5.56	21.890		
1,400.0	1,391.2	1,405.9	1,397.5	3.4	3.4	134.65	57.1	-79.8	130.2	124.0	6.21	20.978		
1,500.0	1,489.0	1,505.4	1,495.3	3.8	3.7	133.69	54.9	-97.7	139.6	132.7	6.87	20.327		
1,600.0	1,586.8	1,605.0	1,593.2	4.2	4.1	132.87	52.7	-115.5	149.0	141.4	7.54	19.767		
1,700.0	1,684.6	1,704.5	1,691.1	4.6	4.4	132.14	50.4	-133.4	158.4	150.2	8.22	19.282		
1,800.0	1,782.3	1,804.0	1,789.0	5.0	4.8	131.49	48.2	-151.3	167.9	159.0	8.90	18.860		
1,900.0	1,880.1	1,903.6	1,886.9	5.4	5.1	130.91	46.0	-169.1	177.4	167.8	9.59	18.490		
2,000.0	1,977.9	2,003.1	1,984.8	5.8	5.5	130.39	43.7	-187.0	186.9	176.6	10.29	18.163		
2,100.0	2,075.6	2,102.6	2,082.7	6.2	5.8	129.93	41.5	-204.9	196.4	185.4	10.99	17.873		
2,200.0	2,173.4	2,202.2	2,180.6	6.6	6.2	129.50	39.3	-222.8	206.0	194.3	11.69	17.615		
2,300.0	2,271.2	2,301.7	2,278.5	7.0	6.6	129.11	37.0	-240.6	215.5	203.1	12.40	17.383		
2,400.0	2,368.9	2,401.2	2,376.4	7.4	6.9	128.76	34.8	-258.5	225.1	212.0	13.10	17.174		
2,500.0	2,466.7	2,500.8	2,474.3	7.8	7.3	128.43	32.6	-276.4	234.6	220.8	13.81	16.984		
2,600.0	2,564.5	2,600.3	2,572.1	8.2	7.6	128.13	30.4	-294.2	244.2	229.7	14.52	16.812		
2,700.0	2,662.2	2,699.8	2,670.0	8.6	8.0	127.86	28.1	-312.1	253.8	238.5	15.24	16.655		
2,800.0	2,760.0	2,799.4	2,767.9	9.0	8.4	127.60	25.9	-330.0	263.3	247.4	15.95	16.510		
2,900.0	2,857.8	2,898.9	2,865.8	9.4	8.7	127.36	23.7	-347.8	272.9	256.3	16.66	16.378		
3,000.0	2,955.5	2,998.4	2,963.7	9.8	9.1	127.14	21.4	-365.7	282.5	265.1	17.38	16.256		
3,100.0	3,053.3	3,098.0	3,061.6	10.2	9.4	126.93	19.2	-383.6	292.1	274.0	18.10	16.142		
3,200.0	3,151.1	3,197.5	3,159.5	10.6	9.8	126.73	17.0	-401.5	301.7	282.9	18.81	16.038		
3,300.0	3,248.8	3,297.0	3,257.4	11.0	10.2	126.55	14.7	-419.3	311.3	291.8	19.53	15.940		
3,400.0	3,346.6	3,396.6	3,355.3	11.5	10.5	126.38	12.5	-437.2	320.9	300.7	20.25	15.849		
3,500.0	3,444.4	3,496.1	3,453.2	11.9	10.9	126.21	10.3	-455.1	330.5	309.6	20.97	15.764		
3,600.0	3,542.1	3,595.6	3,551.1	12.3	11.3	126.06	8.1	-472.9	340.1	318.4	21.69	15.684		
3,700.0	3,639.9	3,695.2	3,648.9	12.7	11.6	125.92	5.8	-490.8	349.7	327.3	22.41	15.610		
3,800.0	3,737.7	3,794.7	3,746.8	13.1	12.0	125.78	3.6	-508.7	359.3	336.2	23.12	15.540		
3,900.0	3,835.4	3,894.2	3,844.7	13.5	12.3	125.65	1.4	-526.5	369.0	345.1	23.85	15.473		
4,000.0	3,933.2	3,993.8	3,942.6	13.9	12.7	125.53	-0.9	-544.4	378.6	354.0	24.57	15.411		
4,100.0	4,031.0	4,093.3	4,040.5	14.3	13.1	125.41	-3.1	-562.3	388.2	362.9	25.29	15.352		
4,200.0	4,128.7	4,192.8	4,138.4	14.7	13.4	125.30	-5.3	-580.1	397.8	371.8	26.01	15.296		
4,300.0	4,226.5	4,292.4	4,236.3	15.1	13.8	125.19	-7.6	-598.0	407.4	380.7	26.73	15.244		
4,400.0	4,324.3	4,391.9	4,334.2	15.6	14.2	125.09	-9.8	-615.9	417.1	389.6	27.45	15.193		
4,500.0	4,422.0	4,491.4	4,432.1	16.0	14.5	124.99	-12.0	-633.8	426.7	398.5	28.17	15.146		
4,600.0	4,519.8	4,591.0	4,530.0	16.4	14.9	124.90	-14.3	-651.6	436.3	407.4	28.89	15.100		
4,700.0	4,617.6	4,690.5	4,627.8	16.8	15.2	124.81	-16.5	-669.5	445.9	416.3	29.62	15.057		
4,800.0	4,715.3	4,790.0	4,725.7	17.2	15.6	124.73	-18.7	-687.4	455.6	425.2	30.34	15.016		
4,900.0	4,813.1	4,889.6	4,823.6	17.6	16.0	124.65	-20.9	-705.2	465.2	434.1	31.06	14.977		
5,000.0	4,910.9	4,989.1	4,921.5	18.0	16.3	124.57	-23.2	-723.1	474.8	443.0	31.78	14.939		
5,100.0	5,008.6	5,088.6	5,019.4	18.4	16.7	124.49	-25.4	-741.0	484.4	451.9	32.51	14.903		

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 7
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 7	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: O-Geolink MWD												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	5,106.4	5,188.2	5,117.3	18.8	17.1	124.42	-27.6	-758.8	494.1	460.8	33.23	14.869	
5,300.0	5,204.2	5,287.7	5,215.2	19.2	17.4	124.35	-29.9	-776.7	503.7	469.8	33.95	14.836	
5,400.0	5,301.9	5,387.2	5,313.1	19.7	17.8	124.29	-32.1	-794.6	513.3	478.7	34.67	14.804	
5,500.0	5,399.7	5,486.8	5,411.0	20.1	18.1	124.22	-34.3	-812.4	523.0	487.6	35.40	14.774	
5,600.0	5,497.5	5,586.3	5,508.9	20.5	18.5	124.16	-36.6	-830.3	532.6	496.5	36.12	14.745	
5,700.0	5,595.2	5,685.8	5,606.8	20.9	18.9	124.10	-38.8	-848.2	542.2	505.4	36.84	14.717	
5,800.0	5,693.0	5,785.4	5,704.6	21.3	19.2	124.04	-41.0	-866.1	551.9	514.3	37.57	14.690	
5,900.0	5,790.8	5,884.9	5,802.5	21.7	19.6	123.99	-43.2	-883.9	561.5	523.2	38.29	14.664	
6,000.0	5,888.5	5,984.4	5,900.4	22.1	20.0	123.93	-45.5	-901.8	571.1	532.1	39.02	14.639	
6,100.0	5,986.3	6,084.0	5,998.3	22.5	20.3	123.88	-47.7	-919.7	580.8	541.0	39.74	14.615	
6,200.0	6,084.1	6,183.5	6,096.2	22.9	20.7	123.83	-49.9	-937.5	590.4	550.0	40.46	14.592	
6,300.0	6,181.8	6,283.0	6,194.1	23.3	21.0	123.78	-52.2	-955.4	600.1	558.9	41.19	14.569	
6,400.0	6,279.6	6,382.4	6,291.7	23.8	21.4	120.82	-54.4	-973.7	609.7	567.7	41.97	14.528	
6,500.0	6,375.1	6,481.0	6,385.9	24.4	22.0	106.94	-56.5	-1,002.5	619.1	575.8	43.34	14.284	
6,600.0	6,465.3	6,579.3	6,474.3	25.1	22.9	100.50	-58.5	-1,045.3	628.0	582.9	45.16	13.906	
6,700.0	6,547.9	6,677.5	6,554.9	26.2	23.9	96.73	-60.2	-1,101.1	636.2	588.8	47.41	13.420	
6,800.0	6,620.9	6,775.4	6,625.9	27.4	25.2	94.25	-61.7	-1,168.5	643.4	593.4	50.06	12.853	
6,900.0	6,682.5	6,873.3	6,685.6	28.8	26.7	92.53	-62.9	-1,245.8	649.5	596.4	53.10	12.232	
7,000.0	6,731.2	6,971.1	6,732.8	30.4	28.5	91.34	-63.8	-1,331.4	654.3	597.8	56.49	11.583	
7,100.0	6,765.8	7,068.9	6,766.3	32.2	30.4	90.58	-64.3	-1,423.2	657.7	597.6	60.18	10.929	
7,200.0	6,785.4	7,166.7	6,785.4	34.1	32.4	90.17	-64.5	-1,519.0	659.7	595.6	64.09	10.292	
7,300.0	6,790.0	7,264.9	6,790.0	36.1	34.5	90.09	-64.4	-1,617.0	660.1	591.9	68.20	9.679	
7,400.0	6,790.0	7,364.9	6,790.0	38.1	36.8	90.09	-64.1	-1,717.0	660.1	587.5	72.63	9.089	
7,500.0	6,790.0	7,464.9	6,790.0	40.2	39.0	90.09	-63.9	-1,817.0	660.1	583.0	77.11	8.560	
7,600.0	6,790.0	7,564.9	6,790.0	42.4	41.3	90.09	-63.6	-1,917.0	660.1	578.5	81.65	8.084	
7,700.0	6,790.0	7,664.9	6,790.0	44.6	43.6	90.09	-63.4	-2,017.0	660.1	573.9	86.24	7.655	
7,800.0	6,790.0	7,764.9	6,790.0	46.8	45.9	90.09	-63.1	-2,117.0	660.1	569.3	90.86	7.265	
7,900.0	6,790.0	7,864.9	6,790.0	49.0	48.2	90.09	-62.9	-2,217.0	660.1	564.6	95.52	6.911	
8,000.0	6,790.0	7,964.9	6,790.0	51.3	50.5	90.09	-62.6	-2,317.0	660.1	559.9	100.20	6.588	
8,100.0	6,790.0	8,064.9	6,790.0	53.5	52.9	90.09	-62.4	-2,417.0	660.1	555.2	104.91	6.292	
8,200.0	6,790.0	8,164.9	6,790.0	55.8	55.2	90.09	-62.1	-2,517.0	660.1	550.5	109.64	6.021	
8,300.0	6,790.0	8,264.9	6,790.0	58.1	57.6	90.09	-61.9	-2,617.0	660.1	545.7	114.39	5.771	
8,400.0	6,790.0	8,364.9	6,790.0	60.4	60.0	90.09	-61.6	-2,717.0	660.1	541.0	119.15	5.540	
8,500.0	6,790.0	8,464.9	6,790.0	62.8	62.4	90.09	-61.4	-2,817.0	660.1	536.2	123.93	5.327	
8,600.0	6,790.0	8,564.9	6,790.0	65.1	64.8	90.09	-61.1	-2,917.0	660.1	531.4	128.72	5.128	
8,700.0	6,790.0	8,664.9	6,790.0	67.5	67.2	90.09	-60.9	-3,017.0	660.1	526.6	133.53	4.944	
8,800.0	6,790.0	8,764.9	6,790.0	69.8	69.6	90.09	-60.6	-3,117.0	660.1	521.8	138.34	4.772	
8,900.0	6,790.0	8,864.9	6,790.0	72.2	72.0	90.09	-60.4	-3,217.0	660.1	517.0	143.16	4.611	
9,000.0	6,790.0	8,964.9	6,790.0	74.6	74.4	90.09	-60.1	-3,317.0	660.1	512.1	147.99	4.460	
9,100.0	6,790.0	9,064.9	6,790.0	77.0	76.8	90.09	-59.9	-3,417.0	660.1	507.3	152.83	4.319	
9,200.0	6,790.0	9,164.9	6,790.0	79.4	79.2	90.09	-59.6	-3,517.0	660.1	502.4	157.68	4.187	
9,300.0	6,790.0	9,264.9	6,790.0	81.8	81.7	90.09	-59.4	-3,617.0	660.1	497.6	162.53	4.062	
9,400.0	6,790.0	9,364.9	6,790.0	84.2	84.1	90.09	-59.1	-3,717.0	660.1	492.7	167.39	3.944	
9,500.0	6,790.0	9,464.9	6,790.0	86.6	86.5	90.09	-58.9	-3,817.0	660.1	487.9	172.25	3.832	
9,600.0	6,790.0	9,564.9	6,790.0	89.0	88.9	90.09	-58.6	-3,917.0	660.1	483.0	177.12	3.727	
9,700.0	6,790.0	9,664.9	6,790.0	91.4	91.4	90.09	-58.4	-4,017.0	660.1	478.1	181.99	3.627	
9,800.0	6,790.0	9,764.9	6,790.0	93.8	93.8	90.09	-58.1	-4,117.0	660.1	473.3	186.86	3.533	
9,900.0	6,790.0	9,864.9	6,790.0	96.2	96.3	90.09	-57.9	-4,217.0	660.1	468.4	191.74	3.443	
10,000.0	6,790.0	9,964.9	6,790.0	98.7	98.7	90.09	-57.6	-4,317.0	660.1	463.5	196.63	3.357	
10,100.0	6,790.0	10,064.9	6,790.0	101.1	101.1	90.09	-57.4	-4,417.0	660.1	458.6	201.51	3.276	
10,200.0	6,790.0	10,164.9	6,790.0	103.5	103.6	90.09	-57.1	-4,517.0	660.1	453.7	206.40	3.198	
10,300.0	6,790.0	10,264.9	6,790.0	105.9	106.0	90.09	-56.9	-4,617.0	660.1	448.8	211.29	3.124	

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 7
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 7	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-Geolink MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	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)	
10,400.0	6,790.0	10,364.9	6,790.0	108.4	108.5	90.09	-56.6	-4,717.0	660.1	443.9	216.19	3.053		
10,500.0	6,790.0	10,464.9	6,790.0	110.8	110.9	90.09	-56.4	-4,817.0	660.1	439.0	221.08	2.986		
10,600.0	6,790.0	10,564.9	6,790.0	113.2	113.4	90.09	-56.1	-4,917.0	660.1	434.1	225.98	2.921		
10,700.0	6,790.0	10,664.9	6,790.0	115.7	115.8	90.09	-55.9	-5,017.0	660.1	429.2	230.89	2.859		
10,800.0	6,790.0	10,764.9	6,790.0	118.1	118.3	90.09	-55.6	-5,117.0	660.1	424.3	235.79	2.800		
10,900.0	6,790.0	10,864.9	6,790.0	120.5	120.7	90.09	-55.4	-5,217.0	660.1	419.4	240.69	2.743		
11,000.0	6,790.0	10,964.9	6,790.0	123.0	123.2	90.09	-55.1	-5,317.0	660.1	414.5	245.60	2.688		
11,100.0	6,790.0	11,064.9	6,790.0	125.4	125.6	90.09	-54.9	-5,417.0	660.1	409.6	250.51	2.635		
11,200.0	6,790.0	11,164.9	6,790.0	127.9	128.1	90.09	-54.6	-5,517.0	660.1	404.7	255.42	2.584		
11,300.0	6,790.0	11,264.9	6,790.0	130.3	130.5	90.09	-54.4	-5,617.0	660.1	399.8	260.33	2.536		
11,400.0	6,790.0	11,364.9	6,790.0	132.8	133.0	90.09	-54.1	-5,717.0	660.1	394.9	265.24	2.489		
11,500.0	6,790.0	11,464.9	6,790.0	135.2	135.5	90.09	-53.9	-5,817.0	660.1	390.0	270.16	2.443		
11,600.0	6,790.0	11,564.9	6,790.0	137.7	137.9	90.09	-53.6	-5,917.0	660.1	385.0	275.07	2.400		
11,700.0	6,790.0	11,664.9	6,790.0	140.1	140.4	90.09	-53.4	-6,017.0	660.1	380.1	279.99	2.358		
11,800.0	6,790.0	11,764.9	6,790.0	142.6	142.8	90.09	-53.1	-6,117.0	660.1	375.2	284.91	2.317		
11,900.0	6,790.0	11,864.9	6,790.0	145.0	145.3	90.09	-52.9	-6,217.0	660.1	370.3	289.83	2.278		
12,000.0	6,790.0	11,964.9	6,790.0	147.5	147.7	90.09	-52.6	-6,317.0	660.1	365.4	294.75	2.240		
12,100.0	6,790.0	12,064.9	6,790.0	149.9	150.2	90.09	-52.4	-6,417.0	660.1	360.5	299.67	2.203		
12,200.0	6,790.0	12,164.9	6,790.0	152.4	152.7	90.09	-52.1	-6,517.0	660.1	355.5	304.59	2.167		
12,300.0	6,790.0	12,264.9	6,790.0	154.8	155.1	90.09	-51.9	-6,617.0	660.1	350.6	309.51	2.133		
12,400.0	6,790.0	12,364.9	6,790.0	157.3	157.6	90.09	-51.6	-6,717.0	660.1	345.7	314.44	2.099		
12,500.0	6,790.0	12,464.9	6,790.0	159.7	160.0	90.09	-51.4	-6,817.0	660.1	340.8	319.36	2.067		
12,600.0	6,790.0	12,564.9	6,790.0	162.2	162.5	90.09	-51.1	-6,917.0	660.1	335.8	324.29	2.036		
12,700.0	6,790.0	12,664.9	6,790.0	164.6	165.0	90.09	-50.9	-7,017.0	660.1	330.9	329.21	2.005		
12,800.0	6,790.0	12,764.9	6,790.0	167.1	167.4	90.09	-50.6	-7,117.0	660.1	326.0	334.14	1.976		
12,900.0	6,790.0	12,864.9	6,790.0	169.6	169.9	90.09	-50.4	-7,217.0	660.1	321.1	339.06	1.947		
13,000.0	6,790.0	12,964.9	6,790.0	172.0	172.4	90.09	-50.1	-7,317.0	660.1	316.1	343.99	1.919		
13,100.0	6,790.0	13,064.9	6,790.0	174.5	174.8	90.09	-49.9	-7,417.0	660.1	311.2	348.92	1.892		
13,200.0	6,790.0	13,164.9	6,790.0	176.9	177.3	90.09	-49.6	-7,517.0	660.1	306.3	353.85	1.866		
13,300.0	6,790.0	13,264.9	6,790.0	179.4	179.8	90.09	-49.4	-7,617.0	660.1	301.3	358.78	1.840		
13,400.0	6,790.0	13,364.9	6,790.0	181.9	182.2	90.09	-49.1	-7,717.0	660.1	296.4	363.71	1.815		
13,500.0	6,790.0	13,464.9	6,790.0	184.3	184.7	90.09	-48.9	-7,817.0	660.1	291.5	368.64	1.791		
13,600.0	6,790.0	13,564.9	6,790.0	186.8	187.2	90.09	-48.6	-7,917.0	660.1	286.5	373.57	1.767		
13,700.0	6,790.0	13,664.9	6,790.0	189.2	189.6	90.09	-48.4	-8,017.0	660.1	281.6	378.50	1.744		
13,800.0	6,790.0	13,764.9	6,790.0	191.7	192.1	90.09	-48.1	-8,117.0	660.1	276.7	383.43	1.722		
13,900.0	6,790.0	13,864.9	6,790.0	194.2	194.5	90.09	-47.9	-8,217.0	660.1	271.8	388.37	1.700		
14,000.0	6,790.0	13,964.9	6,790.0	196.6	197.0	90.09	-47.6	-8,317.0	660.1	266.8	393.30	1.678		
14,100.0	6,790.0	14,064.9	6,790.0	199.1	199.5	90.09	-47.4	-8,417.0	660.1	261.9	398.23	1.658		
14,200.0	6,790.0	14,164.9	6,790.0	201.5	201.9	90.09	-47.1	-8,517.0	660.1	257.0	403.16	1.637		
14,300.0	6,790.0	14,264.9	6,790.0	204.0	204.4	90.09	-46.9	-8,617.0	660.1	252.0	408.10	1.618		
14,400.0	6,790.0	14,364.9	6,790.0	206.5	206.9	90.09	-46.6	-8,717.0	660.1	247.1	413.03	1.598		
14,500.0	6,790.0	14,464.9	6,790.0	208.9	209.3	90.09	-46.4	-8,817.0	660.1	242.2	417.97	1.579		
14,600.0	6,790.0	14,564.9	6,790.0	211.4	211.8	90.09	-46.1	-8,917.0	660.1	237.2	422.90	1.561		
14,700.0	6,790.0	14,664.9	6,790.0	213.9	214.3	90.09	-45.9	-9,017.0	660.1	232.3	427.84	1.543		
14,800.0	6,790.0	14,764.9	6,790.0	216.3	216.7	90.09	-45.6	-9,117.0	660.1	227.3	432.77	1.525		
14,900.0	6,790.0	14,864.9	6,790.0	218.8	219.2	90.09	-45.4	-9,217.0	660.1	222.4	437.71	1.508		
15,000.0	6,790.0	14,964.9	6,790.0	221.3	221.7	90.09	-45.1	-9,317.0	660.1	217.5	442.64	1.491 Level 3		
15,100.0	6,790.0	15,064.9	6,790.0	223.7	224.2	90.09	-44.9	-9,417.0	660.1	212.5	447.58	1.475 Level 3		
15,200.0	6,790.0	15,164.9	6,790.0	226.2	226.6	90.09	-44.6	-9,517.0	660.1	207.6	452.52	1.459 Level 3		
15,300.0	6,790.0	15,264.9	6,790.0	228.7	229.1	90.09	-44.4	-9,617.0	660.1	202.7	457.45	1.443 Level 3		
15,400.0	6,790.0	15,364.9	6,790.0	231.1	231.6	90.09	-44.1	-9,717.0	660.1	197.7	462.39	1.428 Level 3		
15,500.0	6,790.0	15,464.9	6,790.0	233.6	234.0	90.09	-43.9	-9,817.0	660.1	192.8	467.33	1.413 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 7
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 7	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-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			
15,600.0	6,790.0	15,564.9	6,790.0	236.1	236.5	90.09	-43.6	-9,917.0	660.1	187.9	472.27	1.398 Level 3		
15,700.0	6,790.0	15,664.9	6,790.0	238.5	239.0	90.09	-43.4	-10,017.0	660.1	182.9	477.21	1.383 Level 3		
15,800.0	6,790.0	15,764.9	6,790.0	241.0	241.4	90.09	-43.1	-10,117.0	660.1	178.0	482.14	1.369 Level 3		
15,900.0	6,790.0	15,864.9	6,790.0	243.4	243.9	90.09	-42.9	-10,217.0	660.1	173.0	487.08	1.355 Level 3		
16,000.0	6,790.0	15,964.9	6,790.0	245.9	246.4	90.09	-42.6	-10,317.0	660.1	168.1	492.02	1.342 Level 3		
16,100.0	6,790.0	16,064.9	6,790.0	248.4	248.8	90.09	-42.4	-10,417.0	660.1	163.2	496.96	1.328 Level 3		
16,200.0	6,790.0	16,164.9	6,790.0	250.8	251.3	90.09	-42.2	-10,517.0	660.1	158.2	501.90	1.315 Level 3		
16,300.0	6,790.0	16,264.9	6,790.0	253.3	253.8	90.09	-41.9	-10,617.0	660.1	153.3	506.84	1.302 Level 3		
16,400.0	6,790.0	16,364.9	6,790.0	255.8	256.2	90.09	-41.7	-10,717.0	660.1	148.3	511.78	1.290 Level 3		
16,500.0	6,790.0	16,464.9	6,790.0	258.3	258.7	90.09	-41.4	-10,817.0	660.1	143.4	516.72	1.278 Level 3		
16,600.0	6,790.0	16,564.9	6,790.0	260.7	261.2	90.09	-41.2	-10,917.0	660.1	138.5	521.66	1.265 Level 3		
16,700.0	6,790.0	16,664.9	6,790.0	263.2	263.7	90.09	-40.9	-11,017.0	660.1	133.5	526.60	1.254 Level 3		
16,800.0	6,790.0	16,764.9	6,790.0	265.7	266.1	90.09	-40.7	-11,117.0	660.1	128.6	531.54	1.242 Level 2		
16,900.0	6,790.0	16,864.9	6,790.0	268.1	268.6	90.09	-40.4	-11,217.0	660.1	123.6	536.48	1.230 Level 2		
17,000.0	6,790.0	16,964.9	6,790.0	270.6	271.1	90.09	-40.2	-11,317.0	660.1	118.7	541.42	1.219 Level 2		
17,100.0	6,790.0	17,064.9	6,790.0	273.1	273.5	90.09	-39.9	-11,417.0	660.1	113.8	546.36	1.208 Level 2		
17,200.0	6,790.0	17,164.9	6,790.0	275.5	276.0	90.09	-39.7	-11,517.0	660.1	108.8	551.30	1.197 Level 2		
17,300.0	6,790.0	17,264.9	6,790.0	278.0	278.5	90.09	-39.4	-11,617.0	660.1	103.9	556.24	1.187 Level 2		
17,400.0	6,790.0	17,364.9	6,790.0	280.5	280.9	90.09	-39.2	-11,717.0	660.1	98.9	561.18	1.176 Level 2		
17,423.8	6,790.0	17,388.7	6,790.0	281.1	281.5	90.09	-39.1	-11,740.8	660.1	97.8	562.35	1.174 Level 2, SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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-Geolink MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
0.0	0.0	0.0	0.0	0.0	0.0	30.59	48.5	28.6	56.3					
100.0	100.0	100.0	100.0	0.1	0.1	30.59	48.5	28.6	56.3	56.0	0.27	212.174		
200.0	200.0	200.0	200.0	0.3	0.3	30.59	48.5	28.6	56.3	55.7	0.61	91.621 CC		
300.0	300.0	300.8	300.8	0.5	0.5	154.80	48.1	27.8	56.4	55.4	0.97	58.406		
400.0	400.0	401.6	401.5	0.7	0.7	154.30	47.1	25.4	56.7	55.3	1.32	42.964		
500.0	499.9	502.4	502.2	0.9	0.9	153.48	45.4	21.3	57.1	55.4	1.68	34.060		
600.0	599.7	603.1	602.8	1.1	1.1	152.35	43.1	15.5	57.8	55.8	2.04	28.274		
700.0	699.4	703.9	703.2	1.3	1.3	150.94	40.1	8.1	58.7	56.3	2.42	24.212		
800.0	798.9	804.6	803.5	1.5	1.5	149.28	36.4	-0.9	59.8	57.0	2.82	21.196		
900.0	898.3	905.4	903.6	1.8	1.8	147.39	32.1	-11.5	61.3	58.0	3.25	18.859		
1,000.0	997.4	1,006.1	1,003.4	2.0	2.0	145.33	27.1	-23.8	63.0	59.3	3.71	16.986		
1,100.0	1,096.3	1,106.8	1,103.0	2.3	2.3	143.12	21.5	-37.7	65.0	60.8	4.21	15.445		
1,200.0	1,194.9	1,207.5	1,202.3	2.7	2.7	140.82	15.2	-53.2	67.4	62.6	4.76	14.151		
1,300.0	1,293.3	1,308.1	1,301.2	3.0	3.0	138.46	8.2	-70.3	70.1	64.7	5.37	13.052		
1,400.0	1,391.2	1,408.0	1,399.3	3.4	3.4	136.70	1.0	-88.0	73.7	67.7	6.01	12.275		
1,500.0	1,489.0	1,507.9	1,497.3	3.8	3.8	135.69	-6.2	-105.8	78.2	71.5	6.65	11.762		
1,600.0	1,586.8	1,607.8	1,595.4	4.2	4.1	134.79	-13.5	-123.5	82.7	75.4	7.30	11.322		
1,700.0	1,684.6	1,707.7	1,693.4	4.6	4.5	133.99	-20.7	-141.2	87.2	79.2	7.97	10.943		
1,800.0	1,782.3	1,807.6	1,791.4	5.0	4.9	133.26	-27.9	-159.0	91.7	83.1	8.65	10.612		
1,900.0	1,880.1	1,907.5	1,889.5	5.4	5.2	132.61	-35.1	-176.7	96.3	87.0	9.33	10.323		
2,000.0	1,977.9	2,007.4	1,987.5	5.8	5.6	132.01	-42.3	-194.4	100.9	90.8	10.02	10.068		
2,100.0	2,075.6	2,107.3	2,085.6	6.2	6.0	131.47	-49.5	-212.2	105.4	94.7	10.71	9.842		
2,200.0	2,173.4	2,207.2	2,183.6	6.6	6.4	130.97	-56.8	-229.9	110.0	98.6	11.41	9.641		
2,300.0	2,271.2	2,307.1	2,281.6	7.0	6.7	130.51	-64.0	-247.6	114.6	102.5	12.11	9.460		
2,400.0	2,368.9	2,406.9	2,379.7	7.4	7.1	130.08	-71.2	-265.4	119.2	106.4	12.82	9.298		
2,500.0	2,466.7	2,506.8	2,477.7	7.8	7.5	129.69	-78.4	-283.1	123.8	110.3	13.53	9.151		
2,600.0	2,564.5	2,606.7	2,575.8	8.2	7.9	129.33	-85.6	-300.9	128.4	114.1	14.24	9.017		
2,700.0	2,662.2	2,706.6	2,673.8	8.6	8.3	128.99	-92.8	-318.6	133.0	118.0	14.95	8.896		
2,800.0	2,760.0	2,806.5	2,771.8	9.0	8.6	128.67	-100.1	-336.3	137.6	121.9	15.66	8.784		
2,900.0	2,857.8	2,906.4	2,869.9	9.4	9.0	128.37	-107.3	-354.1	142.2	125.8	16.38	8.682		
3,000.0	2,955.5	3,006.3	2,967.9	9.8	9.4	128.10	-114.5	-371.8	146.8	129.7	17.10	8.588		
3,100.0	3,053.3	3,106.2	3,065.9	10.2	9.8	127.84	-121.7	-389.5	151.5	133.7	17.82	8.501		
3,200.0	3,151.1	3,206.1	3,164.0	10.6	10.1	127.59	-128.9	-407.3	156.1	137.6	18.54	8.420		
3,300.0	3,248.8	3,306.0	3,262.0	11.0	10.5	127.36	-136.1	-425.0	160.7	141.5	19.26	8.345		
3,400.0	3,346.6	3,405.9	3,360.1	11.5	10.9	127.14	-143.4	-442.7	165.4	145.4	19.98	8.276		
3,500.0	3,444.4	3,505.7	3,458.1	11.9	11.3	126.94	-150.6	-460.5	170.0	149.3	20.70	8.210		
3,600.0	3,542.1	3,605.6	3,556.1	12.3	11.7	126.74	-157.8	-478.2	174.6	153.2	21.43	8.149		
3,700.0	3,639.9	3,705.5	3,654.2	12.7	12.0	126.56	-165.0	-495.9	179.3	157.1	22.15	8.092		
3,800.0	3,737.7	3,805.4	3,752.2	13.1	12.4	126.38	-172.2	-513.7	183.9	161.0	22.88	8.039		
3,900.0	3,835.4	3,905.3	3,850.3	13.5	12.8	126.21	-179.4	-531.4	188.5	164.9	23.60	7.988		
4,000.0	3,933.2	4,005.2	3,948.3	13.9	13.2	126.05	-186.6	-549.1	193.2	168.9	24.33	7.941		
4,100.0	4,031.0	4,105.1	4,046.3	14.3	13.6	125.90	-193.9	-566.9	197.8	172.8	25.06	7.896		
4,200.0	4,128.7	4,205.0	4,144.4	14.7	13.9	125.76	-201.1	-584.6	202.5	176.7	25.78	7.853		
4,300.0	4,226.5	4,304.9	4,242.4	15.1	14.3	125.62	-208.3	-602.3	207.1	180.6	26.51	7.813		
4,400.0	4,324.3	4,404.8	4,340.4	15.6	14.7	125.49	-215.5	-620.1	211.8	184.5	27.24	7.775		
4,500.0	4,422.0	4,504.7	4,438.5	16.0	15.1	125.36	-222.7	-637.8	216.4	188.5	27.97	7.739		
4,600.0	4,519.8	4,604.5	4,536.5	16.4	15.5	125.24	-229.9	-655.5	221.1	192.4	28.70	7.704		
4,700.0	4,617.6	4,704.4	4,634.6	16.8	15.9	125.12	-237.2	-673.3	225.7	196.3	29.42	7.671		
4,800.0	4,715.3	4,804.3	4,732.6	17.2	16.2	125.01	-244.4	-691.0	230.4	200.2	30.15	7.640		
4,900.0	4,813.1	4,904.2	4,830.6	17.6	16.6	124.91	-251.6	-708.7	235.0	204.1	30.88	7.610		
5,000.0	4,910.9	5,004.1	4,928.7	18.0	17.0	124.80	-258.8	-726.5	239.7	208.1	31.61	7.582		
5,100.0	5,008.6	5,104.0	5,026.7	18.4	17.4	124.70	-266.0	-744.2	244.3	212.0	32.34	7.555		

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 7
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 7	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-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	5,106.4	5,203.9	5,124.8	18.8	17.8	124.61	-273.2	-761.9	249.0	215.9	33.07	7.529		
5,300.0	5,204.2	5,303.8	5,222.8	19.2	18.1	124.52	-280.5	-779.7	253.7	219.8	33.80	7.504		
5,400.0	5,301.9	5,403.7	5,320.8	19.7	18.5	124.43	-287.7	-797.4	258.3	223.8	34.53	7.480		
5,500.0	5,399.7	5,503.6	5,418.9	20.1	18.9	124.34	-294.9	-815.2	263.0	227.7	35.26	7.457		
5,600.0	5,497.5	5,603.4	5,516.9	20.5	19.3	124.26	-302.1	-832.9	267.6	231.6	35.99	7.435		
5,700.0	5,595.2	5,703.3	5,615.0	20.9	19.7	124.18	-309.3	-850.6	272.3	235.6	36.73	7.414		
5,800.0	5,693.0	5,803.2	5,713.0	21.3	20.0	124.10	-316.5	-868.4	276.9	239.5	37.46	7.393		
5,900.0	5,790.8	5,903.1	5,811.0	21.7	20.4	124.03	-323.8	-886.1	281.6	243.4	38.19	7.374		
6,000.0	5,888.5	6,003.0	5,909.1	22.1	20.8	123.96	-331.0	-903.8	286.3	247.3	38.92	7.355		
6,100.0	5,986.3	6,102.9	6,007.1	22.5	21.2	123.89	-338.2	-921.6	290.9	251.3	39.65	7.337		
6,200.0	6,084.1	6,202.8	6,105.1	22.9	21.6	123.82	-345.4	-939.3	295.6	255.2	40.38	7.319		
6,300.0	6,181.8	6,302.7	6,203.2	23.3	21.9	123.76	-352.6	-957.0	300.2	259.1	41.11	7.302		
6,400.0	6,279.6	6,402.3	6,300.8	23.8	22.4	120.71	-359.8	-975.6	304.9	263.0	41.93	7.271		
6,500.0	6,375.1	6,500.9	6,394.4	24.4	23.0	106.82	-366.7	-1,005.6	309.6	266.2	43.40	7.133		
6,600.0	6,465.3	6,599.0	6,481.8	25.1	23.8	100.38	-373.0	-1,049.4	314.0	268.7	45.29	6.933		
6,700.0	6,547.9	6,696.7	6,561.1	26.2	24.9	96.61	-378.8	-1,105.9	318.0	270.5	47.57	6.685		
6,800.0	6,620.9	6,793.9	6,630.7	27.4	26.1	94.13	-383.7	-1,173.5	321.6	271.4	50.23	6.403		
6,900.0	6,682.5	6,890.8	6,689.0	28.8	27.6	92.42	-387.9	-1,250.7	324.7	271.5	53.24	6.099		
7,000.0	6,731.2	6,987.5	6,734.8	30.4	29.3	91.24	-391.0	-1,335.7	327.1	270.6	56.57	5.783		
7,100.0	6,765.8	7,084.0	6,767.2	32.2	31.1	90.48	-393.2	-1,426.4	328.9	268.7	60.16	5.466		
7,200.0	6,785.4	7,180.3	6,785.6	34.1	33.1	90.08	-394.3	-1,520.9	329.8	265.9	63.95	5.157		
7,300.0	6,790.0	7,277.5	6,790.0	36.1	35.1	90.00	-394.4	-1,617.9	330.1	262.1	67.96	4.857		
7,400.0	6,790.0	7,377.5	6,790.0	38.1	37.3	90.00	-394.2	-1,717.9	330.1	257.7	72.38	4.560		
7,500.0	6,790.0	7,477.5	6,790.0	40.2	39.4	90.00	-393.9	-1,817.9	330.1	253.2	76.87	4.294		
7,600.0	6,790.0	7,577.5	6,790.0	42.4	41.7	90.00	-393.7	-1,917.9	330.1	248.7	81.41	4.054		
7,700.0	6,790.0	7,677.5	6,790.0	44.6	43.9	90.00	-393.4	-2,017.9	330.1	244.1	85.99	3.838		
7,800.0	6,790.0	7,777.5	6,790.0	46.8	46.2	90.00	-393.2	-2,117.9	330.1	239.4	90.62	3.642		
7,900.0	6,790.0	7,877.5	6,790.0	49.0	48.5	90.00	-392.9	-2,217.9	330.1	234.8	95.27	3.464		
8,000.0	6,790.0	7,977.5	6,790.0	51.3	50.8	90.00	-392.7	-2,317.9	330.1	230.1	99.96	3.302		
8,100.0	6,790.0	8,077.5	6,790.0	53.5	53.1	90.00	-392.4	-2,417.9	330.1	225.4	104.67	3.153		
8,200.0	6,790.0	8,177.5	6,790.0	55.8	55.5	90.00	-392.2	-2,517.9	330.1	220.7	109.39	3.017		
8,300.0	6,790.0	8,277.5	6,790.0	58.1	57.8	90.00	-391.9	-2,617.9	330.1	215.9	114.14	2.892		
8,400.0	6,790.0	8,377.5	6,790.0	60.4	60.2	90.00	-391.7	-2,717.9	330.1	211.2	118.91	2.776		
8,500.0	6,790.0	8,477.5	6,790.0	62.8	62.5	90.00	-391.4	-2,817.9	330.1	206.4	123.69	2.669		
8,600.0	6,790.0	8,577.5	6,790.0	65.1	64.9	90.00	-391.2	-2,917.9	330.1	201.6	128.48	2.569		
8,700.0	6,790.0	8,677.5	6,790.0	67.5	67.3	90.00	-390.9	-3,017.9	330.1	196.8	133.28	2.476		
8,800.0	6,790.0	8,777.5	6,790.0	69.8	69.7	90.00	-390.7	-3,117.9	330.1	192.0	138.10	2.390		
8,900.0	6,790.0	8,877.5	6,790.0	72.2	72.1	90.00	-390.4	-3,217.9	330.1	187.1	142.92	2.309		
9,000.0	6,790.0	8,977.5	6,790.0	74.6	74.5	90.00	-390.2	-3,317.9	330.1	182.3	147.75	2.234		
9,100.0	6,790.0	9,077.5	6,790.0	77.0	76.9	90.00	-389.9	-3,417.9	330.1	177.5	152.59	2.163		
9,200.0	6,790.0	9,177.5	6,790.0	79.4	79.3	90.00	-389.7	-3,517.9	330.1	172.6	157.43	2.096		
9,300.0	6,790.0	9,277.5	6,790.0	81.8	81.7	90.00	-389.4	-3,617.9	330.1	167.8	162.29	2.034		
9,400.0	6,790.0	9,377.5	6,790.0	84.2	84.1	90.00	-389.2	-3,717.9	330.1	162.9	167.14	1.975		
9,500.0	6,790.0	9,477.5	6,790.0	86.6	86.5	90.00	-388.9	-3,817.9	330.1	158.1	172.01	1.919		
9,600.0	6,790.0	9,577.5	6,790.0	89.0	89.0	90.00	-388.7	-3,917.9	330.1	153.2	176.87	1.866		
9,700.0	6,790.0	9,677.5	6,790.0	91.4	91.4	90.00	-388.4	-4,017.9	330.1	148.3	181.75	1.816		
9,800.0	6,790.0	9,777.5	6,790.0	93.8	93.8	90.00	-388.2	-4,117.9	330.1	143.4	186.62	1.769		
9,900.0	6,790.0	9,877.5	6,790.0	96.2	96.3	90.00	-387.9	-4,217.9	330.1	138.6	191.50	1.724		
10,000.0	6,790.0	9,977.5	6,790.0	98.7	98.7	90.00	-387.7	-4,317.9	330.1	133.7	196.39	1.681		
10,100.0	6,790.0	10,077.5	6,790.0	101.1	101.1	90.00	-387.4	-4,417.9	330.1	128.8	201.27	1.640		
10,200.0	6,790.0	10,177.5	6,790.0	103.5	103.6	90.00	-387.2	-4,517.9	330.1	123.9	206.16	1.601		
10,300.0	6,790.0	10,277.5	6,790.0	105.9	106.0	90.00	-386.9	-4,617.9	330.1	119.0	211.05	1.564		

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 7
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 7	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-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	10,377.5	6,790.0	108.4	108.4	90.00	-386.7	-4,717.9	330.1	114.1	215.95	1.528		
10,500.0	6,790.0	10,477.5	6,790.0	110.8	110.9	90.00	-386.4	-4,817.9	330.1	109.2	220.84	1.495 Level 3		
10,600.0	6,790.0	10,577.5	6,790.0	113.2	113.3	90.00	-386.2	-4,917.9	330.1	104.3	225.74	1.462 Level 3		
10,700.0	6,790.0	10,677.5	6,790.0	115.7	115.8	90.00	-385.9	-5,017.9	330.1	99.4	230.65	1.431 Level 3		
10,800.0	6,790.0	10,777.5	6,790.0	118.1	118.2	90.00	-385.7	-5,117.9	330.1	94.5	235.55	1.401 Level 3		
10,900.0	6,790.0	10,877.5	6,790.0	120.5	120.7	90.00	-385.4	-5,217.9	330.1	89.6	240.45	1.373 Level 3		
11,000.0	6,790.0	10,977.5	6,790.0	123.0	123.1	90.00	-385.2	-5,317.9	330.1	84.7	245.36	1.345 Level 3		
11,100.0	6,790.0	11,077.5	6,790.0	125.4	125.6	90.00	-384.9	-5,417.9	330.1	79.8	250.27	1.319 Level 3		
11,200.0	6,790.0	11,177.5	6,790.0	127.9	128.0	90.00	-384.7	-5,517.9	330.1	74.9	255.18	1.293 Level 3		
11,300.0	6,790.0	11,277.5	6,790.0	130.3	130.5	90.00	-384.4	-5,617.9	330.1	70.0	260.09	1.269 Level 3		
11,400.0	6,790.0	11,377.5	6,790.0	132.8	132.9	90.00	-384.2	-5,717.9	330.1	65.1	265.01	1.245 Level 2		
11,500.0	6,790.0	11,477.5	6,790.0	135.2	135.4	90.00	-383.9	-5,817.9	330.1	60.1	269.92	1.223 Level 2		
11,600.0	6,790.0	11,577.5	6,790.0	137.7	137.8	90.00	-383.7	-5,917.9	330.1	55.2	274.84	1.201 Level 2		
11,700.0	6,790.0	11,677.5	6,790.0	140.1	140.3	90.00	-383.4	-6,017.9	330.1	50.3	279.75	1.180 Level 2		
11,800.0	6,790.0	11,777.5	6,790.0	142.6	142.7	90.00	-383.2	-6,117.8	330.1	45.4	284.67	1.159 Level 2		
11,900.0	6,790.0	11,877.5	6,790.0	145.0	145.2	90.00	-382.9	-6,217.8	330.1	40.5	289.59	1.140 Level 2		
12,000.0	6,790.0	11,977.5	6,790.0	147.5	147.7	90.00	-382.7	-6,317.8	330.1	35.5	294.51	1.121 Level 2		
12,100.0	6,790.0	12,077.5	6,790.0	149.9	150.1	90.00	-382.4	-6,417.8	330.1	30.6	299.43	1.102 Level 2		
12,200.0	6,790.0	12,177.5	6,790.0	152.4	152.6	90.00	-382.2	-6,517.8	330.1	25.7	304.35	1.084 Level 2		
12,300.0	6,790.0	12,277.5	6,790.0	154.8	155.0	90.00	-381.9	-6,617.8	330.1	20.8	309.28	1.067 Level 2		
12,400.0	6,790.0	12,377.5	6,790.0	157.3	157.5	90.00	-381.7	-6,717.8	330.1	15.9	314.20	1.050 Level 2		
12,500.0	6,790.0	12,477.5	6,790.0	159.7	160.0	90.00	-381.4	-6,817.8	330.1	10.9	319.12	1.034 Level 2		
12,600.0	6,790.0	12,577.5	6,790.0	162.2	162.4	90.00	-381.2	-6,917.8	330.1	6.0	324.05	1.019 Level 2		
12,700.0	6,790.0	12,677.5	6,790.0	164.6	164.9	90.00	-380.9	-7,017.8	330.1	1.1	328.97	1.003 Level 2		
12,800.0	6,790.0	12,777.5	6,790.0	167.1	167.3	90.00	-380.7	-7,117.8	330.1	-3.8	333.90	0.988 Level 1		
12,900.0	6,790.0	12,877.5	6,790.0	169.6	169.8	90.00	-380.4	-7,217.8	330.1	-8.8	338.83	0.974 Level 1		
13,000.0	6,790.0	12,977.5	6,790.0	172.0	172.3	90.00	-380.2	-7,317.8	330.1	-13.7	343.76	0.960 Level 1		
13,100.0	6,790.0	13,077.5	6,790.0	174.5	174.7	90.00	-379.9	-7,417.8	330.1	-18.6	348.68	0.947 Level 1		
13,200.0	6,790.0	13,177.5	6,790.0	176.9	177.2	90.00	-379.7	-7,517.8	330.1	-23.6	353.61	0.933 Level 1		
13,300.0	6,790.0	13,277.5	6,790.0	179.4	179.6	90.00	-379.4	-7,617.8	330.1	-28.5	358.54	0.921 Level 1		
13,400.0	6,790.0	13,377.5	6,790.0	181.9	182.1	90.00	-379.2	-7,717.8	330.1	-33.4	363.47	0.908 Level 1		
13,500.0	6,790.0	13,477.5	6,790.0	184.3	184.6	90.00	-378.9	-7,817.8	330.1	-38.3	368.40	0.896 Level 1		
13,600.0	6,790.0	13,577.5	6,790.0	186.8	187.0	90.00	-378.7	-7,917.8	330.1	-43.3	373.33	0.884 Level 1		
13,700.0	6,790.0	13,677.5	6,790.0	189.2	189.5	90.00	-378.5	-8,017.8	330.1	-48.2	378.26	0.873 Level 1		
13,800.0	6,790.0	13,777.5	6,790.0	191.7	192.0	90.00	-378.2	-8,117.8	330.1	-53.1	383.20	0.861 Level 1		
13,900.0	6,790.0	13,877.5	6,790.0	194.2	194.4	90.00	-378.0	-8,217.8	330.1	-58.1	388.13	0.850 Level 1		
14,000.0	6,790.0	13,977.5	6,790.0	196.6	196.9	90.00	-377.7	-8,317.8	330.1	-63.0	393.06	0.840 Level 1		
14,100.0	6,790.0	14,077.5	6,790.0	199.1	199.4	90.00	-377.5	-8,417.8	330.1	-67.9	397.99	0.829 Level 1		
14,200.0	6,790.0	14,177.5	6,790.0	201.5	201.8	90.00	-377.2	-8,517.8	330.1	-72.9	402.93	0.819 Level 1		
14,300.0	6,790.0	14,277.5	6,790.0	204.0	204.3	90.00	-377.0	-8,617.8	330.1	-77.8	407.86	0.809 Level 1		
14,400.0	6,790.0	14,377.5	6,790.0	206.5	206.7	90.00	-376.7	-8,717.8	330.1	-82.7	412.80	0.800 Level 1		
14,500.0	6,790.0	14,477.5	6,790.0	208.9	209.2	90.00	-376.5	-8,817.8	330.1	-87.7	417.73	0.790 Level 1		
14,600.0	6,790.0	14,577.5	6,790.0	211.4	211.7	90.00	-376.2	-8,917.8	330.1	-92.6	422.67	0.781 Level 1		
14,700.0	6,790.0	14,677.5	6,790.0	213.9	214.1	90.00	-376.0	-9,017.8	330.1	-97.5	427.60	0.772 Level 1		
14,800.0	6,790.0	14,777.5	6,790.0	216.3	216.6	90.00	-375.7	-9,117.8	330.1	-102.5	432.54	0.763 Level 1		
14,900.0	6,790.0	14,877.5	6,790.0	218.8	219.1	90.00	-375.5	-9,217.8	330.1	-107.4	437.47	0.754 Level 1		
15,000.0	6,790.0	14,977.5	6,790.0	221.3	221.5	90.00	-375.2	-9,317.8	330.1	-112.3	442.41	0.746 Level 1		
15,100.0	6,790.0	15,077.5	6,790.0	223.7	224.0	90.00	-375.0	-9,417.8	330.1	-117.3	447.35	0.738 Level 1		
15,200.0	6,790.0	15,177.5	6,790.0	226.2	226.5	90.00	-374.7	-9,517.8	330.1	-122.2	452.28	0.730 Level 1		
15,300.0	6,790.0	15,277.5	6,790.0	228.7	228.9	90.00	-374.5	-9,617.8	330.1	-127.2	457.22	0.722 Level 1		
15,400.0	6,790.0	15,377.5	6,790.0	231.1	231.4	90.00	-374.2	-9,717.8	330.1	-132.1	462.16	0.714 Level 1		
15,500.0	6,790.0	15,477.5	6,790.0	233.6	233.9	90.00	-374.0	-9,817.8	330.1	-137.0	467.09	0.707 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 7
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 7	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-Geolink MWD													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
15,600.0	6,790.0	15,577.5	6,790.0	236.1	236.4	90.00	-373.7	-9,917.8	330.1	-142.0	472.03	0.699	Level 1
15,700.0	6,790.0	15,677.5	6,790.0	238.5	238.8	90.00	-373.5	-10,017.8	330.1	-146.9	476.97	0.692	Level 1
15,800.0	6,790.0	15,777.5	6,790.0	241.0	241.3	90.00	-373.2	-10,117.8	330.1	-151.8	481.91	0.685	Level 1
15,900.0	6,790.0	15,877.5	6,790.0	243.4	243.8	90.00	-373.0	-10,217.8	330.1	-156.8	486.85	0.678	Level 1
16,000.0	6,790.0	15,977.5	6,790.0	245.9	246.2	90.00	-372.7	-10,317.8	330.1	-161.7	491.78	0.671	Level 1
16,100.0	6,790.0	16,077.5	6,790.0	248.4	248.7	90.00	-372.5	-10,417.8	330.1	-166.7	496.72	0.664	Level 1
16,200.0	6,790.0	16,177.5	6,790.0	250.8	251.2	90.00	-372.2	-10,517.8	330.1	-171.6	501.66	0.658	Level 1
16,300.0	6,790.0	16,277.5	6,790.0	253.3	253.6	90.00	-372.0	-10,617.8	330.1	-176.5	506.60	0.652	Level 1
16,400.0	6,790.0	16,377.5	6,790.0	255.8	256.1	90.00	-371.7	-10,717.8	330.1	-181.5	511.54	0.645	Level 1
16,500.0	6,790.0	16,477.5	6,790.0	258.3	258.6	90.00	-371.5	-10,817.8	330.1	-186.4	516.48	0.639	Level 1
16,600.0	6,790.0	16,577.5	6,790.0	260.7	261.0	90.00	-371.2	-10,917.8	330.1	-191.4	521.42	0.633	Level 1
16,700.0	6,790.0	16,677.5	6,790.0	263.2	263.5	90.00	-371.0	-11,017.8	330.1	-196.3	526.36	0.627	Level 1
16,800.0	6,790.0	16,777.5	6,790.0	265.7	266.0	90.00	-370.7	-11,117.8	330.1	-201.2	531.30	0.621	Level 1
16,900.0	6,790.0	16,877.5	6,790.0	268.1	268.4	90.00	-370.5	-11,217.8	330.1	-206.2	536.24	0.616	Level 1
17,000.0	6,790.0	16,977.5	6,790.0	270.6	270.9	90.00	-370.2	-11,317.8	330.1	-211.1	541.18	0.610	Level 1
17,100.0	6,790.0	17,077.5	6,790.0	273.1	273.4	90.00	-370.0	-11,417.8	330.1	-216.1	546.12	0.604	Level 1
17,200.0	6,790.0	17,177.5	6,790.0	275.5	275.9	90.00	-369.7	-11,517.8	330.1	-221.0	551.06	0.599	Level 1
17,300.0	6,790.0	17,277.5	6,790.0	278.0	278.3	90.00	-369.5	-11,617.8	330.1	-225.9	556.00	0.594	Level 1
17,400.0	6,790.0	17,377.5	6,790.0	280.5	280.8	90.00	-369.2	-11,717.8	330.1	-230.9	560.94	0.588	Level 1
17,423.8	6,790.0	17,401.3	6,790.0	281.1	281.4	90.00	-369.2	-11,741.6	330.1	-232.1	562.12	0.587	Level 1, ES, SF

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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: 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	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	30.65	24.4	14.5	28.4					
100.0	100.0	100.0	100.0	0.1	0.1	30.65	24.4	14.5	28.4	28.1	0.27	106.945		
200.0	200.0	200.0	200.0	0.3	0.3	30.65	24.4	14.5	28.4	27.8	0.61	46.181 CC		
300.0	300.0	300.4	300.4	0.5	0.5	154.87	24.0	13.7	28.4	27.4	0.96	29.453		
400.0	400.0	400.9	400.8	0.7	0.7	154.39	22.7	11.4	28.5	27.2	1.32	21.663		
500.0	499.9	501.3	501.1	0.9	0.9	153.60	20.6	7.5	28.7	27.0	1.67	17.166		
600.0	599.7	601.7	601.4	1.1	1.1	152.52	17.7	2.1	29.0	27.0	2.04	14.241 ES		
700.0	699.4	702.1	701.5	1.3	1.3	151.16	13.9	-4.8	29.4	27.0	2.41	12.185		
800.0	798.9	802.5	801.4	1.5	1.5	149.54	9.2	-13.3	29.9	27.1	2.80	10.657		
900.0	898.3	903.0	901.2	1.8	1.8	147.70	3.8	-23.3	30.5	27.2	3.22	9.471		
1,000.0	997.4	1,003.4	1,000.7	2.0	2.0	145.67	-2.6	-34.9	31.2	27.5	3.66	8.518		
1,100.0	1,096.3	1,103.8	1,100.0	2.3	2.3	143.48	-9.7	-48.0	32.0	27.9	4.14	7.732		
1,200.0	1,194.9	1,204.2	1,199.0	2.7	2.7	141.18	-17.7	-62.6	33.1	28.4	4.68	7.069		
1,300.0	1,293.3	1,304.5	1,297.7	3.0	3.0	138.84	-26.5	-78.6	34.3	29.0	5.26	6.511		
1,400.0	1,391.2	1,404.5	1,395.9	3.4	3.4	137.89	-35.5	-95.1	36.4	30.6	5.85	6.228		
1,500.0	1,489.0	1,504.4	1,494.0	3.8	3.7	138.13	-44.5	-111.6	39.4	33.0	6.41	6.146		
1,600.0	1,586.8	1,604.4	1,592.2	4.2	4.1	138.36	-53.5	-128.1	42.4	35.4	6.98	6.075		
1,700.0	1,684.6	1,704.3	1,690.4	4.6	4.5	138.55	-62.5	-144.6	45.4	37.9	7.55	6.013		
1,800.0	1,782.3	1,804.3	1,788.5	5.0	4.8	138.72	-71.6	-161.1	48.4	40.3	8.12	5.959		
1,900.0	1,880.1	1,904.2	1,886.7	5.4	5.2	138.87	-80.6	-177.6	51.4	42.7	8.70	5.910		
2,000.0	1,977.9	2,004.2	1,984.9	5.8	5.6	139.00	-89.6	-194.1	54.4	45.1	9.27	5.866		
2,100.0	2,075.6	2,104.2	2,083.1	6.2	5.9	139.12	-98.6	-210.6	57.4	47.5	9.85	5.827		
2,200.0	2,173.4	2,204.1	2,181.2	6.6	6.3	139.23	-107.6	-227.1	60.4	50.0	10.42	5.792		
2,300.0	2,271.2	2,304.1	2,279.4	7.0	6.7	139.32	-116.7	-243.6	63.4	52.4	11.00	5.760		
2,400.0	2,368.9	2,404.0	2,377.6	7.4	7.0	139.41	-125.7	-260.1	66.4	54.8	11.58	5.732		
2,500.0	2,466.7	2,504.0	2,475.7	7.8	7.4	139.49	-134.7	-276.6	69.4	57.2	12.16	5.705		
2,600.0	2,564.5	2,603.9	2,573.9	8.2	7.8	139.57	-143.7	-293.1	72.4	59.6	12.74	5.681		
2,700.0	2,662.2	2,703.9	2,672.1	8.6	8.2	139.64	-152.7	-309.6	75.3	62.0	13.31	5.659		
2,800.0	2,760.0	2,803.8	2,770.2	9.0	8.5	139.70	-161.7	-326.1	78.3	64.5	13.89	5.639		
2,900.0	2,857.8	2,903.8	2,868.4	9.4	8.9	139.76	-170.8	-342.6	81.3	66.9	14.47	5.620		
3,000.0	2,955.5	3,003.7	2,966.6	9.8	9.3	139.81	-179.8	-359.1	84.3	69.3	15.05	5.602		
3,100.0	3,053.3	3,103.7	3,064.8	10.2	9.6	139.86	-188.8	-375.6	87.3	71.7	15.63	5.586		
3,200.0	3,151.1	3,203.7	3,162.9	10.6	10.0	139.91	-197.8	-392.1	90.3	74.1	16.21	5.571		
3,300.0	3,248.8	3,303.6	3,261.1	11.0	10.4	139.95	-206.8	-408.6	93.3	76.5	16.79	5.557		
3,400.0	3,346.6	3,403.6	3,359.3	11.5	10.8	139.99	-215.9	-425.1	96.3	78.9	17.38	5.543		
3,500.0	3,444.4	3,503.5	3,457.4	11.9	11.1	140.03	-224.9	-441.6	99.3	81.4	17.96	5.531		
3,600.0	3,542.1	3,603.5	3,555.6	12.3	11.5	140.07	-233.9	-458.1	102.3	83.8	18.54	5.519		
3,700.0	3,639.9	3,703.4	3,653.8	12.7	11.9	140.10	-242.9	-474.6	105.3	86.2	19.12	5.508		
3,800.0	3,737.7	3,803.4	3,752.0	13.1	12.3	140.14	-251.9	-491.1	108.3	88.6	19.70	5.498		
3,900.0	3,835.4	3,903.3	3,850.1	13.5	12.6	140.17	-260.9	-507.6	111.3	91.0	20.28	5.488		
4,000.0	3,933.2	4,003.3	3,948.3	13.9	13.0	140.20	-270.0	-524.1	114.3	93.4	20.86	5.479		
4,100.0	4,031.0	4,103.3	4,046.5	14.3	13.4	140.22	-279.0	-540.6	117.3	95.8	21.44	5.470		
4,200.0	4,128.7	4,203.2	4,144.6	14.7	13.8	140.25	-288.0	-557.1	120.3	98.3	22.02	5.462		
4,300.0	4,226.5	4,303.2	4,242.8	15.1	14.1	140.28	-297.0	-573.6	123.3	100.7	22.60	5.454		
4,400.0	4,324.3	4,403.1	4,341.0	15.6	14.5	140.30	-306.0	-590.1	126.3	103.1	23.19	5.446		
4,500.0	4,422.0	4,503.1	4,439.1	16.0	14.9	140.32	-315.1	-606.6	129.3	105.5	23.77	5.439		
4,600.0	4,519.8	4,603.0	4,537.3	16.4	15.3	140.34	-324.1	-623.1	132.3	107.9	24.35	5.432		
4,700.0	4,617.6	4,703.0	4,635.5	16.8	15.6	140.36	-333.1	-639.6	135.3	110.3	24.93	5.426		
4,800.0	4,715.3	4,802.9	4,733.7	17.2	16.0	140.38	-342.1	-656.1	138.3	112.8	25.51	5.420		
4,900.0	4,813.1	4,902.9	4,831.8	17.6	16.4	140.40	-351.1	-672.6	141.3	115.2	26.09	5.414		
5,000.0	4,910.9	5,002.8	4,930.0	18.0	16.8	140.42	-360.1	-689.1	144.3	117.6	26.67	5.408		
5,100.0	5,008.6	5,102.8	5,028.2	18.4	17.1	140.44	-369.2	-705.6	147.3	120.0	27.26	5.403		

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 7
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 7	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-Geolink MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	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)	
5,200.0	5,106.4	5,202.8	5,126.3	18.8	17.5	140.46	-378.2	-722.1	150.2	122.4	27.84	5.397		
5,300.0	5,204.2	5,302.7	5,224.5	19.2	17.9	140.47	-387.2	-738.6	153.2	124.8	28.42	5.392		
5,400.0	5,301.9	5,402.7	5,322.7	19.7	18.3	140.49	-396.2	-755.1	156.2	127.2	29.00	5.388		
5,500.0	5,399.7	5,502.6	5,420.9	20.1	18.6	140.50	-405.2	-771.6	159.2	129.7	29.58	5.383		
5,600.0	5,497.5	5,602.6	5,519.0	20.5	19.0	140.52	-414.3	-788.1	162.2	132.1	30.16	5.378		
5,700.0	5,595.2	5,702.5	5,617.2	20.9	19.4	140.53	-423.3	-804.6	165.2	134.5	30.74	5.374		
5,800.0	5,693.0	5,802.5	5,715.4	21.3	19.8	140.54	-432.3	-821.1	168.2	136.9	31.33	5.370		
5,900.0	5,790.8	5,902.4	5,813.5	21.7	20.1	140.56	-441.3	-837.6	171.2	139.3	31.91	5.366		
6,000.0	5,888.5	6,002.4	5,911.7	22.1	20.5	140.57	-450.3	-854.1	174.2	141.7	32.49	5.362		
6,100.0	5,986.3	6,102.4	6,009.9	22.5	20.9	140.58	-459.3	-870.6	177.2	144.1	33.07	5.358		
6,200.0	6,084.1	6,202.3	6,108.0	22.9	21.3	140.59	-468.4	-887.1	180.2	146.6	33.65	5.355		
6,300.0	6,181.8	6,302.3	6,206.2	23.3	21.6	140.60	-477.4	-903.6	183.2	149.0	34.24	5.351		
6,400.0	6,279.6	6,402.2	6,304.4	23.8	22.0	137.84	-486.4	-920.1	186.2	151.4	34.82	5.349		
6,500.0	6,375.1	6,501.5	6,401.9	24.4	22.4	127.32	-495.4	-936.5	192.1	157.4	34.67	5.540		
6,600.0	6,465.3	6,597.9	6,496.6	25.1	22.7	127.37	-504.1	-952.4	204.3	170.9	33.38	6.120		
6,700.0	6,547.9	6,689.2	6,586.3	26.2	23.1	131.38	-512.3	-967.5	226.8	195.2	31.56	7.185		
6,800.0	6,620.9	6,805.3	6,697.9	27.4	23.7	137.92	-522.5	-997.1	257.7	228.4	29.30	8.795		
6,900.0	6,682.5	6,935.8	6,814.6	28.8	24.8	143.37	-533.1	-1,053.9	290.3	262.3	27.98	10.375		
7,000.0	6,731.2	7,083.6	6,929.7	30.4	26.5	147.69	-543.5	-1,145.6	320.8	293.1	27.60	11.620		
7,100.0	6,765.8	7,250.6	7,030.5	32.2	28.9	150.81	-552.5	-1,277.8	345.4	317.0	28.43	12.147		
7,200.0	6,785.4	7,434.5	7,097.8	34.1	32.2	152.64	-558.3	-1,448.1	360.7	329.8	30.91	11.669		
7,300.0	6,790.0	7,606.0	7,115.0	36.1	35.7	153.08	-559.5	-1,618.3	364.5	329.9	34.62	10.530		
7,400.0	6,790.0	7,706.0	7,115.0	38.1	37.7	153.08	-559.2	-1,718.3	364.5	327.9	36.60	9.958		
7,500.0	6,790.0	7,806.0	7,115.0	40.2	39.9	153.08	-559.0	-1,818.3	364.5	325.9	38.62	9.437		
7,600.0	6,790.0	7,906.0	7,115.0	42.4	42.1	153.08	-558.7	-1,918.3	364.5	323.8	40.67	8.963		
7,700.0	6,790.0	8,006.0	7,115.0	44.6	44.3	153.08	-558.5	-2,018.3	364.5	321.8	42.74	8.529		
7,800.0	6,790.0	8,106.0	7,115.0	46.8	46.5	153.08	-558.2	-2,118.3	364.5	319.7	44.82	8.132		
7,900.0	6,790.0	8,206.0	7,115.0	49.0	48.8	153.08	-558.0	-2,218.3	364.5	317.6	46.93	7.767		
8,000.0	6,790.0	8,306.0	7,115.0	51.3	51.0	153.08	-557.7	-2,318.3	364.5	315.5	49.05	7.432		
8,100.0	6,790.0	8,406.0	7,115.0	53.5	53.3	153.08	-557.5	-2,418.3	364.5	313.3	51.18	7.122		
8,200.0	6,790.0	8,506.0	7,115.0	55.8	55.6	153.08	-557.2	-2,518.3	364.5	311.2	53.32	6.836		
8,300.0	6,790.0	8,606.0	7,115.0	58.1	58.0	153.08	-557.0	-2,618.3	364.5	309.0	55.47	6.571		
8,400.0	6,790.0	8,706.0	7,115.0	60.4	60.3	153.08	-556.7	-2,718.3	364.5	306.9	57.63	6.324		
8,500.0	6,790.0	8,806.0	7,115.0	62.8	62.6	153.08	-556.5	-2,818.3	364.5	304.7	59.80	6.095		
8,600.0	6,790.0	8,906.0	7,115.0	65.1	65.0	153.08	-556.2	-2,918.3	364.5	302.5	61.98	5.881		
8,700.0	6,790.0	9,006.0	7,115.0	67.5	67.4	153.08	-556.0	-3,018.3	364.5	300.3	64.16	5.681		
8,800.0	6,790.0	9,106.0	7,115.0	69.8	69.8	153.08	-555.7	-3,118.3	364.5	298.1	66.35	5.493		
8,900.0	6,790.0	9,206.0	7,115.0	72.2	72.1	153.08	-555.5	-3,218.3	364.5	296.0	68.54	5.318		
9,000.0	6,790.0	9,306.0	7,115.0	74.6	74.5	153.08	-555.2	-3,318.3	364.5	293.8	70.74	5.152		
9,100.0	6,790.0	9,406.0	7,115.0	77.0	76.9	153.08	-555.0	-3,418.3	364.5	291.6	72.95	4.997		
9,200.0	6,790.0	9,506.0	7,115.0	79.4	79.3	153.08	-554.7	-3,518.3	364.5	289.3	75.15	4.850		
9,300.0	6,790.0	9,606.0	7,115.0	81.8	81.7	153.08	-554.5	-3,618.3	364.5	287.1	77.36	4.712		
9,400.0	6,790.0	9,706.0	7,115.0	84.2	84.1	153.08	-554.2	-3,718.3	364.5	284.9	79.57	4.581		
9,500.0	6,790.0	9,806.0	7,115.0	86.6	86.5	153.08	-554.0	-3,818.3	364.5	282.7	81.79	4.457		
9,600.0	6,790.0	9,906.0	7,115.0	89.0	88.9	153.08	-553.7	-3,918.3	364.5	280.5	84.01	4.339		
9,700.0	6,790.0	10,006.0	7,115.0	91.4	91.4	153.08	-553.5	-4,018.3	364.5	278.3	86.23	4.227		
9,800.0	6,790.0	10,106.0	7,115.0	93.8	93.8	153.08	-553.2	-4,118.3	364.5	276.0	88.45	4.121		
9,900.0	6,790.0	10,206.0	7,115.0	96.2	96.2	153.08	-553.0	-4,218.3	364.5	273.8	90.68	4.020		
10,000.0	6,790.0	10,306.0	7,115.0	98.7	98.6	153.08	-552.7	-4,318.3	364.5	271.6	92.91	3.923		
10,100.0	6,790.0	10,406.0	7,115.0	101.1	101.1	153.08	-552.5	-4,418.3	364.5	269.4	95.14	3.831		
10,200.0	6,790.0	10,506.0	7,115.0	103.5	103.5	153.08	-552.2	-4,518.3	364.5	267.1	97.37	3.744		
10,300.0	6,790.0	10,606.0	7,115.0	105.9	105.9	153.08	-552.0	-4,618.3	364.5	264.9	99.60	3.660		

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 7
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 7	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-Geolink MWD												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	10,706.0	7,115.0	108.4	108.4	153.08	-551.7	-4,718.3	364.5	262.7	101.84	3.579	
10,500.0	6,790.0	10,806.0	7,115.0	110.8	110.8	153.08	-551.5	-4,818.3	364.5	260.4	104.07	3.502	
10,600.0	6,790.0	10,906.0	7,115.0	113.2	113.2	153.08	-551.2	-4,918.3	364.5	258.2	106.31	3.429	
10,700.0	6,790.0	11,006.0	7,115.0	115.7	115.7	153.08	-551.0	-5,018.3	364.5	256.0	108.55	3.358	
10,800.0	6,790.0	11,106.0	7,115.0	118.1	118.1	153.08	-550.7	-5,118.3	364.5	253.7	110.79	3.290	
10,900.0	6,790.0	11,206.0	7,115.0	120.5	120.6	153.08	-550.5	-5,218.3	364.5	251.5	113.03	3.225	
11,000.0	6,790.0	11,306.0	7,115.0	123.0	123.0	153.08	-550.2	-5,318.3	364.5	249.2	115.27	3.162	
11,100.0	6,790.0	11,406.0	7,115.0	125.4	125.5	153.08	-550.0	-5,418.3	364.5	247.0	117.51	3.102	
11,200.0	6,790.0	11,506.0	7,115.0	127.9	127.9	153.08	-549.7	-5,518.3	364.5	244.7	119.76	3.044	
11,300.0	6,790.0	11,606.0	7,115.0	130.3	130.4	153.08	-549.5	-5,618.3	364.5	242.5	122.00	2.988	
11,400.0	6,790.0	11,706.0	7,115.0	132.8	132.8	153.08	-549.2	-5,718.3	364.5	240.3	124.25	2.934	
11,500.0	6,790.0	11,806.0	7,115.0	135.2	135.3	153.08	-549.0	-5,818.3	364.5	238.0	126.49	2.882	
11,600.0	6,790.0	11,906.0	7,115.0	137.7	137.7	153.08	-548.7	-5,918.3	364.5	235.8	128.74	2.831	
11,700.0	6,790.0	12,006.0	7,115.0	140.1	140.2	153.08	-548.5	-6,018.3	364.5	233.5	130.99	2.783	
11,800.0	6,790.0	12,106.0	7,115.0	142.6	142.6	153.08	-548.2	-6,118.3	364.5	231.3	133.24	2.736	
11,900.0	6,790.0	12,206.0	7,115.0	145.0	145.1	153.08	-548.0	-6,218.3	364.5	229.0	135.49	2.690	
12,000.0	6,790.0	12,306.0	7,115.0	147.5	147.5	153.08	-547.7	-6,318.3	364.5	226.8	137.74	2.646	
12,100.0	6,790.0	12,406.0	7,115.0	149.9	150.0	153.08	-547.5	-6,418.3	364.5	224.5	139.99	2.604	
12,200.0	6,790.0	12,506.0	7,115.0	152.4	152.4	153.08	-547.2	-6,518.3	364.5	222.3	142.24	2.563	
12,300.0	6,790.0	12,606.0	7,115.0	154.8	154.9	153.08	-547.0	-6,618.3	364.5	220.0	144.49	2.523	
12,400.0	6,790.0	12,706.0	7,115.0	157.3	157.3	153.08	-546.7	-6,718.3	364.5	217.8	146.74	2.484	
12,500.0	6,790.0	12,806.0	7,115.0	159.7	159.8	153.08	-546.5	-6,818.3	364.5	215.5	148.99	2.446	
12,600.0	6,790.0	12,906.0	7,115.0	162.2	162.3	153.08	-546.2	-6,918.3	364.5	213.3	151.24	2.410	
12,700.0	6,790.0	13,006.0	7,115.0	164.6	164.7	153.08	-546.0	-7,018.3	364.5	211.0	153.50	2.375	
12,800.0	6,790.0	13,106.0	7,115.0	167.1	167.2	153.08	-545.7	-7,118.3	364.5	208.7	155.75	2.340	
12,900.0	6,790.0	13,206.0	7,115.0	169.6	169.6	153.08	-545.5	-7,218.3	364.5	206.5	158.01	2.307	
13,000.0	6,790.0	13,306.0	7,115.0	172.0	172.1	153.08	-545.2	-7,318.3	364.5	204.2	160.26	2.274	
13,100.0	6,790.0	13,406.0	7,115.0	174.5	174.5	153.08	-545.0	-7,418.3	364.5	202.0	162.51	2.243	
13,200.0	6,790.0	13,506.0	7,115.0	176.9	177.0	153.08	-544.7	-7,518.3	364.5	199.7	164.77	2.212	
13,300.0	6,790.0	13,606.0	7,115.0	179.4	179.5	153.08	-544.5	-7,618.3	364.5	197.5	167.02	2.182	
13,400.0	6,790.0	13,706.0	7,115.0	181.9	181.9	153.08	-544.2	-7,718.3	364.5	195.2	169.28	2.153	
13,500.0	6,790.0	13,806.0	7,115.0	184.3	184.4	153.08	-544.0	-7,818.3	364.5	193.0	171.54	2.125	
13,600.0	6,790.0	13,906.0	7,115.0	186.8	186.9	153.08	-543.7	-7,918.3	364.5	190.7	173.79	2.097	
13,700.0	6,790.0	14,006.0	7,115.0	189.2	189.3	153.08	-543.5	-8,018.3	364.5	188.4	176.05	2.070	
13,800.0	6,790.0	14,106.0	7,115.0	191.7	191.8	153.08	-543.2	-8,118.3	364.5	186.2	178.31	2.044	
13,900.0	6,790.0	14,206.0	7,115.0	194.2	194.2	153.08	-543.0	-8,218.3	364.5	183.9	180.56	2.019	
14,000.0	6,790.0	14,306.0	7,115.0	196.6	196.7	153.08	-542.7	-8,318.3	364.5	181.7	182.82	1.994	
14,100.0	6,790.0	14,406.0	7,115.0	199.1	199.2	153.08	-542.5	-8,418.3	364.5	179.4	185.08	1.969	
14,200.0	6,790.0	14,506.0	7,115.0	201.5	201.6	153.08	-542.2	-8,518.3	364.5	177.2	187.34	1.946	
14,300.0	6,790.0	14,606.0	7,115.0	204.0	204.1	153.08	-542.0	-8,618.3	364.5	174.9	189.59	1.923	
14,400.0	6,790.0	14,706.0	7,115.0	206.5	206.6	153.08	-541.7	-8,718.3	364.5	172.6	191.85	1.900	
14,500.0	6,790.0	14,806.0	7,115.0	208.9	209.0	153.08	-541.5	-8,818.3	364.5	170.4	194.11	1.878	
14,600.0	6,790.0	14,906.0	7,115.0	211.4	211.5	153.08	-541.2	-8,918.3	364.5	168.1	196.37	1.856	
14,700.0	6,790.0	15,006.0	7,115.0	213.9	214.0	153.08	-541.0	-9,018.3	364.5	165.9	198.63	1.835	
14,800.0	6,790.0	15,106.0	7,115.0	216.3	216.4	153.08	-540.7	-9,118.3	364.5	163.6	200.89	1.814	
14,900.0	6,790.0	15,206.0	7,115.0	218.8	218.9	153.08	-540.5	-9,218.3	364.5	161.4	203.15	1.794	
15,000.0	6,790.0	15,306.0	7,115.0	221.3	221.3	153.08	-540.2	-9,318.3	364.5	159.1	205.41	1.775	
15,100.0	6,790.0	15,406.0	7,115.0	223.7	223.8	153.08	-540.0	-9,418.3	364.5	156.8	207.67	1.755	
15,200.0	6,790.0	15,506.0	7,115.0	226.2	226.3	153.08	-539.7	-9,518.3	364.5	154.6	209.93	1.736	
15,300.0	6,790.0	15,606.0	7,115.0	228.7	228.7	153.08	-539.5	-9,618.3	364.5	152.3	212.19	1.718	
15,400.0	6,790.0	15,706.0	7,115.0	231.1	231.2	153.08	-539.2	-9,718.3	364.5	150.1	214.45	1.700	
15,500.0	6,790.0	15,806.0	7,115.0	233.6	233.7	153.08	-539.0	-9,818.3	364.5	147.8	216.71	1.682	

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 7
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 7	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-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			
15,600.0	6,790.0	15,906.0	7,115.0	236.1	236.1	153.08	-538.7	-9,918.2	364.5	145.5	218.97	1.665		
15,700.0	6,790.0	16,006.0	7,115.0	238.5	238.6	153.08	-538.5	-10,018.2	364.5	143.3	221.23	1.648		
15,800.0	6,790.0	16,106.0	7,115.0	241.0	241.1	153.08	-538.2	-10,118.2	364.5	141.0	223.49	1.631		
15,900.0	6,790.0	16,206.0	7,115.0	243.4	243.5	153.08	-538.0	-10,218.2	364.5	138.7	225.75	1.615		
16,000.0	6,790.0	16,306.0	7,115.0	245.9	246.0	153.08	-537.7	-10,318.2	364.5	136.5	228.01	1.599		
16,100.0	6,790.0	16,406.0	7,115.0	248.4	248.5	153.08	-537.5	-10,418.2	364.5	134.2	230.27	1.583		
16,200.0	6,790.0	16,506.0	7,115.0	250.8	250.9	153.08	-537.2	-10,518.2	364.5	132.0	232.53	1.568		
16,300.0	6,790.0	16,606.0	7,115.0	253.3	253.4	153.08	-537.0	-10,618.2	364.5	129.7	234.80	1.552		
16,400.0	6,790.0	16,706.0	7,115.0	255.8	255.9	153.08	-536.7	-10,718.2	364.5	127.4	237.06	1.538		
16,500.0	6,790.0	16,806.0	7,115.0	258.3	258.3	153.08	-536.5	-10,818.2	364.5	125.2	239.32	1.523		
16,600.0	6,790.0	16,906.0	7,115.0	260.7	260.8	153.08	-536.2	-10,918.2	364.5	122.9	241.58	1.509		
16,700.0	6,790.0	17,006.0	7,115.0	263.2	263.3	153.08	-536.0	-11,018.2	364.5	120.7	243.84	1.495 Level 3		
16,800.0	6,790.0	17,106.0	7,115.0	265.7	265.8	153.08	-535.7	-11,118.2	364.5	118.4	246.10	1.481 Level 3		
16,900.0	6,790.0	17,206.0	7,115.0	268.1	268.2	153.08	-535.5	-11,218.2	364.5	116.1	248.37	1.468 Level 3		
17,000.0	6,790.0	17,306.0	7,115.0	270.6	270.7	153.08	-535.2	-11,318.2	364.5	113.9	250.63	1.454 Level 3		
17,100.0	6,790.0	17,406.0	7,115.0	273.1	273.2	153.08	-535.0	-11,418.2	364.5	111.6	252.89	1.441 Level 3		
17,200.0	6,790.0	17,506.0	7,115.0	275.5	275.6	153.08	-534.7	-11,518.2	364.5	109.3	255.15	1.429 Level 3		
17,300.0	6,790.0	17,606.0	7,115.0	278.0	278.1	153.08	-534.5	-11,618.2	364.5	107.1	257.42	1.416 Level 3		
17,400.0	6,790.0	17,706.0	7,115.0	280.5	280.6	153.08	-534.2	-11,718.2	364.5	104.8	259.68	1.404 Level 3		
17,423.8	6,790.0	17,729.8	7,115.0	281.1	281.2	153.08	-534.2	-11,742.0	364.5	104.3	260.22	1.401 Level 3, SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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		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	-149.08	-23.7	-14.2	27.6					
100.0	100.0	100.0	100.0	0.1	0.0	-149.08	-23.7	-14.2	27.6	27.5	0.13	207.785		
200.0	200.0	200.0	200.0	0.3	0.0	-149.08	-23.7	-14.2	27.6	27.3	0.31	89.802		
300.0	300.0	299.6	299.6	0.5	0.0	-24.49	-24.1	-15.0	27.5	27.1	0.48	57.138		
400.0	400.0	399.2	399.1	0.7	0.0	-23.84	-25.2	-17.3	27.4	26.7	0.66	41.630		
500.0	499.9	498.8	498.6	0.9	0.0	-22.75	-27.2	-21.2	27.1	26.2	0.83	32.481		
600.0	599.7	598.4	598.1	1.1	0.0	-21.19	-29.9	-26.6	26.7	25.7	1.01	26.404		
700.0	699.4	698.0	697.3	1.3	0.0	-19.11	-33.3	-33.5	26.2	25.0	1.19	22.067		
800.0	798.9	797.5	796.5	1.5	0.0	-16.48	-37.6	-42.0	25.7	24.3	1.37	18.832		
900.0	898.3	897.1	895.4	1.8	0.0	-13.23	-42.6	-52.1	25.2	23.6	1.54	16.350		
1,000.0	997.4	996.7	994.1	2.0	0.0	-9.33	-48.4	-63.7	24.7	22.9	1.71	14.418		
1,100.0	1,096.3	1,096.3	1,092.6	2.3	0.0	-4.74	-54.9	-76.8	24.2	22.3	1.88	12.896		
1,200.0	1,194.9	1,195.8	1,190.8	2.7	0.0	0.55	-62.3	-91.4	23.9	21.9	2.05	11.678		
1,285.8	1,279.3	1,281.2	1,274.8	3.0	0.0	5.61	-69.1	-105.2	23.8	21.6	2.20	10.803 CC		
1,300.0	1,293.3	1,295.4	1,288.7	3.0	0.0	6.49	-70.3	-107.6	23.8	21.6	2.23	10.671		
1,400.0	1,391.2	1,394.9	1,386.3	3.4	0.0	12.96	-79.2	-125.3	24.0	21.6	2.45	9.791 ES		
1,500.0	1,489.0	1,494.5	1,483.5	3.8	0.0	19.27	-88.8	-144.4	25.2	22.5	2.73	9.241		
1,600.0	1,586.8	1,594.0	1,580.2	4.2	0.0	23.92	-99.1	-165.1	28.3	25.3	3.02	9.353		
1,700.0	1,684.6	1,693.3	1,676.5	4.6	0.0	26.62	-110.2	-187.3	33.2	29.9	3.32	10.005		
1,800.0	1,782.3	1,792.5	1,772.1	5.0	0.0	27.72	-121.9	-210.9	39.7	36.1	3.58	11.090		
1,900.0	1,880.1	1,891.5	1,867.0	5.4	0.0	27.78	-134.4	-235.9	47.9	44.1	3.82	12.531		
2,000.0	1,977.9	1,990.1	1,961.1	5.8	0.0	27.24	-147.6	-262.3	57.7	53.7	4.04	14.273		
2,100.0	2,075.6	2,088.4	2,054.4	6.2	0.0	26.39	-161.5	-290.1	69.1	64.9	4.25	16.276		
2,200.0	2,173.4	2,186.4	2,146.8	6.6	0.0	25.41	-176.0	-319.1	82.2	77.7	4.44	18.506		
2,300.0	2,271.2	2,283.8	2,238.2	7.0	0.0	24.41	-191.2	-349.5	96.9	92.2	4.63	20.935		
2,400.0	2,368.9	2,380.7	2,328.5	7.4	0.0	23.43	-206.9	-381.0	113.2	108.4	4.81	23.539		
2,500.0	2,466.7	2,477.1	2,417.6	7.8	0.0	22.52	-223.3	-413.7	131.1	126.1	4.99	26.295		
2,600.0	2,564.5	2,574.7	2,507.5	8.2	0.0	21.70	-240.3	-447.8	150.2	145.1	5.16	29.089		
2,700.0	2,662.2	2,672.8	2,597.8	8.6	0.0	21.06	-257.4	-482.1	169.4	164.1	5.35	31.678		
2,800.0	2,760.0	2,771.0	2,688.1	9.0	0.0	20.55	-274.6	-516.4	188.6	183.1	5.54	34.073		
2,900.0	2,857.8	2,869.1	2,778.5	9.4	0.0	20.13	-291.7	-550.7	207.9	202.1	5.73	36.295		
3,000.0	2,955.5	2,967.2	2,868.8	9.8	0.0	19.79	-308.8	-585.0	227.1	221.2	5.92	38.361		
3,100.0	3,053.3	3,065.3	2,959.1	10.2	0.0	19.49	-326.0	-619.3	246.3	240.2	6.11	40.287		
3,200.0	3,151.1	3,163.5	3,049.4	10.6	0.0	19.24	-343.1	-653.7	265.6	259.2	6.31	42.086		
3,300.0	3,248.8	3,261.6	3,139.7	11.0	0.0	19.03	-360.3	-688.0	284.8	278.3	6.51	43.771		
3,400.0	3,346.6	3,359.7	3,230.0	11.5	0.0	18.84	-377.4	-722.3	304.0	297.3	6.70	45.353		
3,500.0	3,444.4	3,457.8	3,320.4	11.9	0.0	18.67	-394.6	-756.6	323.3	316.4	6.90	46.839		
3,600.0	3,542.1	3,556.0	3,410.7	12.3	0.0	18.52	-411.7	-790.9	342.5	335.4	7.10	48.239		
3,700.0	3,639.9	3,654.1	3,501.0	12.7	0.0	18.39	-428.8	-825.2	361.8	354.5	7.30	49.559		
3,800.0	3,737.7	3,752.2	3,591.3	13.1	0.0	18.27	-446.0	-859.5	381.1	373.6	7.50	50.807		
3,900.0	3,835.4	3,850.4	3,681.6	13.5	0.0	18.17	-463.1	-893.9	400.3	392.6	7.70	51.989		
4,000.0	3,933.2	3,948.5	3,771.9	13.9	0.0	18.07	-480.3	-928.2	419.6	411.7	7.90	53.108		
4,100.0	4,031.0	4,046.6	3,862.3	14.3	0.0	17.98	-497.4	-962.5	438.8	430.7	8.10	54.171		
4,200.0	4,128.7	4,144.7	3,952.6	14.7	0.0	17.90	-514.5	-996.8	458.1	449.8	8.30	55.181		
4,300.0	4,226.5	4,242.9	4,042.9	15.1	0.0	17.83	-531.7	-1,031.1	477.4	468.9	8.50	56.141		
4,400.0	4,324.3	4,341.0	4,133.2	15.6	0.0	17.76	-548.8	-1,065.4	496.6	487.9	8.70	57.057		
4,500.0	4,422.0	4,439.1	4,223.5	16.0	0.0	17.69	-566.0	-1,099.7	515.9	507.0	8.91	57.930		
4,600.0	4,519.8	4,537.2	4,313.9	16.4	0.0	17.63	-583.1	-1,134.1	535.1	526.0	9.11	58.764		
4,700.0	4,617.6	4,635.4	4,404.2	16.8	0.0	17.58	-600.3	-1,168.4	554.4	545.1	9.31	59.561		
4,800.0	4,715.3	4,733.5	4,494.5	17.2	0.0	17.53	-617.4	-1,202.7	573.7	564.2	9.51	60.323		
4,900.0	4,813.1	4,831.6	4,584.8	17.6	0.0	17.48	-634.5	-1,237.0	592.9	583.2	9.71	61.053		
5,000.0	4,910.9	4,929.7	4,675.1	18.0	0.0	17.43	-651.7	-1,271.3	612.2	602.3	9.91	61.753		

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 7
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 7	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			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		
5,100.0	5,008.6	5,027.9	4,765.4	18.4	0.0	17.39	-668.8	-1,305.6	631.5	621.3	10.12	62.424		
5,200.0	5,106.4	5,126.0	4,855.8	18.8	0.0	17.35	-686.0	-1,339.9	650.7	640.4	10.32	63.069		
5,300.0	5,204.2	5,224.1	4,946.1	19.2	0.0	17.31	-703.1	-1,374.3	670.0	659.5	10.52	63.689		
5,400.0	5,301.9	5,322.2	5,036.4	19.7	0.0	17.28	-720.2	-1,408.6	689.3	678.5	10.72	64.284		
5,500.0	5,399.7	5,420.4	5,126.7	20.1	0.0	17.25	-737.4	-1,442.9	708.5	697.6	10.92	64.858		
5,600.0	5,497.5	5,518.5	5,217.0	20.5	0.0	17.21	-754.5	-1,477.2	727.8	716.7	11.13	65.410		
5,700.0	5,595.2	5,616.6	5,307.4	20.9	0.0	17.18	-771.7	-1,511.5	747.1	735.7	11.33	65.942		
5,800.0	5,693.0	5,714.7	5,397.7	21.3	0.0	17.16	-788.8	-1,545.8	766.3	754.8	11.53	66.455		
5,900.0	5,790.8	5,812.9	5,488.0	21.7	0.0	17.13	-806.0	-1,580.1	785.6	773.9	11.73	66.951		
6,000.0	5,888.5	5,911.0	5,578.3	22.1	0.0	17.10	-823.1	-1,614.4	804.9	792.9	11.94	67.429		
6,100.0	5,986.3	6,009.1	5,668.6	22.5	0.0	17.08	-840.2	-1,648.8	824.1	812.0	12.14	67.891		
6,200.0	6,084.1	6,107.2	5,758.9	22.9	0.0	17.05	-857.4	-1,683.1	843.4	831.1	12.34	68.338		
6,300.0	6,181.8	6,205.4	5,849.3	23.3	0.0	17.03	-874.5	-1,717.4	862.7	850.1	12.54	68.770		
6,400.0	6,279.6	6,303.5	5,939.6	23.8	0.0	14.29	-891.7	-1,751.7	881.8	869.1	12.75	69.154		
6,500.0	6,375.1	6,402.8	6,031.0	24.4	0.0	1.54	-909.0	-1,786.4	891.9	879.1	12.73	70.033		
6,600.0	6,465.3	6,502.3	6,122.6	25.1	0.0	-4.59	-926.4	-1,821.2	887.0	874.7	12.30	72.137		
6,700.0	6,547.9	6,599.4	6,211.9	26.2	0.0	-8.95	-943.4	-1,855.2	867.6	856.1	11.53	75.275		
6,800.0	6,620.9	6,691.8	6,297.0	27.4	0.0	-13.13	-959.5	-1,887.5	834.3	823.6	10.68	78.133		
6,900.0	6,682.5	6,777.1	6,375.5	28.8	0.0	-17.99	-974.4	-1,917.3	788.2	777.8	10.40	75.828		
7,000.0	6,731.2	6,818.8	6,413.5	30.4	0.0	-22.86	-981.6	-1,932.7	732.7	721.3	11.46	63.957		
7,100.0	6,765.8	6,850.0	6,441.4	32.2	0.0	-28.47	-986.9	-1,945.9	671.5	657.2	14.28	47.022		
7,200.0	6,785.4	6,900.0	6,484.5	34.1	0.0	-36.94	-995.1	-1,969.7	606.0	586.5	19.44	31.172		
7,300.0	6,790.0	6,920.9	6,502.0	36.1	0.0	-43.65	-998.4	-1,980.7	537.6	513.4	24.26	22.163		
7,400.0	6,790.0	6,950.0	6,525.7	38.1	0.0	-46.58	-1,002.8	-1,997.0	474.3	447.3	26.96	17.594		
7,500.0	6,790.0	7,000.0	6,564.6	40.2	0.0	-51.83	-1,010.2	-2,027.5	419.9	389.2	30.68	13.683		
7,600.0	6,790.0	7,050.0	6,601.1	42.4	0.0	-57.26	-1,017.1	-2,060.9	376.8	342.2	34.52	10.913		
7,700.0	6,790.0	7,104.1	6,637.5	44.6	0.0	-63.11	-1,023.9	-2,100.3	346.6	308.2	38.48	9.009		
7,800.0	6,790.0	7,173.1	6,679.0	46.8	0.0	-70.22	-1,031.7	-2,154.8	329.8	287.2	42.61	7.740		
7,900.0	6,790.0	7,254.2	6,720.1	49.0	0.0	-77.54	-1,039.4	-2,224.3	324.1	277.7	46.38	6.988		
7,923.8	6,790.0	7,275.3	6,729.3	49.5	0.0	-79.20	-1,041.1	-2,243.3	323.9	276.7	47.18	6.865		
8,000.0	6,790.0	7,347.6	6,756.1	51.3	0.0	-84.01	-1,046.0	-2,310.1	325.2	275.7	49.50	6.569		
8,100.0	6,790.0	7,451.3	6,781.2	53.5	0.0	-88.47	-1,050.6	-2,410.5	328.3	276.2	52.08	6.304		
8,200.0	6,790.0	7,560.8	6,790.0	55.8	0.0	-90.00	-1,052.0	-2,519.5	329.7	275.3	54.46	6.055		
8,300.0	6,790.0	7,660.8	6,790.0	58.1	0.0	-90.00	-1,051.7	-2,619.5	329.7	272.9	56.83	5.802		
8,400.0	6,790.0	7,760.8	6,790.0	60.4	0.0	-90.00	-1,051.5	-2,719.5	329.7	270.5	59.21	5.569		
8,500.0	6,790.0	7,860.8	6,790.0	62.8	0.0	-90.00	-1,051.2	-2,819.5	329.7	268.1	61.60	5.353		
8,600.0	6,790.0	7,960.8	6,790.0	65.1	0.0	-90.00	-1,051.0	-2,919.5	329.7	265.7	64.00	5.152		
8,700.0	6,790.0	8,060.8	6,790.0	67.5	0.0	-90.00	-1,050.7	-3,019.5	329.7	263.3	66.40	4.966		
8,800.0	6,790.0	8,160.8	6,790.0	69.8	0.0	-90.00	-1,050.5	-3,119.5	329.8	260.9	68.81	4.792		
8,900.0	6,790.0	8,260.8	6,790.0	72.2	0.0	-90.00	-1,050.2	-3,219.5	329.8	258.5	71.22	4.630		
9,000.0	6,790.0	8,360.8	6,790.0	74.6	0.0	-90.00	-1,050.0	-3,319.5	329.8	256.1	73.64	4.478		
9,100.0	6,790.0	8,460.8	6,790.0	77.0	0.0	-90.00	-1,049.8	-3,419.5	329.8	253.7	76.06	4.336		
9,200.0	6,790.0	8,560.8	6,790.0	79.4	0.0	-90.00	-1,049.5	-3,519.5	329.8	251.3	78.48	4.202		
9,300.0	6,790.0	8,660.8	6,790.0	81.8	0.0	-90.00	-1,049.3	-3,619.5	329.8	248.9	80.90	4.076		
9,400.0	6,790.0	8,760.8	6,790.0	84.2	0.0	-90.00	-1,049.0	-3,719.5	329.8	246.4	83.33	3.957		
9,500.0	6,790.0	8,860.8	6,790.0	86.6	0.0	-90.00	-1,048.8	-3,819.5	329.8	244.0	85.76	3.845		
9,600.0	6,790.0	8,960.8	6,790.0	89.0	0.0	-90.00	-1,048.5	-3,919.5	329.8	241.6	88.20	3.739		
9,700.0	6,790.0	9,060.8	6,790.0	91.4	0.0	-90.00	-1,048.3	-4,019.5	329.8	239.1	90.63	3.639		
9,800.0	6,790.0	9,160.8	6,790.0	93.8	0.0	-90.00	-1,048.0	-4,119.5	329.8	236.7	93.07	3.543		
9,900.0	6,790.0	9,260.8	6,790.0	96.2	0.0	-90.00	-1,047.8	-4,219.5	329.8	234.3	95.51	3.453		
10,000.0	6,790.0	9,360.8	6,790.0	98.7	0.0	-90.00	-1,047.5	-4,319.5	329.8	231.8	97.95	3.367		
10,100.0	6,790.0	9,460.8	6,790.0	101.1	0.0	-90.00	-1,047.3	-4,419.5	329.8	229.4	100.40	3.285		

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 7
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 7	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)						
10,200.0	6,790.0	9,560.8	6,790.0	103.5	0.0	-90.00	-1,047.0	-4,519.5	329.8	227.0	102.84	3.207		
10,300.0	6,790.0	9,660.8	6,790.0	105.9	0.0	-90.00	-1,046.8	-4,619.5	329.8	224.5	105.29	3.132		
10,400.0	6,790.0	9,760.8	6,790.0	108.4	0.0	-90.00	-1,046.6	-4,719.5	329.8	222.1	107.74	3.061		
10,500.0	6,790.0	9,860.8	6,790.0	110.8	0.0	-90.00	-1,046.3	-4,819.5	329.8	219.6	110.19	2.993		
10,600.0	6,790.0	9,960.8	6,790.0	113.2	0.0	-90.00	-1,046.1	-4,919.5	329.8	217.2	112.64	2.928		
10,700.0	6,790.0	10,060.8	6,790.0	115.7	0.0	-90.00	-1,045.8	-5,019.5	329.8	214.7	115.09	2.866		
10,800.0	6,790.0	10,160.8	6,790.0	118.1	0.0	-90.00	-1,045.6	-5,119.5	329.8	212.3	117.54	2.806		
10,900.0	6,790.0	10,260.8	6,790.0	120.5	0.0	-90.00	-1,045.3	-5,219.5	329.8	209.8	119.99	2.749		
11,000.0	6,790.0	10,360.8	6,790.0	123.0	0.0	-90.00	-1,045.1	-5,319.5	329.8	207.4	122.44	2.694		
11,100.0	6,790.0	10,460.8	6,790.0	125.4	0.0	-90.00	-1,044.8	-5,419.5	329.8	204.9	124.90	2.641		
11,200.0	6,790.0	10,560.8	6,790.0	127.9	0.0	-90.00	-1,044.6	-5,519.5	329.8	202.5	127.35	2.590		
11,300.0	6,790.0	10,660.8	6,790.0	130.3	0.0	-90.00	-1,044.3	-5,619.5	329.8	200.0	129.81	2.541		
11,400.0	6,790.0	10,760.8	6,790.0	132.8	0.0	-90.00	-1,044.1	-5,719.5	329.8	197.6	132.27	2.494		
11,500.0	6,790.0	10,860.8	6,790.0	135.2	0.0	-90.00	-1,043.8	-5,819.5	329.8	195.1	134.72	2.448		
11,600.0	6,790.0	10,960.8	6,790.0	137.7	0.0	-90.00	-1,043.6	-5,919.5	329.9	192.7	137.18	2.404		
11,700.0	6,790.0	11,060.8	6,790.0	140.1	0.0	-90.00	-1,043.4	-6,019.5	329.9	190.2	139.64	2.362		
11,800.0	6,790.0	11,160.8	6,790.0	142.6	0.0	-90.00	-1,043.1	-6,119.5	329.9	187.8	142.10	2.321		
11,900.0	6,790.0	11,260.8	6,790.0	145.0	0.0	-90.00	-1,042.9	-6,219.5	329.9	185.3	144.56	2.282		
12,000.0	6,790.0	11,360.8	6,790.0	147.5	0.0	-90.00	-1,042.6	-6,319.5	329.9	182.8	147.02	2.244		
12,100.0	6,790.0	11,460.8	6,790.0	149.9	0.0	-90.00	-1,042.4	-6,419.5	329.9	180.4	149.48	2.207		
12,200.0	6,790.0	11,560.8	6,790.0	152.4	0.0	-90.00	-1,042.1	-6,519.5	329.9	177.9	151.94	2.171		
12,300.0	6,790.0	11,660.8	6,790.0	154.8	0.0	-90.00	-1,041.9	-6,619.5	329.9	175.5	154.40	2.136		
12,400.0	6,790.0	11,760.8	6,790.0	157.3	0.0	-90.00	-1,041.6	-6,719.5	329.9	173.0	156.86	2.103		
12,500.0	6,790.0	11,860.8	6,790.0	159.7	0.0	-90.00	-1,041.4	-6,819.5	329.9	170.6	159.33	2.070		
12,600.0	6,790.0	11,960.8	6,790.0	162.2	0.0	-90.00	-1,041.1	-6,919.5	329.9	168.1	161.79	2.039		
12,700.0	6,790.0	12,060.8	6,790.0	164.6	0.0	-90.00	-1,040.9	-7,019.5	329.9	165.6	164.25	2.008		
12,800.0	6,790.0	12,160.8	6,790.0	167.1	0.0	-90.00	-1,040.6	-7,119.5	329.9	163.2	166.72	1.979		
12,900.0	6,790.0	12,260.8	6,790.0	169.6	0.0	-90.00	-1,040.4	-7,219.5	329.9	160.7	169.18	1.950		
13,000.0	6,790.0	12,360.8	6,790.0	172.0	0.0	-90.00	-1,040.2	-7,319.5	329.9	158.3	171.64	1.922		
13,100.0	6,790.0	12,460.8	6,790.0	174.5	0.0	-90.00	-1,039.9	-7,419.5	329.9	155.8	174.11	1.895		
13,200.0	6,790.0	12,560.8	6,790.0	176.9	0.0	-90.00	-1,039.7	-7,519.5	329.9	153.3	176.57	1.868		
13,300.0	6,790.0	12,660.8	6,790.0	179.4	0.0	-90.00	-1,039.4	-7,619.5	329.9	150.9	179.04	1.843		
13,400.0	6,790.0	12,760.8	6,790.0	181.9	0.0	-90.00	-1,039.2	-7,719.5	329.9	148.4	181.50	1.818		
13,500.0	6,790.0	12,860.8	6,790.0	184.3	0.0	-90.00	-1,038.9	-7,819.5	329.9	146.0	183.97	1.793		
13,600.0	6,790.0	12,960.8	6,790.0	186.8	0.0	-90.00	-1,038.7	-7,919.5	329.9	143.5	186.43	1.770		
13,700.0	6,790.0	13,060.8	6,790.0	189.2	0.0	-90.00	-1,038.4	-8,019.5	329.9	141.0	188.90	1.747		
13,800.0	6,790.0	13,160.8	6,790.0	191.7	0.0	-90.00	-1,038.2	-8,119.5	329.9	138.6	191.36	1.724		
13,900.0	6,790.0	13,260.8	6,790.0	194.2	0.0	-90.00	-1,037.9	-8,219.5	329.9	136.1	193.83	1.702		
14,000.0	6,790.0	13,360.8	6,790.0	196.6	0.0	-90.00	-1,037.7	-8,319.5	329.9	133.6	196.30	1.681		
14,100.0	6,790.0	13,460.8	6,790.0	199.1	0.0	-90.00	-1,037.4	-8,419.5	329.9	131.2	198.76	1.660		
14,200.0	6,790.0	13,560.8	6,790.0	201.5	0.0	-90.00	-1,037.2	-8,519.5	329.9	128.7	201.23	1.640		
14,300.0	6,790.0	13,660.8	6,790.0	204.0	0.0	-90.00	-1,037.0	-8,619.5	329.9	126.3	203.70	1.620		
14,400.0	6,790.0	13,760.8	6,790.0	206.5	0.0	-90.00	-1,036.7	-8,719.5	330.0	123.8	206.16	1.600		
14,500.0	6,790.0	13,860.8	6,790.0	208.9	0.0	-90.00	-1,036.5	-8,819.5	330.0	121.3	208.63	1.582		
14,600.0	6,790.0	13,960.8	6,790.0	211.4	0.0	-90.00	-1,036.2	-8,919.5	330.0	118.9	211.10	1.563		
14,700.0	6,790.0	14,060.8	6,790.0	213.9	0.0	-90.00	-1,036.0	-9,019.5	330.0	116.4	213.57	1.545		
14,800.0	6,790.0	14,160.8	6,790.0	216.3	0.0	-90.00	-1,035.7	-9,119.5	330.0	113.9	216.03	1.527		
14,900.0	6,790.0	14,260.8	6,790.0	218.8	0.0	-90.00	-1,035.5	-9,219.5	330.0	111.5	218.50	1.510		
15,000.0	6,790.0	14,360.8	6,790.0	221.3	0.0	-90.00	-1,035.2	-9,319.5	330.0	109.0	220.97	1.493 Level 3		
15,100.0	6,790.0	14,460.8	6,790.0	223.7	0.0	-90.00	-1,035.0	-9,419.5	330.0	106.5	223.44	1.477 Level 3		
15,200.0	6,790.0	14,560.8	6,790.0	226.2	0.0	-90.00	-1,034.7	-9,519.5	330.0	104.1	225.91	1.461 Level 3		
15,300.0	6,790.0	14,660.8	6,790.0	228.7	0.0	-90.00	-1,034.5	-9,619.5	330.0	101.6	228.38	1.445 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 7
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 7	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)						
15,400.0	6,790.0	14,760.8	6,790.0	231.1	0.0	-90.00	-1,034.2	-9,719.5	330.0	99.1	230.84	1.429	Level 3	
15,500.0	6,790.0	14,860.8	6,790.0	233.6	0.0	-90.00	-1,034.0	-9,819.5	330.0	96.7	233.31	1.414	Level 3	
15,600.0	6,790.0	14,960.8	6,790.0	236.1	0.0	-90.00	-1,033.8	-9,919.5	330.0	94.2	235.78	1.400	Level 3	
15,700.0	6,790.0	15,060.8	6,790.0	238.5	0.0	-90.00	-1,033.5	-10,019.5	330.0	91.7	238.25	1.385	Level 3	
15,800.0	6,790.0	15,160.8	6,790.0	241.0	0.0	-90.00	-1,033.3	-10,119.5	330.0	89.3	240.72	1.371	Level 3	
15,900.0	6,790.0	15,260.8	6,790.0	243.4	0.0	-90.00	-1,033.0	-10,219.5	330.0	86.8	243.19	1.357	Level 3	
16,000.0	6,790.0	15,360.8	6,790.0	245.9	0.0	-90.00	-1,032.8	-10,319.5	330.0	84.3	245.66	1.343	Level 3	
16,100.0	6,790.0	15,460.8	6,790.0	248.4	0.0	-90.00	-1,032.5	-10,419.5	330.0	81.9	248.13	1.330	Level 3	
16,200.0	6,790.0	15,560.8	6,790.0	250.8	0.0	-90.00	-1,032.3	-10,519.5	330.0	79.4	250.60	1.317	Level 3	
16,300.0	6,790.0	15,660.8	6,790.0	253.3	0.0	-90.00	-1,032.0	-10,619.5	330.0	77.0	253.07	1.304	Level 3	
16,400.0	6,790.0	15,760.8	6,790.0	255.8	0.0	-90.00	-1,031.8	-10,719.5	330.0	74.5	255.54	1.291	Level 3	
16,500.0	6,790.0	15,860.8	6,790.0	258.3	0.0	-90.00	-1,031.5	-10,819.5	330.0	72.0	258.01	1.279	Level 3	
16,600.0	6,790.0	15,960.8	6,790.0	260.7	0.0	-90.00	-1,031.3	-10,919.5	330.0	69.6	260.48	1.267	Level 3	
16,700.0	6,790.0	16,060.8	6,790.0	263.2	0.0	-90.00	-1,031.1	-11,019.5	330.0	67.1	262.95	1.255	Level 3	
16,800.0	6,790.0	16,160.8	6,790.0	265.7	0.0	-90.00	-1,030.8	-11,119.5	330.0	64.6	265.42	1.243	Level 2	
16,900.0	6,790.0	16,260.8	6,790.0	268.1	0.0	-90.00	-1,030.6	-11,219.5	330.0	62.2	267.89	1.232	Level 2	
17,000.0	6,790.0	16,360.8	6,790.0	270.6	0.0	-90.00	-1,030.3	-11,319.5	330.0	59.7	270.36	1.221	Level 2	
17,100.0	6,790.0	16,460.8	6,790.0	273.1	0.0	-90.00	-1,030.1	-11,419.5	330.0	57.2	272.83	1.210	Level 2	
17,200.0	6,790.0	16,560.8	6,790.0	275.5	0.0	-90.00	-1,029.8	-11,519.5	330.1	54.8	275.30	1.199	Level 2	
17,300.0	6,790.0	16,660.8	6,790.0	278.0	0.0	-90.00	-1,029.6	-11,619.5	330.1	52.3	277.77	1.188	Level 2	
17,400.0	6,790.0	16,760.8	6,790.0	280.5	0.0	-90.00	-1,029.3	-11,719.5	330.1	49.8	280.24	1.178	Level 2	
17,409.8	6,790.0	16,770.6	6,790.0	280.7	0.0	-90.00	-1,029.3	-11,729.3	330.1	49.6	280.48	1.177	Level 2	
17,423.8	6,790.0	16,783.6	6,790.0	281.1	0.0	-90.00	-1,029.3	-11,742.3	330.1	49.2	280.83	1.175	Level 2, SF	

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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)		Between Centres (usft)	Between Ellipses (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-149.22	-48.1	-28.6	56.0					
100.0	100.0	100.0	100.0	0.1	0.0	-149.22	-48.1	-28.6	56.0	55.8	0.13	421.352		
200.0	200.0	200.0	200.0	0.3	0.0	-149.22	-48.1	-28.6	56.0	55.7	0.31	182.103		
300.0	300.0	299.2	299.2	0.5	0.0	-24.78	-48.5	-29.4	55.9	55.5	0.48	116.040		
400.0	400.0	398.3	398.3	0.7	0.0	-24.61	-49.8	-31.6	55.8	55.2	0.66	84.916		
500.0	499.9	497.5	497.3	0.9	0.0	-24.32	-51.9	-35.3	55.6	54.8	0.83	66.709		
600.0	599.7	596.6	596.3	1.1	0.0	-23.91	-54.9	-40.5	55.4	54.4	1.01	54.700		
700.0	699.4	695.8	695.2	1.3	0.0	-23.38	-58.8	-47.2	55.1	53.9	1.19	46.152		
800.0	798.9	794.9	793.9	1.5	0.0	-22.72	-63.5	-55.4	54.7	53.3	1.38	39.743		
900.0	898.3	894.1	892.4	1.8	0.0	-21.93	-69.0	-65.0	54.2	52.7	1.56	34.755		
1,000.0	997.4	993.2	990.7	2.0	0.0	-21.00	-75.4	-76.2	53.7	52.0	1.75	30.766		
1,100.0	1,096.3	1,092.4	1,088.8	2.3	0.0	-19.93	-82.7	-88.8	53.2	51.2	1.93	27.513		
1,200.0	1,194.9	1,191.5	1,186.6	2.7	0.0	-18.70	-90.8	-102.8	52.6	50.4	2.12	24.821		
1,300.0	1,293.3	1,290.7	1,284.1	3.0	0.0	-17.32	-99.7	-118.4	51.9	49.6	2.30	22.570		
1,400.0	1,391.2	1,389.9	1,381.3	3.4	0.0	-15.77	-109.5	-135.4	51.3	48.8	2.48	20.673		
1,449.7	1,439.8	1,439.1	1,429.5	3.6	0.0	-14.88	-114.6	-144.3	51.1	48.5	2.57	19.908 CC, ES		
1,500.0	1,489.0	1,489.0	1,478.2	3.8	0.0	-13.86	-120.1	-153.8	51.2	48.6	2.65	19.316		
1,600.0	1,586.8	1,588.1	1,574.6	4.2	0.0	-11.44	-131.5	-173.7	52.9	50.1	2.81	18.803		
1,700.0	1,684.6	1,687.1	1,670.5	4.6	0.0	-8.76	-143.8	-195.0	56.4	53.4	2.97	18.984		
1,800.0	1,782.3	1,785.9	1,765.8	5.0	0.0	-6.10	-156.8	-217.7	61.6	58.5	3.12	19.725		
1,900.0	1,880.1	1,884.5	1,860.4	5.4	0.0	-3.67	-170.7	-241.7	68.7	65.4	3.28	20.919		
2,000.0	1,977.9	1,982.9	1,954.2	5.8	0.0	-1.56	-185.3	-267.1	77.6	74.1	3.45	22.480		
2,100.0	2,075.6	2,080.8	2,047.2	6.2	0.0	0.20	-200.7	-293.8	88.2	84.6	3.62	24.345		
2,200.0	2,173.4	2,178.4	2,139.4	6.6	0.0	1.61	-216.7	-321.8	100.6	96.8	3.80	26.468		
2,300.0	2,271.2	2,275.6	2,230.5	7.0	0.0	2.74	-233.5	-351.0	114.8	110.8	3.98	28.810		
2,400.0	2,368.9	2,372.2	2,320.6	7.4	0.0	3.63	-251.0	-381.3	130.7	126.5	4.17	31.341		
2,500.0	2,466.7	2,470.0	2,411.3	7.8	0.0	4.33	-269.2	-413.0	147.8	143.5	4.35	33.947		
2,600.0	2,564.5	2,568.5	2,502.6	8.2	0.0	4.90	-287.7	-445.0	165.1	160.5	4.54	36.358		
2,700.0	2,662.2	2,667.0	2,593.9	8.6	0.0	5.35	-306.1	-477.1	182.3	177.6	4.73	38.579		
2,800.0	2,760.0	2,765.5	2,685.2	9.0	0.0	5.73	-324.5	-509.1	199.6	194.7	4.91	40.634		
2,900.0	2,857.8	2,864.0	2,776.5	9.4	0.0	6.05	-342.9	-541.1	216.9	211.8	5.10	42.539		
3,000.0	2,955.5	2,962.5	2,867.8	9.8	0.0	6.32	-361.3	-573.1	234.2	228.9	5.28	44.310		
3,100.0	3,053.3	3,061.0	2,959.1	10.2	0.0	6.55	-379.8	-605.1	251.5	246.0	5.47	45.962		
3,200.0	3,151.1	3,159.5	3,050.4	10.6	0.0	6.75	-398.2	-637.1	268.8	263.1	5.66	47.505		
3,300.0	3,248.8	3,257.9	3,141.7	11.0	0.0	6.93	-416.6	-669.1	286.1	280.2	5.84	48.951		
3,400.0	3,346.6	3,356.4	3,233.0	11.5	0.0	7.09	-435.0	-701.2	303.4	297.3	6.03	50.307		
3,500.0	3,444.4	3,454.9	3,324.3	11.9	0.0	7.23	-453.4	-733.2	320.7	314.5	6.22	51.583		
3,600.0	3,542.1	3,553.4	3,415.6	12.3	0.0	7.36	-471.8	-765.2	338.0	331.6	6.40	52.785		
3,700.0	3,639.9	3,651.9	3,506.9	12.7	0.0	7.47	-490.3	-797.2	355.3	348.7	6.59	53.918		
3,800.0	3,737.7	3,750.4	3,598.2	13.1	0.0	7.58	-508.7	-829.2	372.6	365.8	6.78	54.990		
3,900.0	3,835.4	3,848.9	3,689.5	13.5	0.0	7.67	-527.1	-861.2	389.9	382.9	6.96	56.005		
4,000.0	3,933.2	3,947.4	3,780.8	13.9	0.0	7.76	-545.5	-893.2	407.2	400.1	7.15	56.967		
4,100.0	4,031.0	4,045.9	3,872.1	14.3	0.0	7.84	-563.9	-925.3	424.5	417.2	7.33	57.880		
4,200.0	4,128.7	4,144.3	3,963.4	14.7	0.0	7.91	-582.4	-957.3	441.8	434.3	7.52	58.748		
4,300.0	4,226.5	4,242.8	4,054.7	15.1	0.0	7.98	-600.8	-989.3	459.1	451.4	7.71	59.574		
4,400.0	4,324.3	4,341.3	4,146.0	15.6	0.0	8.04	-619.2	-1,021.3	476.5	468.6	7.89	60.362		
4,500.0	4,422.0	4,439.8	4,237.3	16.0	0.0	8.10	-637.6	-1,053.3	493.8	485.7	8.08	61.113		
4,600.0	4,519.8	4,538.3	4,328.6	16.4	0.0	8.15	-656.0	-1,085.3	511.1	502.8	8.27	61.830		
4,700.0	4,617.6	4,636.8	4,419.9	16.8	0.0	8.20	-674.4	-1,117.3	528.4	519.9	8.45	62.516		
4,800.0	4,715.3	4,735.3	4,511.2	17.2	0.0	8.25	-692.9	-1,149.3	545.7	537.1	8.64	63.172		
4,900.0	4,813.1	4,833.8	4,602.5	17.6	0.0	8.29	-711.3	-1,181.4	563.0	554.2	8.82	63.801		
5,000.0	4,910.9	4,932.2	4,693.8	18.0	0.0	8.34	-729.7	-1,213.4	580.3	571.3	9.01	64.403		

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 7
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 7	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		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
5,100.0	5,008.6	5,030.7	4,785.1	18.4	0.0	8.38	-748.1	-1,245.4	597.7	588.5	9.20	64.981	
5,200.0	5,106.4	5,129.2	4,876.4	18.8	0.0	8.41	-766.5	-1,277.4	615.0	605.6	9.38	65.537	
5,300.0	5,204.2	5,227.7	4,967.7	19.2	0.0	8.45	-785.0	-1,309.4	632.3	622.7	9.57	66.070	
5,400.0	5,301.9	5,326.2	5,059.0	19.7	0.0	8.48	-803.4	-1,341.4	649.6	639.8	9.76	66.584	
5,500.0	5,399.7	5,424.7	5,150.3	20.1	0.0	8.51	-821.8	-1,373.4	666.9	657.0	9.94	67.078	
5,600.0	5,497.5	5,523.2	5,241.6	20.5	0.0	8.54	-840.2	-1,405.5	684.2	674.1	10.13	67.554	
5,700.0	5,595.2	5,621.7	5,332.9	20.9	0.0	8.57	-858.6	-1,437.5	701.6	691.2	10.32	68.012	
5,800.0	5,693.0	5,720.2	5,424.2	21.3	0.0	8.60	-877.1	-1,469.5	718.9	708.4	10.50	68.455	
5,900.0	5,790.8	5,818.6	5,515.5	21.7	0.0	8.63	-895.5	-1,501.5	736.2	725.5	10.69	68.882	
6,000.0	5,888.5	5,917.1	5,606.8	22.1	0.0	8.65	-913.9	-1,533.5	753.5	742.6	10.87	69.295	
6,100.0	5,986.3	6,015.6	5,698.1	22.5	0.0	8.67	-932.3	-1,565.5	770.8	759.8	11.06	69.693	
6,200.0	6,084.1	6,114.1	5,789.4	22.9	0.0	8.70	-950.7	-1,597.5	788.1	776.9	11.25	70.078	
6,300.0	6,181.8	6,212.6	5,880.7	23.3	0.0	8.72	-969.1	-1,629.5	805.5	794.0	11.43	70.451	
6,400.0	6,279.6	6,311.1	5,972.0	23.8	0.0	6.04	-987.6	-1,661.6	822.7	811.0	11.62	70.788	
6,500.0	6,375.1	6,410.6	6,064.2	24.4	0.0	-6.72	-1,006.2	-1,693.9	831.3	819.6	11.62	71.507	
6,600.0	6,465.3	6,509.7	6,156.1	25.1	0.0	-13.16	-1,024.7	-1,726.1	825.9	814.5	11.33	72.861	
6,700.0	6,547.9	6,606.1	6,245.5	26.2	0.0	-18.15	-1,042.7	-1,757.5	806.9	796.0	10.98	73.500	
6,800.0	6,620.9	6,697.4	6,330.1	27.4	0.0	-23.29	-1,059.8	-1,787.1	775.4	764.3	11.08	69.971	
6,900.0	6,682.5	6,781.3	6,407.9	28.8	0.0	-29.45	-1,075.5	-1,814.4	732.7	720.3	12.48	58.729	
7,000.0	6,731.2	6,855.8	6,477.0	30.4	0.0	-37.19	-1,089.4	-1,838.6	681.2	665.4	15.80	43.112	
7,100.0	6,765.8	6,919.1	6,535.6	32.2	0.0	-46.70	-1,101.3	-1,859.2	623.6	602.7	20.85	29.910	
7,200.0	6,785.4	6,969.5	6,582.4	34.1	0.0	-57.36	-1,110.7	-1,875.6	563.8	537.2	26.56	21.230	
7,300.0	6,790.0	7,006.3	6,616.4	36.1	0.0	-66.21	-1,117.6	-1,887.5	506.9	475.7	31.18	16.257	
7,400.0	6,790.0	7,038.7	6,646.5	38.1	0.0	-70.26	-1,123.6	-1,898.1	460.7	426.7	34.06	13.527	
7,500.0	6,790.0	7,071.2	6,676.6	40.2	0.0	-74.39	-1,129.7	-1,908.6	430.8	393.8	36.94	11.662	
7,599.6	6,790.0	7,103.5	6,706.5	42.4	0.0	-78.55	-1,135.7	-1,919.3	420.4	380.6	39.74	10.578	
7,600.0	6,790.0	7,103.6	6,706.7	42.4	0.0	-78.57	-1,135.8	-1,919.3	420.4	380.6	39.75	10.574	
7,700.0	6,790.0	7,144.1	6,743.5	44.6	0.0	-83.67	-1,143.2	-1,934.5	430.6	388.0	42.54	10.123	
7,800.0	6,790.0	7,201.0	6,793.3	46.8	0.0	-90.44	-1,153.2	-1,959.8	458.4	413.3	45.06	10.172	
7,900.0	6,790.0	7,284.7	6,862.3	49.0	0.0	-99.25	-1,167.1	-2,005.1	498.1	451.3	46.77	10.649	
8,000.0	6,790.0	7,413.9	6,955.7	51.3	0.0	-109.71	-1,185.8	-2,092.0	541.6	494.7	46.87	11.554	
8,100.0	6,790.0	7,614.5	7,061.9	53.5	0.0	-119.33	-1,206.9	-2,259.9	577.7	532.1	45.59	12.671	
8,200.0	6,790.0	7,882.0	7,115.0	55.8	0.0	-123.30	-1,217.0	-2,519.9	592.0	546.2	45.77	12.932	
8,300.0	6,790.0	7,982.0	7,115.0	58.1	0.0	-123.30	-1,216.7	-2,619.9	592.0	544.2	47.76	12.393	
8,400.0	6,790.0	8,082.0	7,115.0	60.4	0.0	-123.30	-1,216.5	-2,719.9	592.0	542.2	49.76	11.896	
8,500.0	6,790.0	8,182.0	7,115.0	62.8	0.0	-123.30	-1,216.2	-2,819.9	592.0	540.2	51.76	11.436	
8,600.0	6,790.0	8,282.0	7,115.0	65.1	0.0	-123.30	-1,216.0	-2,919.9	592.0	538.2	53.77	11.009	
8,700.0	6,790.0	8,382.0	7,115.0	67.5	0.0	-123.30	-1,215.7	-3,019.9	592.0	536.2	55.78	10.612	
8,800.0	6,790.0	8,482.0	7,115.0	69.8	0.0	-123.30	-1,215.5	-3,119.9	592.0	534.2	57.80	10.242	
8,900.0	6,790.0	8,582.0	7,115.0	72.2	0.0	-123.30	-1,215.2	-3,219.9	592.0	532.1	59.82	9.896	
9,000.0	6,790.0	8,682.0	7,115.0	74.6	0.0	-123.30	-1,215.0	-3,319.9	592.0	530.1	61.84	9.572	
9,100.0	6,790.0	8,782.0	7,115.0	77.0	0.0	-123.30	-1,214.7	-3,419.9	592.0	528.1	63.87	9.268	
9,200.0	6,790.0	8,882.0	7,115.0	79.4	0.0	-123.30	-1,214.5	-3,519.9	592.0	526.1	65.90	8.983	
9,300.0	6,790.0	8,982.0	7,115.0	81.8	0.0	-123.30	-1,214.2	-3,619.9	592.0	524.0	67.93	8.714	
9,400.0	6,790.0	9,082.0	7,115.0	84.2	0.0	-123.30	-1,214.0	-3,719.9	592.0	522.0	69.96	8.461	
9,500.0	6,790.0	9,182.0	7,115.0	86.6	0.0	-123.30	-1,213.7	-3,819.9	592.0	520.0	72.00	8.222	
9,600.0	6,790.0	9,282.0	7,115.0	89.0	0.0	-123.30	-1,213.5	-3,919.9	592.0	517.9	74.04	7.995	
9,700.0	6,790.0	9,382.0	7,115.0	91.4	0.0	-123.30	-1,213.2	-4,019.9	592.0	515.9	76.08	7.781	
9,800.0	6,790.0	9,482.0	7,115.0	93.8	0.0	-123.30	-1,213.0	-4,119.9	592.0	513.8	78.12	7.578	
9,900.0	6,790.0	9,582.0	7,115.0	96.2	0.0	-123.30	-1,212.7	-4,219.9	592.0	511.8	80.16	7.385	
10,000.0	6,790.0	9,682.0	7,115.0	98.7	0.0	-123.30	-1,212.5	-4,319.9	592.0	509.7	82.21	7.201	
10,100.0	6,790.0	9,782.0	7,115.0	101.1	0.0	-123.30	-1,212.2	-4,419.9	591.9	507.7	84.25	7.026	

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 7
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 7	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		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	9,882.0	7,115.0	103.5	0.0	-123.30	-1,212.0	-4,519.9	591.9	505.7	86.30	6.859	
10,300.0	6,790.0	9,982.0	7,115.0	105.9	0.0	-123.30	-1,211.7	-4,619.9	591.9	503.6	88.35	6.700	
10,400.0	6,790.0	10,082.0	7,115.0	108.4	0.0	-123.30	-1,211.5	-4,719.9	591.9	501.6	90.39	6.549	
10,500.0	6,790.0	10,182.0	7,115.0	110.8	0.0	-123.30	-1,211.2	-4,819.9	591.9	499.5	92.44	6.403	
10,600.0	6,790.0	10,282.0	7,115.0	113.2	0.0	-123.30	-1,211.0	-4,919.9	591.9	497.5	94.50	6.264	
10,700.0	6,790.0	10,382.0	7,115.0	115.7	0.0	-123.30	-1,210.7	-5,019.9	591.9	495.4	96.55	6.131	
10,800.0	6,790.0	10,482.0	7,115.0	118.1	0.0	-123.30	-1,210.5	-5,119.9	591.9	493.3	98.60	6.004	
10,900.0	6,790.0	10,582.0	7,115.0	120.5	0.0	-123.30	-1,210.2	-5,219.9	591.9	491.3	100.65	5.881	
11,000.0	6,790.0	10,682.0	7,115.0	123.0	0.0	-123.30	-1,210.0	-5,319.9	591.9	489.2	102.71	5.763	
11,100.0	6,790.0	10,782.0	7,115.0	125.4	0.0	-123.30	-1,209.7	-5,419.9	591.9	487.2	104.76	5.650	
11,200.0	6,790.0	10,882.0	7,115.0	127.9	0.0	-123.30	-1,209.5	-5,519.9	591.9	485.1	106.82	5.542	
11,300.0	6,790.0	10,982.0	7,115.0	130.3	0.0	-123.30	-1,209.2	-5,619.9	591.9	483.1	108.87	5.437	
11,400.0	6,790.0	11,082.0	7,115.0	132.8	0.0	-123.30	-1,209.0	-5,719.9	591.9	481.0	110.93	5.336	
11,500.0	6,790.0	11,182.0	7,115.0	135.2	0.0	-123.30	-1,208.7	-5,819.9	591.9	479.0	112.99	5.239	
11,600.0	6,790.0	11,282.0	7,115.0	137.7	0.0	-123.30	-1,208.5	-5,919.9	591.9	476.9	115.04	5.145	
11,700.0	6,790.0	11,382.0	7,115.0	140.1	0.0	-123.30	-1,208.2	-6,019.9	591.9	474.8	117.10	5.055	
11,800.0	6,790.0	11,482.0	7,115.0	142.6	0.0	-123.30	-1,208.0	-6,119.9	591.9	472.8	119.16	4.968	
11,900.0	6,790.0	11,582.0	7,115.0	145.0	0.0	-123.30	-1,207.7	-6,219.9	591.9	470.7	121.22	4.883	
12,000.0	6,790.0	11,682.0	7,115.0	147.5	0.0	-123.30	-1,207.5	-6,319.9	591.9	468.7	123.28	4.802	
12,100.0	6,790.0	11,782.0	7,115.0	149.9	0.0	-123.30	-1,207.2	-6,419.9	591.9	466.6	125.34	4.723	
12,200.0	6,790.0	11,882.0	7,115.0	152.4	0.0	-123.30	-1,207.0	-6,519.9	591.9	464.5	127.40	4.646	
12,300.0	6,790.0	11,982.0	7,115.0	154.8	0.0	-123.30	-1,206.7	-6,619.9	591.9	462.5	129.46	4.572	
12,400.0	6,790.0	12,082.0	7,115.0	157.3	0.0	-123.30	-1,206.5	-6,719.9	591.9	460.4	131.52	4.501	
12,500.0	6,790.0	12,182.0	7,115.0	159.7	0.0	-123.30	-1,206.2	-6,819.9	591.9	458.4	133.58	4.431	
12,600.0	6,790.0	12,282.0	7,115.0	162.2	0.0	-123.30	-1,206.0	-6,919.9	591.9	456.3	135.64	4.364	
12,700.0	6,790.0	12,382.0	7,115.0	164.6	0.0	-123.30	-1,205.7	-7,019.9	591.9	454.2	137.70	4.299	
12,800.0	6,790.0	12,482.0	7,115.0	167.1	0.0	-123.30	-1,205.5	-7,119.9	591.9	452.2	139.76	4.235	
12,900.0	6,790.0	12,582.0	7,115.0	169.6	0.0	-123.30	-1,205.2	-7,219.9	591.9	450.1	141.83	4.174	
13,000.0	6,790.0	12,682.0	7,115.0	172.0	0.0	-123.30	-1,205.0	-7,319.9	591.9	448.1	143.89	4.114	
13,100.0	6,790.0	12,782.0	7,115.0	174.5	0.0	-123.30	-1,204.7	-7,419.9	591.9	446.0	145.95	4.056	
13,200.0	6,790.0	12,882.0	7,115.0	176.9	0.0	-123.30	-1,204.5	-7,519.9	591.9	443.9	148.01	3.999	
13,300.0	6,790.0	12,982.0	7,115.0	179.4	0.0	-123.30	-1,204.2	-7,619.9	591.9	441.9	150.08	3.944	
13,400.0	6,790.0	13,082.0	7,115.0	181.9	0.0	-123.30	-1,204.0	-7,719.9	591.9	439.8	152.14	3.891	
13,500.0	6,790.0	13,182.0	7,115.0	184.3	0.0	-123.30	-1,203.7	-7,819.9	591.9	437.7	154.20	3.839	
13,600.0	6,790.0	13,282.0	7,115.0	186.8	0.0	-123.30	-1,203.5	-7,919.9	591.9	435.7	156.27	3.788	
13,700.0	6,790.0	13,382.0	7,115.0	189.2	0.0	-123.30	-1,203.2	-8,019.9	591.9	433.6	158.33	3.739	
13,800.0	6,790.0	13,482.0	7,115.0	191.7	0.0	-123.30	-1,203.0	-8,119.9	591.9	431.5	160.39	3.691	
13,900.0	6,790.0	13,582.0	7,115.0	194.2	0.0	-123.30	-1,202.7	-8,219.9	591.9	429.5	162.46	3.644	
14,000.0	6,790.0	13,682.0	7,115.0	196.6	0.0	-123.30	-1,202.5	-8,319.9	591.9	427.4	164.52	3.598	
14,100.0	6,790.0	13,782.0	7,115.0	199.1	0.0	-123.30	-1,202.2	-8,419.9	591.9	425.3	166.59	3.553	
14,200.0	6,790.0	13,882.0	7,115.0	201.5	0.0	-123.30	-1,202.0	-8,519.9	591.9	423.3	168.65	3.510	
14,300.0	6,790.0	13,982.0	7,115.0	204.0	0.0	-123.30	-1,201.7	-8,619.9	591.9	421.2	170.72	3.467	
14,400.0	6,790.0	14,082.0	7,115.0	206.5	0.0	-123.30	-1,201.5	-8,719.9	591.9	419.2	172.78	3.426	
14,500.0	6,790.0	14,182.0	7,115.0	208.9	0.0	-123.30	-1,201.2	-8,819.9	591.9	417.1	174.85	3.385	
14,600.0	6,790.0	14,282.0	7,115.0	211.4	0.0	-123.30	-1,201.0	-8,919.9	591.9	415.0	176.91	3.346	
14,700.0	6,790.0	14,382.0	7,115.0	213.9	0.0	-123.30	-1,200.7	-9,019.9	591.9	413.0	178.98	3.307	
14,800.0	6,790.0	14,482.0	7,115.0	216.3	0.0	-123.30	-1,200.5	-9,119.9	591.9	410.9	181.04	3.270	
14,900.0	6,790.0	14,582.0	7,115.0	218.8	0.0	-123.30	-1,200.2	-9,219.9	591.9	408.8	183.11	3.233	
15,000.0	6,790.0	14,682.0	7,115.0	221.3	0.0	-123.30	-1,200.0	-9,319.9	591.9	406.8	185.17	3.197	
15,100.0	6,790.0	14,782.0	7,115.0	223.7	0.0	-123.30	-1,199.7	-9,419.9	591.9	404.7	187.24	3.161	
15,200.0	6,790.0	14,882.0	7,115.0	226.2	0.0	-123.30	-1,199.5	-9,519.9	591.9	402.6	189.31	3.127	
15,300.0	6,790.0	14,982.0	7,115.0	228.7	0.0	-123.30	-1,199.2	-9,619.9	591.9	400.6	191.37	3.093	

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 7
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 7	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			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		
15,400.0	6,790.0	15,082.0	7,115.0	231.1	0.0	-123.30	-1,199.0	-9,719.9	591.9	398.5	193.44	3.060		
15,500.0	6,790.0	15,182.0	7,115.0	233.6	0.0	-123.30	-1,198.7	-9,819.9	591.9	396.4	195.50	3.028		
15,600.0	6,790.0	15,282.0	7,115.0	236.1	0.0	-123.30	-1,198.5	-9,919.9	591.9	394.4	197.57	2.996		
15,700.0	6,790.0	15,382.0	7,115.0	238.5	0.0	-123.30	-1,198.2	-10,019.9	591.9	392.3	199.64	2.965		
15,800.0	6,790.0	15,482.0	7,115.0	241.0	0.0	-123.30	-1,198.0	-10,119.9	591.9	390.2	201.70	2.935		
15,900.0	6,790.0	15,582.0	7,115.0	243.4	0.0	-123.30	-1,197.7	-10,219.9	591.9	388.2	203.77	2.905		
16,000.0	6,790.0	15,682.0	7,115.0	245.9	0.0	-123.30	-1,197.5	-10,319.9	591.9	386.1	205.84	2.876		
16,100.0	6,790.0	15,782.0	7,115.0	248.4	0.0	-123.30	-1,197.2	-10,419.9	591.9	384.0	207.90	2.847		
16,200.0	6,790.0	15,882.0	7,115.0	250.8	0.0	-123.30	-1,197.0	-10,519.9	591.9	382.0	209.97	2.819		
16,300.0	6,790.0	15,982.0	7,115.0	253.3	0.0	-123.30	-1,196.7	-10,619.9	591.9	379.9	212.04	2.792		
16,400.0	6,790.0	16,082.0	7,115.0	255.8	0.0	-123.30	-1,196.5	-10,719.9	591.9	377.8	214.10	2.765		
16,500.0	6,790.0	16,182.0	7,115.0	258.3	0.0	-123.30	-1,196.2	-10,819.9	591.9	375.8	216.17	2.738		
16,600.0	6,790.0	16,282.0	7,115.0	260.7	0.0	-123.30	-1,196.0	-10,919.9	591.9	373.7	218.24	2.712		
16,700.0	6,790.0	16,382.0	7,115.0	263.2	0.0	-123.30	-1,195.7	-11,019.9	591.9	371.6	220.31	2.687		
16,800.0	6,790.0	16,482.0	7,115.0	265.7	0.0	-123.30	-1,195.5	-11,119.9	591.9	369.6	222.37	2.662		
16,900.0	6,790.0	16,582.0	7,115.0	268.1	0.0	-123.30	-1,195.2	-11,219.9	591.9	367.5	224.44	2.637		
17,000.0	6,790.0	16,682.0	7,115.0	270.6	0.0	-123.30	-1,195.0	-11,319.9	591.9	365.4	226.51	2.613		
17,100.0	6,790.0	16,782.0	7,115.0	273.1	0.0	-123.30	-1,194.7	-11,419.9	591.9	363.4	228.58	2.590		
17,200.0	6,790.0	16,882.0	7,115.0	275.5	0.0	-123.30	-1,194.5	-11,519.9	591.9	361.3	230.64	2.566		
17,300.0	6,790.0	16,982.0	7,115.0	278.0	0.0	-123.30	-1,194.2	-11,619.9	591.9	359.2	232.71	2.544		
17,400.0	6,790.0	17,082.0	7,115.0	280.5	0.0	-123.30	-1,194.0	-11,719.9	591.9	357.1	234.78	2.521		
17,420.5	6,790.0	17,102.5	7,115.0	281.0	0.0	-123.30	-1,193.9	-11,740.4	591.9	356.7	235.20	2.517		
17,423.8	6,790.0	17,104.5	7,115.0	281.1	0.0	-123.30	-1,193.9	-11,742.4	591.9	356.7	235.27	2.516 SF		

Anticollision Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
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 7	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 7

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.39°

