

APR 04 2016

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McElvain Energy, Inc.

Sec. 30 T18S R34E

EK 30 WCD Federal Com

EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H

Wellbore #1

Plan: Design #1 29Jul15 kjs

Standard Planning Report - Geographic

12 August, 2015

APR 14 2016



Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Company:	McElvain Energy, Inc.	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Project:	Sec. 30 T18S R34E	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site:	EK 30 WCD Federal Com	North Reference:	Grid
Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 29Jul15 kjs		

Project	Sec. 30 T18S R34E, Lea County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	EK 30 WCD Federal Com		
Site Position:		Northing:	626,476.83 usft
From:	Map	Easting:	765,038.76 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 43' 12.413 N
		Longitude:	103° 36' 21.436 W
		Grid Convergence:	0.39 °

Well	EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			3,863.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	07/29/15	7.13
			Dip Angle
			60.53
			Field Strength
			48,490

Design	Design #1 29Jul15 kjs		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			7.81

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,238.7	5.08	97.70	2,238.3	-2.0	14.9	1.50	1.50	0.00	97.70	
9,476.3	5.08	97.70	9,447.4	-87.9	650.0	0.00	0.00	0.00	0.00	
10,090.4	73.00	0.60	9,908.4	250.0	685.0	12.00	11.06	-15.81	-98.61	
10,245.4	91.60	0.60	9,929.1	402.9	686.6	12.00	12.00	0.00	0.00	
12,945.4	91.60	0.60	9,853.8	3,101.7	714.9	0.00	0.00	0.00	0.00	
13,032.5	91.60	358.86	9,851.4	3,188.8	714.4	2.00	0.00	-2.00	-90.00	
14,698.4	91.60	358.86	9,805.0	4,853.7	681.2	0.00	0.00	0.00	0.00	TD / PBHL 30 BS2 3H
14,798.4	91.60	358.86	9,802.2	4,953.6	679.2	0.00	0.00	0.00	0.00	



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Site:	EK 30 WCD Federal Com	North Reference:	Grid
Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 29Jul15 kjs		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
200.0	0.00	0.00	200.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
400.0	0.00	0.00	400.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
600.0	0.00	0.00	600.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
800.0	0.00	0.00	800.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
1,683.0	0.00	0.00	1,683.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
Rustler									
1,743.0	0.00	0.00	1,743.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
Salt									
1,800.0	0.00	0.00	1,800.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
13 3/8"									
1,900.0	0.00	0.00	1,900.0	0.0	0.0	623,433.10	765,700.50	32° 42' 42.252 N	103° 36' 13.935 W
Start Build 1.50									
2,000.0	1.50	97.70	2,000.0	-0.2	1.3	623,432.93	765,701.79	32° 42' 42.250 N	103° 36' 13.920 W
2,200.0	4.50	97.70	2,199.7	-1.6	11.7	623,431.53	765,712.17	32° 42' 42.236 N	103° 36' 13.799 W
2,238.7	5.08	97.70	2,238.3	-2.0	14.9	623,431.09	765,715.37	32° 42' 42.231 N	103° 36' 13.761 W
Hold 5.08 Inc, 97.7 Az									
2,400.0	5.08	97.70	2,398.9	-3.9	29.0	623,429.18	765,729.52	32° 42' 42.211 N	103° 36' 13.596 W
2,600.0	5.08	97.70	2,598.1	-6.3	46.6	623,426.81	765,747.07	32° 42' 42.187 N	103° 36' 13.391 W
2,800.0	5.08	97.70	2,797.4	-8.7	64.1	623,424.43	765,764.63	32° 42' 42.162 N	103° 36' 13.186 W
3,000.0	5.08	97.70	2,996.6	-11.0	81.7	623,422.06	765,782.18	32° 42' 42.137 N	103° 36' 12.980 W
3,200.0	5.08	97.70	3,195.8	-13.4	99.2	623,419.69	765,799.73	32° 42' 42.113 N	103° 36' 12.775 W
3,262.5	5.08	97.70	3,258.0	-14.2	104.7	623,418.94	765,805.21	32° 42' 42.105 N	103° 36' 12.711 W
Yates									
3,400.0	5.08	97.70	3,395.0	-15.8	116.8	623,417.31	765,817.28	32° 42' 42.088 N	103° 36' 12.570 W
3,405.0	5.08	97.70	3,400.0	-15.9	117.2	623,417.25	765,817.72	32° 42' 42.087 N	103° 36' 12.565 W
9 5/8"									
3,600.0	5.08	97.70	3,594.2	-18.2	134.3	623,414.94	765,834.83	32° 42' 42.063 N	103° 36' 12.365 W
3,739.3	5.08	97.70	3,733.0	-19.8	146.6	623,413.29	765,847.06	32° 42' 42.046 N	103° 36' 12.222 W
Seven Rivers									
3,800.0	5.08	97.70	3,793.4	-20.5	151.9	623,412.56	765,852.38	32° 42' 42.039 N	103° 36' 12.159 W
4,000.0	5.08	97.70	3,992.6	-22.9	169.4	623,410.19	765,869.93	32° 42' 42.014 N	103° 36' 11.954 W
4,200.0	5.08	97.70	4,191.9	-25.3	187.0	623,407.82	765,887.49	32° 42' 41.989 N	103° 36' 11.749 W
4,400.0	5.08	97.70	4,391.1	-27.7	204.5	623,405.44	765,905.04	32° 42' 41.965 N	103° 36' 11.544 W
4,442.1	5.08	97.70	4,433.0	-28.2	208.2	623,404.95	765,908.73	32° 42' 41.960 N	103° 36' 11.501 W
Queen									
4,600.0	5.08	97.70	4,590.3	-30.0	222.1	623,403.07	765,922.59	32° 42' 41.940 N	103° 36' 11.338 W
4,718.2	5.08	97.70	4,708.0	-31.4	232.5	623,401.67	765,932.96	32° 42' 41.925 N	103° 36' 11.217 W
Penrose									
4,800.0	5.08	97.70	4,789.5	-32.4	239.6	623,400.70	765,940.14	32° 42' 41.915 N	103° 36' 11.133 W
5,000.0	5.08	97.70	4,988.7	-34.8	257.2	623,398.32	765,957.69	32° 42' 41.891 N	103° 36' 10.928 W
5,200.0	5.08	97.70	5,187.9	-37.2	274.7	623,395.95	765,975.24	32° 42' 41.866 N	103° 36' 10.723 W
5,270.3	5.08	97.70	5,258.0	-38.0	280.9	623,395.12	765,981.41	32° 42' 41.857 N	103° 36' 10.651 W
San Andres									
5,400.0	5.08	97.70	5,387.1	-39.5	292.3	623,393.58	765,992.79	32° 42' 41.841 N	103° 36' 10.518 W
5,420.9	5.08	97.70	5,408.0	-39.8	294.1	623,393.33	765,994.63	32° 42' 41.839 N	103° 36' 10.496 W
Delaware									



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Wellbore:	Wellbore #1		
Design:	Design #1 29Jul15 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,461.1	5.08	97.70	5,448.0	-40.3	297.7	623,392.85	765,998.15	32° 42' 41.834 N	103° 36' 10.455 W
1st Delaware Sand									
5,600.0	5.08	97.70	5,586.4	-41.9	309.8	623,391.20	766,010.34	32° 42' 41.817 N	103° 36' 10.312 W
5,747.2	5.08	97.70	5,733.0	-43.6	322.8	623,389.46	766,023.26	32° 42' 41.798 N	103° 36' 10.161 W
2nd Delaware Sand									
5,800.0	5.08	97.70	5,785.6	-44.3	327.4	623,388.83	766,027.90	32° 42' 41.792 N	103° 36' 10.107 W
6,000.0	5.08	97.70	5,984.8	-46.6	344.9	623,386.46	766,045.45	32° 42' 41.767 N	103° 36' 9.902 W
6,200.0	5.08	97.70	6,184.0	-49.0	362.5	623,384.08	766,063.00	32° 42' 41.743 N	103° 36' 9.697 W
6,400.0	5.08	97.70	6,383.2	-51.4	380.1	623,381.71	766,080.55	32° 42' 41.718 N	103° 36' 9.491 W
6,600.0	5.08	97.70	6,582.4	-53.8	397.6	623,379.34	766,098.10	32° 42' 41.693 N	103° 36' 9.286 W
6,800.0	5.08	97.70	6,781.6	-56.1	415.2	623,376.96	766,115.65	32° 42' 41.669 N	103° 36' 9.081 W
7,000.0	5.08	97.70	6,980.9	-58.5	432.7	623,374.59	766,133.20	32° 42' 41.644 N	103° 36' 8.876 W
7,200.0	5.08	97.70	7,180.1	-60.9	450.3	623,372.22	766,150.75	32° 42' 41.619 N	103° 36' 8.671 W
7,400.0	5.08	97.70	7,379.3	-63.3	467.8	623,369.84	766,168.31	32° 42' 41.595 N	103° 36' 8.465 W
7,600.0	5.08	97.70	7,578.5	-65.6	485.4	623,367.47	766,185.86	32° 42' 41.570 N	103° 36' 8.260 W
7,644.6	5.08	97.70	7,622.9	-66.2	489.3	623,366.94	766,189.77	32° 42' 41.564 N	103° 36' 8.214 W
Bone Spring									
7,800.0	5.08	97.70	7,777.7	-68.0	502.9	623,365.10	766,203.41	32° 42' 41.545 N	103° 36' 8.055 W
8,000.0	5.08	97.70	7,976.9	-70.4	520.5	623,362.72	766,220.96	32° 42' 41.520 N	103° 36' 7.850 W
8,200.0	5.08	97.70	8,176.1	-72.8	538.0	623,360.35	766,238.51	32° 42' 41.496 N	103° 36' 7.644 W
8,400.0	5.08	97.70	8,375.4	-75.1	555.6	623,357.98	766,256.06	32° 42' 41.471 N	103° 36' 7.439 W
8,600.0	5.08	97.70	8,574.6	-77.5	573.1	623,355.60	766,273.61	32° 42' 41.446 N	103° 36' 7.234 W
8,800.0	5.08	97.70	8,773.8	-79.9	590.7	623,353.23	766,291.16	32° 42' 41.422 N	103° 36' 7.029 W
8,984.9	5.08	97.70	8,957.9	-82.1	606.9	623,351.04	766,307.39	32° 42' 41.399 N	103° 36' 6.839 W
1st Bone Spring Sand									
9,000.0	5.08	97.70	8,973.0	-82.2	608.2	623,350.86	766,308.72	32° 42' 41.397 N	103° 36' 6.824 W
9,200.0	5.08	97.70	9,172.2	-84.6	625.8	623,348.48	766,326.27	32° 42' 41.372 N	103° 36' 6.618 W
9,400.0	5.08	97.70	9,371.4	-87.0	643.3	623,346.11	766,343.82	32° 42' 41.348 N	103° 36' 6.413 W
9,476.3	5.08	97.70	9,447.4	-87.9	650.0	623,345.20	766,350.51	32° 42' 41.338 N	103° 36' 6.335 W
KOP 12/100									
9,537.0	8.23	36.48	9,507.8	-84.8	655.3	623,348.35	766,355.77	32° 42' 41.369 N	103° 36' 6.273 W
2nd Bone Spring Sand									
9,600.0	14.94	18.30	9,569.5	-73.4	660.5	623,359.69	766,361.01	32° 42' 41.481 N	103° 36' 6.211 W
9,800.0	38.37	5.44	9,747.1	14.1	674.7	623,447.24	766,375.18	32° 42' 42.346 N	103° 36' 6.038 W
10,000.0	62.20	1.72	9,874.0	166.6	683.3	623,599.68	766,383.84	32° 42' 43.854 N	103° 36' 5.924 W
10,090.4	73.00	0.60	9,908.4	250.0	685.0	623,683.11	766,385.49	32° 42' 44.679 N	103° 36' 5.898 W
POP									
10,090.5	73.00	0.60	9,908.4	250.1	685.0	623,683.19	766,385.50	32° 42' 44.680 N	103° 36' 5.898 W
TOP TARGET WINDOW									
10,091.2	73.09	0.60	9,908.6	250.8	685.0	623,683.90	766,385.50	32° 42' 44.687 N	103° 36' 5.898 W
POP 30 BS2 3H									
10,200.0	86.15	0.60	9,928.2	357.6	686.1	623,790.67	766,386.62	32° 42' 45.743 N	103° 36' 5.876 W
10,245.4	91.60	0.60	9,929.1	402.9	686.6	623,836.01	766,387.10	32° 42' 46.192 N	103° 36' 5.867 W
Landing Pt 91.6 Inc, 0.6 Az									
10,400.0	91.60	0.60	9,924.8	557.5	688.2	623,990.57	766,388.71	32° 42' 47.721 N	103° 36' 5.836 W
10,600.0	91.60	0.60	9,919.2	757.4	690.3	624,190.49	766,390.81	32° 42' 49.699 N	103° 36' 5.795 W
10,800.0	91.60	0.60	9,913.6	957.3	692.4	624,390.40	766,392.90	32° 42' 51.677 N	103° 36' 5.754 W
11,000.0	91.60	0.60	9,908.0	1,157.2	694.5	624,590.31	766,394.99	32° 42' 53.655 N	103° 36' 5.714 W
11,200.0	91.60	0.60	9,902.5	1,357.1	696.6	624,790.22	766,397.09	32° 42' 55.633 N	103° 36' 5.673 W
11,400.0	91.60	0.60	9,896.9	1,557.0	698.7	624,990.13	766,399.18	32° 42' 57.611 N	103° 36' 5.632 W
11,600.0	91.60	0.60	9,891.3	1,756.9	700.8	625,190.04	766,401.28	32° 42' 59.589 N	103° 36' 5.592 W
11,800.0	91.60	0.60	9,885.8	1,956.8	702.9	625,389.95	766,403.37	32° 43' 1.566 N	103° 36' 5.551 W



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 Well: EK 30 BS2 Federal Com 3H
 Wellbore: Wellbore #1
 Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,000.0	91.60	0.60	9,880.2	2,156.8	705.0	625,589.86	766,405.46	32° 43' 3.544 N	103° 36' 5.510 W
12,200.0	91.60	0.60	9,874.6	2,356.7	707.1	625,789.78	766,407.56	32° 43' 5.522 N	103° 36' 5.470 W
12,400.0	91.60	0.60	9,869.0	2,556.6	709.2	625,989.69	766,409.65	32° 43' 7.500 N	103° 36' 5.429 W
12,600.0	91.60	0.60	9,863.5	2,756.5	711.2	626,189.60	766,411.74	32° 43' 9.478 N	103° 36' 5.388 W
12,800.0	91.60	0.60	9,857.9	2,956.4	713.3	626,389.51	766,413.84	32° 43' 11.456 N	103° 36' 5.348 W
12,945.4	91.60	0.60	9,853.8	3,101.7	714.9	626,534.81	766,415.36	32° 43' 12.893 N	103° 36' 5.318 W
Begin 2/100 Turn									
13,000.0	91.60	359.51	9,852.3	3,156.3	714.9	626,589.42	766,415.41	32° 43' 13.434 N	103° 36' 5.313 W
13,032.5	91.60	358.86	9,851.4	3,188.8	714.4	626,621.94	766,414.94	32° 43' 13.755 N	103° 36' 5.316 W
Hold 358.86 Az									
13,200.0	91.60	358.86	9,846.7	3,356.2	711.1	626,789.31	766,411.60	32° 43' 15.412 N	103° 36' 5.342 W
13,400.0	91.60	358.86	9,841.2	3,556.1	707.1	626,989.19	766,407.61	32° 43' 17.390 N	103° 36' 5.372 W
13,600.0	91.60	358.86	9,835.6	3,756.0	703.1	627,189.07	766,403.62	32° 43' 19.368 N	103° 36' 5.403 W
13,800.0	91.60	358.86	9,830.0	3,955.9	699.1	627,388.96	766,399.63	32° 43' 21.346 N	103° 36' 5.433 W
14,000.0	91.60	358.86	9,824.5	4,155.7	695.1	627,588.84	766,395.64	32° 43' 23.324 N	103° 36' 5.464 W
14,200.0	91.60	358.86	9,818.9	4,355.6	691.1	627,788.72	766,391.64	32° 43' 25.302 N	103° 36' 5.494 W
14,400.0	91.60	358.86	9,813.3	4,555.5	687.2	627,988.60	766,387.65	32° 43' 27.280 N	103° 36' 5.525 W
14,600.0	91.60	358.86	9,807.7	4,755.4	683.2	628,188.49	766,383.66	32° 43' 29.258 N	103° 36' 5.556 W
14,698.4	91.60	358.86	9,805.0	4,853.7	681.2	628,286.80	766,381.70	32° 43' 30.231 N	103° 36' 5.571 W
Start 100.0 hold at 14698.4 MD - TD / PBHL 30 BS2 3H									
14,798.4	91.60	358.86	9,802.2	4,953.6	679.2	628,386.75	766,379.70	32° 43' 31.220 N	103° 36' 5.586 W
TD at 14798.4									

Design Targets

Target Name	hit/miss target	Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
TD / PBHL 30 BS2 3H											
- plan hits target center											
- Point											
POP 30 BS2 3H											
0.00 0.00 9,911.4 250.0 713.0 623,683.10 766,413.45 32° 42' 44.677 N 103° 36' 5.571 W											
- plan misses target center by 28.1usft at 10091.2usft MD (9908.6 TVD, 250.8 N, 685.0 E)											
- Point											

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,800.0	1,800.0	13 3/8"	13-3/8	17-1/2
3,405.0	3,400.0	9 5/8"	9-5/8	12-1/4



Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Company:	McElvain Energy, Inc.	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Project:	Sec. 30 T18S R34E	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site:	EK 30 WCD Federal Com	North Reference:	Grid
Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 29Jul15 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,683.0	1,683.0	Rustler		-1.60	7.99	
1,743.0	1,743.0	Salt		-1.60	7.99	
3,262.5	3,258.0	Yates		-1.60	7.99	
3,739.3	3,733.0	Seven Rivers		-1.60	7.99	
4,442.1	4,433.0	Queen		-1.60	7.99	
4,718.2	4,708.0	Penrose		-1.60	7.99	
5,270.3	5,258.0	San Andres		-1.60	7.99	
5,420.9	5,408.0	Delaware		-1.60	7.99	
5,461.1	5,448.0	1st Delaware Sand		-1.60	7.99	
5,747.2	5,733.0	2nd Delaware Sand		-1.60	7.99	
7,644.6	7,622.9	Bone Spring		-1.60	7.99	
8,984.9	8,957.9	1st Bone Spring Sand		-1.60	7.99	
9,537.0	9,507.8	2nd Bone Spring Sand		-1.60	7.99	
10,090.5	9,908.4	TOP TARGET WINDOW		-1.60	7.99	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N-S (usft)	+E-W (usft)		
1,900.0	1,900.0	0.0	0.0	Start Build 1.50	
2,238.7	2,238.3	-2.0	14.9	Hold 5.08 Inc, 97.7 Az	
9,476.3	9,447.4	-87.9	650.0	KOP 12/100	
10,090.4	9,908.4	250.0	685.0	POP	
10,245.4	9,929.1	402.9	686.6	Landing Pt 91.6 Inc, 0.6 Az	
12,945.4	9,853.8	3,101.7	714.9	Begin 2/100 Turn	
13,032.5	9,851.4	3,188.8	714.4	Hold 358.86 Az	
14,698.4	9,805.0	4,853.7	681.2	Start 100.0 hold at 14698.4 MD	
14,798.4	9,802.2	4,953.6	679.2	TD at 14798.4	



EXTRA

HOBBS OCD

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RECEIVED

McElvain Energy, Inc.

Sec. 30 T18S R34E

EK 30 WCD Federal Com

EK 30 BS2 Federal Com 3H

Wellbore #1

Design #1 29Jul15 kjs

Anticollision Report

12 August, 2015



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Reference:	Design #1 29Jul15 kjs		
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 1,521.4 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	08/12/15		
From (usft)	To (usft)	Survey (Wellbore)		Tool Name	Description
0.0	14,798.4	Design #1 29Jul15 kjs (Wellbore #1)		MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
EK 30 WCD Federal Com						
EK 30 BS2 Federal Com 4H - Wellbore #1 - Design #1 2	1,900.0	1,900.0	161.8	153.6	19.567	CC, ES
EK 30 BS2 Federal Com 4H - Wellbore #1 - Design #1 2	14,798.4	14,729.2	1,321.4	1,134.7	7.076	SF
EK 30 WCD Federal Com 3H - Wellbore #1 - Plan #2 03	2,223.3	2,230.7	83.2	73.6	8.696	CC, ES
EK 30 WCD Federal Com 3H - Wellbore #1 - Plan #2 03	9,600.0	9,605.8	125.0	82.0	2.910	SF
EK 30 WCD Federal Com 4H - Wellbore #1 - Design #1	1,900.0	1,898.0	239.9	231.6	29.019	CC, ES
EK 30 WCD Federal Com 4H - Wellbore #1 - Design #1	2,100.0	2,087.5	249.7	240.7	27.615	SF
EK 31 BS2 Federal Com 3H - Wellbore #1 - Design #1 2	7,453.1	7,460.9	174.0	140.1	5.130	CC
EK 31 BS2 Federal Com 3H - Wellbore #1 - Design #1 2	8,300.0	8,307.4	175.8	138.3	4.684	ES
EK 31 BS2 Federal Com 3H - Wellbore #1 - Design #1 2	9,500.0	9,505.8	184.7	142.0	4.325	SF
EK 31 BS2 Federal Com 4H - Wellbore #1 - Design #1 2	1,900.0	1,900.0	346.7	338.4	41.916	CC, ES
EK 31 BS2 Federal Com 4H - Wellbore #1 - Design #1 2	9,400.0	9,321.6	1,240.4	1,198.6	29.712	SF
EK 31 WCD Federal Com 3H - Wellbore #1 - Plan #2 03	9,500.0	9,501.9	70.3	24.7	1.541	CC, ES, SF
EK 31 WCD Federal Com 4H - Wellbore #1 - Design #1	1,866.3	1,867.3	276.2	268.1	34.004	CC
EK 31 WCD Federal Com 4H - Wellbore #1 - Design #1	1,900.0	1,900.0	276.2	267.9	33.392	ES
EK 31 WCD Federal Com 4H - Wellbore #1 - Design #1	4,700.0	4,674.5	528.0	507.5	25.767	SF
EK 'B' 8701 JV-P #1 - Wellbore #1 - Wellbore #1	13,004.7	9,871.4	1,476.5	1,394.1	17.916	CC, ES
EK 'B' 8701 JV-P #1 - Wellbore #1 - Wellbore #1	13,300.0	9,868.1	1,502.7	1,415.5	17.221	SF
EK Penrose Sand Unit #401 - Wellbore #1 - Wellbore #1	11,846.0	9,908.9	264.3	201.1	4.181	CC, ES, SF
EK Penrose Sand Unit #402 - Wellbore #1 - Wellbore #1	10,682.5	9,700.0	337.5	298.8	8.732	CC, ES
EK Penrose Sand Unit #402 - Wellbore #1 - Wellbore #1	10,700.0	9,700.0	337.9	299.2	8.716	SF
McElvain #1 - Wellbore #1 - Wellbore #1	13,059.2	9,891.6	139.0	55.5	1.665	CC, ES, SF
McElvain #10 - Wellbore #1 - Wellbore #1						Out of range
McElvain #11 Unit D - Wellbore #1 - Wellbore #1	3,372.3	3,374.0	979.5	965.1	67.930	CC
McElvain #11 Unit D - Wellbore #1 - Wellbore #1	3,600.0	3,599.2	980.0	964.5	63.449	ES
McElvain #11 Unit D - Wellbore #1 - Wellbore #1	9,500.0	9,467.9	1,173.1	1,130.3	27.412	SF
McElvain #3 - Wellbore #1 - Wellbore #1	0.0	29.5	705.2			
McElvain #3 - Wellbore #1 - Wellbore #1	100.0	127.9	705.3	705.1	3,109.618	ES
McElvain #3 - Wellbore #1 - Wellbore #1	10,900.0	9,934.6	1,069.1	1,018.3	21.072	SF

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



Anticollision Report

Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Reference Site: EK 30 WCD Federal Com
Site Error: 0.0 usft
Reference Well: EK 30 BS2 Federal Com 3H
Well Error: 0.0 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
TVD Reference: WELL @ 3883.0usft (Original Well Elev)
MD Reference: WELL @ 3883.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK 30 BS2 Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error: 0.0 usft
Survey Program: 0-MWD														Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Distance		Minimum		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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-98.89	-25.0	-159.9	161.8					
100.0	100.0	100.0	100.0	0.1	0.1	-98.89	-25.0	-159.9	161.8	161.7	0.18	900.060		
200.0	200.0	200.0	200.0	0.3	0.3	-98.89	-25.0	-159.9	161.8	161.2	0.63	257.160		
300.0	300.0	300.0	300.0	0.5	0.5	-98.89	-25.0	-159.9	161.8	160.8	1.08	150.010		
400.0	400.0	400.0	400.0	0.8	0.8	-98.89	-25.0	-159.9	161.8	160.3	1.53	105.890		
500.0	500.0	500.0	500.0	1.0	1.0	-98.89	-25.0	-159.9	161.8	159.9	1.98	81.824		
600.0	600.0	600.0	600.0	1.2	1.2	-98.89	-25.0	-159.9	161.8	159.4	2.43	66.671		
700.0	700.0	700.0	700.0	1.4	1.4	-98.89	-25.0	-159.9	161.8	159.0	2.88	56.254		
800.0	800.0	800.0	800.0	1.7	1.7	-98.89	-25.0	-159.9	161.8	158.5	3.33	48.652		
900.0	900.0	900.0	900.0	1.9	1.9	-98.89	-25.0	-159.9	161.8	158.1	3.78	42.860		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-98.89	-25.0	-159.9	161.8	157.6	4.23	38.300		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-98.89	-25.0	-159.9	161.8	157.2	4.68	34.618		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-98.89	-25.0	-159.9	161.8	156.7	5.12	31.581		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-98.89	-25.0	-159.9	161.8	156.3	5.57	29.034		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-98.89	-25.0	-159.9	161.8	155.8	6.02	26.867		
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-98.89	-25.0	-159.9	161.8	155.4	6.47	25.002		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-98.89	-25.0	-159.9	161.8	154.9	6.92	23.378		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-98.89	-25.0	-159.9	161.8	154.5	7.37	21.953		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-98.89	-25.0	-159.9	161.8	154.0	7.82	20.691		
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-98.89	-25.0	-159.9	161.8	153.6	8.27	19.567 CC, ES		
2,000.0	2,000.0	1,995.9	1,995.9	4.3	4.3	163.49	-25.3	-161.1	164.3	155.7	8.68	18.942		
2,100.0	2,099.9	2,093.8	2,093.7	4.5	4.5	163.72	-26.1	-164.3	171.5	162.4	9.05	18.938		
2,200.0	2,199.7	2,193.3	2,193.1	4.7	4.7	164.14	-27.0	-167.8	181.4	171.9	9.43	19.225		
2,300.0	2,299.3	2,292.5	2,292.3	5.0	4.9	164.71	-27.9	-171.3	193.3	183.5	9.82	19.679		
2,400.0	2,398.9	2,391.8	2,391.5	5.2	5.1	165.24	-28.8	-174.8	205.4	195.2	10.22	20.097		
2,500.0	2,498.5	2,491.0	2,490.7	5.4	5.3	165.71	-29.7	-178.3	217.6	207.0	10.63	20.475		
2,600.0	2,598.1	2,590.3	2,589.9	5.6	5.5	166.14	-30.6	-181.8	229.8	218.7	11.04	20.819		
2,700.0	2,697.7	2,689.5	2,689.1	5.9	5.7	166.52	-31.5	-185.2	241.9	230.5	11.45	21.132		
2,800.0	2,797.4	2,788.8	2,788.2	6.1	5.9	166.86	-32.3	-188.7	254.1	242.3	11.87	21.418		
2,900.0	2,897.0	2,888.0	2,887.4	6.3	6.2	167.17	-33.2	-192.2	266.3	254.1	12.28	21.680		
3,000.0	2,996.6	2,987.2	2,986.6	6.6	6.4	167.46	-34.1	-195.7	278.5	265.8	12.71	21.921		
3,100.0	3,096.2	3,086.5	3,085.8	6.8	6.6	167.72	-35.0	-199.2	290.8	277.6	13.13	22.142		
3,200.0	3,195.8	3,185.7	3,184.9	7.1	6.8	167.96	-35.9	-202.7	303.0	289.4	13.56	22.346		
3,300.0	3,295.4	3,285.0	3,284.1	7.3	7.0	168.18	-36.8	-206.2	315.2	301.2	13.99	22.535		
3,400.0	3,395.0	3,384.2	3,383.3	7.6	7.2	168.38	-37.7	-209.7	327.4	313.0	14.42	22.710		
3,500.0	3,494.6	3,483.5	3,482.5	7.8	7.5	168.57	-38.6	-213.2	339.7	324.8	14.85	22.872		
3,600.0	3,594.2	3,582.7	3,581.7	8.1	7.7	168.75	-39.5	-216.7	351.9	336.6	15.28	23.023		
3,700.0	3,693.8	3,681.9	3,680.8	8.3	7.9	168.91	-40.4	-220.2	364.1	348.4	15.72	23.164		
3,800.0	3,793.4	3,781.2	3,780.0	8.6	8.1	169.07	-41.2	-223.7	376.4	360.2	16.16	23.296		
3,900.0	3,893.0	3,880.4	3,879.2	8.8	8.3	169.21	-42.1	-227.2	388.6	372.0	16.59	23.419		
4,000.0	3,992.6	3,979.7	3,978.4	9.1	8.6	169.35	-43.0	-230.7	400.9	383.8	17.03	23.534		
4,100.0	4,092.2	4,078.9	4,077.5	9.4	8.8	169.47	-43.9	-234.2	413.1	395.6	17.47	23.642		
4,200.0	4,191.9	4,178.2	4,176.7	9.6	9.0	169.59	-44.8	-237.7	425.4	407.4	17.91	23.744		
4,300.0	4,291.5	4,277.4	4,275.9	9.9	9.2	169.71	-45.7	-241.1	437.6	419.3	18.36	23.840		
4,400.0	4,391.1	4,376.6	4,375.1	10.1	9.5	169.81	-46.6	-244.6	449.9	431.1	18.80	23.930		
4,500.0	4,490.7	4,475.9	4,474.3	10.4	9.7	169.92	-47.5	-248.1	462.1	442.9	19.24	24.016		
4,600.0	4,590.3	4,575.1	4,573.4	10.7	9.9	170.01	-48.4	-251.6	474.4	454.7	19.69	24.096		
4,700.0	4,689.9	4,674.4	4,672.6	10.9	10.1	170.10	-49.3	-255.1	486.6	466.5	20.13	24.173		
4,800.0	4,789.5	4,773.6	4,771.8	11.2	10.4	170.19	-50.1	-258.6	498.9	478.3	20.58	24.245		
4,900.0	4,889.1	4,872.9	4,871.0	11.5	10.6	170.27	-51.0	-262.1	511.1	490.1	21.02	24.314		
5,000.0	4,988.7	4,972.1	4,970.1	11.7	10.8	170.35	-51.9	-265.6	523.4	501.9	21.47	24.379		

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



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design: EK 30 WCD Federal Com - EK 30 BS2 Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error: 0.0 usft
Survey Program: 0-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)	Offset Wellbore Centre E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.0	5,088.3	5,071.3	5,069.3	12.0	11.0	170.43	-52.8	-269.1	535.7	513.7	21.92	24.441		
5,200.0	5,187.9	5,170.6	5,168.5	12.3	11.3	170.50	-53.7	-272.6	547.9	525.6	22.36	24.500		
5,300.0	5,287.5	5,269.8	5,267.7	12.5	11.5	170.57	-54.6	-276.1	560.2	537.4	22.81	24.556		
5,400.0	5,387.1	5,369.1	5,366.8	12.8	11.7	170.63	-55.5	-279.6	572.4	549.2	23.26	24.610		
5,500.0	5,486.7	5,468.3	5,466.0	13.1	12.0	170.70	-56.4	-283.1	584.7	561.0	23.71	24.661		
5,600.0	5,586.4	5,567.6	5,565.2	13.3	12.2	170.76	-57.3	-286.6	597.0	572.8	24.16	24.710		
5,700.0	5,686.0	5,666.8	5,664.4	13.6	12.4	170.82	-58.2	-290.1	609.2	584.6	24.61	24.757		
5,800.0	5,785.6	5,766.1	5,763.6	13.9	12.6	170.87	-59.0	-293.5	621.5	596.4	25.06	24.801		
5,900.0	5,885.2	5,865.3	5,862.7	14.1	12.9	170.93	-59.9	-297.0	633.8	608.3	25.51	24.844		
6,000.0	5,984.8	5,964.5	5,961.9	14.4	13.1	170.98	-60.8	-300.5	646.0	620.1	25.96	24.885		
6,100.0	6,084.4	6,063.8	6,061.1	14.7	13.3	171.03	-61.7	-304.0	658.3	631.9	26.41	24.925		
6,200.0	6,184.0	6,163.0	6,160.3	15.0	13.6	171.08	-62.6	-307.5	670.6	643.7	26.86	24.963		
6,300.0	6,283.6	6,262.3	6,259.4	15.2	13.8	171.12	-63.5	-311.0	682.8	655.5	27.32	24.999		
6,400.0	6,383.2	6,361.5	6,358.6	15.5	14.0	171.17	-64.4	-314.5	695.1	667.3	27.77	25.034		
6,500.0	6,482.8	6,460.8	6,457.8	15.8	14.2	171.21	-65.3	-318.0	707.4	679.2	28.22	25.067		
6,600.0	6,582.4	6,560.0	6,557.0	16.0	14.5	171.25	-66.2	-321.5	719.7	691.0	28.67	25.100		
6,700.0	6,682.0	6,659.2	6,656.2	16.3	14.7	171.29	-67.1	-325.0	731.9	702.8	29.12	25.131		
6,800.0	6,781.6	6,758.5	6,755.3	16.6	14.9	171.33	-67.9	-328.5	744.2	714.6	29.58	25.161		
6,900.0	6,881.2	6,857.7	6,854.5	16.8	15.2	171.37	-68.8	-332.0	756.5	726.4	30.03	25.190		
7,000.0	6,980.9	6,957.0	6,953.7	17.1	15.4	171.40	-69.7	-335.5	768.7	738.2	30.48	25.218		
7,100.0	7,080.5	7,056.2	7,052.9	17.4	15.6	171.44	-70.6	-339.0	781.0	750.1	30.94	25.245		
7,200.0	7,180.1	7,155.5	7,152.0	17.7	15.8	171.47	-71.5	-342.5	793.3	761.9	31.39	25.271		
7,300.0	7,279.7	7,254.7	7,251.2	17.9	16.1	171.51	-72.4	-345.9	805.5	773.7	31.85	25.296		
7,400.0	7,379.3	7,353.9	7,350.4	18.2	16.3	171.54	-73.3	-349.4	817.8	785.5	32.30	25.320		
7,500.0	7,478.9	7,453.2	7,449.6	18.5	16.5	171.57	-74.2	-352.9	830.1	797.3	32.75	25.344		
7,600.0	7,578.5	7,552.4	7,548.8	18.8	16.8	171.60	-75.1	-356.4	842.4	809.2	33.21	25.366		
7,700.0	7,678.1	7,651.7	7,647.9	19.0	17.0	171.63	-76.0	-359.9	854.6	821.0	33.66	25.388		
7,800.0	7,777.7	7,750.9	7,747.1	19.3	17.2	171.66	-76.8	-363.4	866.9	832.8	34.12	25.410		
7,900.0	7,877.3	7,850.2	7,846.3	19.6	17.5	171.68	-77.7	-366.9	879.2	844.6	34.57	25.430		
8,000.0	7,976.9	7,949.4	7,945.5	19.8	17.7	171.71	-78.6	-370.4	891.5	856.4	35.03	25.450		
8,100.0	8,076.5	8,048.6	8,044.6	20.1	17.9	171.74	-79.5	-373.9	903.7	868.2	35.48	25.470		
8,200.0	8,176.1	8,147.9	8,143.8	20.4	18.2	171.76	-80.4	-377.4	916.0	880.1	35.94	25.488		
8,300.0	8,275.7	8,247.1	8,243.0	20.7	18.4	171.79	-81.3	-380.9	928.3	891.9	36.39	25.507		
8,400.0	8,375.4	8,346.4	8,342.2	20.9	18.6	171.81	-82.2	-384.4	940.6	903.7	36.85	25.524		
8,500.0	8,475.0	8,445.6	8,441.4	21.2	18.8	171.84	-83.1	-387.9	952.8	915.5	37.30	25.541		
8,600.0	8,574.6	8,544.9	8,540.5	21.5	19.1	171.86	-84.0	-391.4	965.1	927.3	37.76	25.558		
8,700.0	8,674.2	8,644.1	8,639.7	21.8	19.3	171.88	-84.9	-394.9	977.4	939.2	38.22	25.574		
8,800.0	8,773.8	8,743.3	8,738.9	22.0	19.5	171.90	-85.7	-398.3	989.6	951.0	38.67	25.590		
8,900.0	8,873.4	8,842.6	8,838.1	22.3	19.8	171.92	-86.6	-401.8	1,001.9	962.8	39.13	25.605		
9,000.0	8,973.0	8,941.8	8,937.2	22.6	20.0	171.94	-87.5	-405.3	1,014.2	974.6	39.59	25.620		
9,100.0	9,072.6	9,041.1	9,036.4	22.8	20.2	171.96	-88.4	-408.8	1,026.5	986.4	40.04	25.635		
9,200.0	9,172.2	9,140.3	9,135.6	23.1	20.5	171.98	-89.3	-412.3	1,038.7	998.2	40.50	25.649		
9,300.0	9,271.8	9,239.6	9,234.8	23.4	20.7	172.00	-90.2	-415.8	1,051.0	1,010.1	40.96	25.662		
9,400.0	9,371.4	9,338.8	9,334.0	23.7	20.9	172.02	-91.1	-419.3	1,063.3	1,021.9	41.41	25.676		
9,500.0	9,471.0	9,438.0	9,433.1	23.9	21.2	-156.54	-92.0	-422.8	1,075.6	1,033.7	41.86	25.692		
9,600.0	9,569.5	9,533.1	9,527.8	24.2	21.4	-107.85	-96.4	-426.3	1,087.7	1,045.5	42.25	25.743		
9,700.0	9,662.9	9,628.8	9,620.2	24.4	21.5	-98.36	-92.4	-430.3	1,099.6	1,056.9	42.62	25.802		
9,800.0	9,747.1	9,726.6	9,707.7	24.5	21.7	-94.36	-19.3	-434.7	1,110.6	1,067.6	42.99	25.837		
9,900.0	9,818.5	9,826.6	9,786.2	24.7	21.9	-92.16	42.3	-439.4	1,120.4	1,077.0	43.42	25.808		
10,000.0	9,874.0	9,929.2	9,851.5	24.8	22.0	-90.87	120.9	-444.1	1,128.6	1,084.6	43.97	25.666		
10,100.0	9,911.1	10,034.2	9,899.5	25.1	22.3	-90.22	214.1	-448.6	1,134.6	1,089.9	44.72	25.370		

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



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK 30 BS2 Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs											Offset Site Error		0.0 usft
Survey Program: 0-MWD											Offset Well Error		0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation	Warning
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Toolface (°)	N/S (usft)	E/W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	
10,200.0	9,928.2	10,135.1	9,925.3	25.4	22.8	-90.05	311.3	-452.6	1,139.7	1,094.0	45.70	24.941	
10,300.0	9,927.6	10,234.8	9,930.4	25.9	23.4	-90.06	410.6	-456.7	1,144.8	1,097.9	46.89	24.416	
10,400.0	9,924.8	10,334.7	9,927.6	26.5	24.2	-90.06	510.4	-460.8	1,150.0	1,101.7	48.33	23.794	
10,500.0	9,922.0	10,434.5	9,924.8	27.2	25.0	-90.06	610.1	-464.9	1,155.1	1,105.1	49.99	23.107	
10,600.0	9,919.2	10,534.4	9,922.1	28.1	25.9	-90.06	709.8	-469.0	1,160.3	1,108.4	51.86	22.375	
10,700.0	9,916.4	10,634.3	9,919.3	29.0	27.0	-90.06	809.6	-473.1	1,165.4	1,111.5	53.91	21.619	
10,800.0	9,913.6	10,734.1	9,916.5	30.0	28.1	-90.06	909.3	-477.2	1,170.6	1,114.5	56.12	20.857	
10,900.0	9,910.8	10,834.0	9,913.7	31.2	29.3	-90.06	1,009.1	-481.3	1,175.7	1,117.2	58.49	20.102	
11,000.0	9,908.0	10,933.9	9,910.9	32.3	30.5	-90.06	1,108.8	-485.4	1,180.9	1,119.9	60.98	19.366	
11,100.0	9,905.3	11,033.8	9,908.1	33.6	31.8	-90.06	1,208.6	-489.5	1,186.0	1,122.4	63.58	18.653	
11,200.0	9,902.5	11,133.6	9,905.3	34.9	33.2	-90.06	1,308.3	-493.6	1,191.2	1,124.9	66.29	17.970	
11,300.0	9,899.7	11,233.5	9,902.5	36.2	34.6	-90.05	1,408.1	-497.7	1,196.3	1,127.2	69.08	17.318	
11,400.0	9,896.9	11,333.4	9,899.8	37.6	36.1	-90.05	1,507.8	-501.8	1,201.5	1,129.5	71.95	16.698	
11,500.0	9,894.1	11,433.2	9,897.0	39.0	37.5	-90.05	1,607.5	-505.9	1,206.6	1,131.7	74.89	16.111	
11,600.0	9,891.3	11,533.1	9,894.2	40.4	39.1	-90.05	1,707.3	-510.0	1,211.8	1,133.9	77.90	15.556	
11,700.0	9,888.5	11,633.0	9,891.4	41.9	40.6	-90.05	1,807.0	-514.1	1,216.9	1,136.0	80.95	15.032	
11,800.0	9,885.8	11,732.8	9,888.6	43.4	42.1	-90.05	1,906.8	-518.2	1,222.1	1,138.0	84.06	14.538	
11,900.0	9,883.0	11,832.7	9,885.8	44.9	43.7	-90.05	2,006.5	-522.3	1,227.2	1,140.0	87.21	14.072	
12,000.0	9,880.2	11,932.6	9,883.0	46.5	45.3	-90.05	2,106.3	-526.3	1,232.4	1,142.0	90.40	13.633	
12,100.0	9,877.4	12,032.4	9,880.2	48.1	47.0	-90.05	2,206.0	-530.4	1,237.5	1,143.9	93.62	13.219	
12,200.0	9,874.6	12,132.3	9,877.5	49.7	48.6	-90.05	2,305.8	-534.5	1,242.6	1,145.8	96.87	12.828	
12,300.0	9,871.8	12,232.2	9,874.7	51.3	50.2	-90.05	2,405.5	-538.6	1,247.8	1,147.6	100.15	12.459	
12,400.0	9,869.0	12,332.0	9,871.9	52.9	51.9	-90.05	2,505.2	-542.7	1,252.9	1,149.5	103.46	12.110	
12,500.0	9,866.2	12,431.9	9,869.1	54.5	53.6	-90.05	2,605.0	-546.8	1,258.1	1,151.3	106.79	11.780	
12,600.0	9,863.5	12,531.8	9,866.3	56.1	55.3	-90.05	2,704.7	-550.9	1,263.2	1,153.1	110.15	11.469	
12,700.0	9,860.7	12,631.6	9,863.5	57.8	57.0	-90.05	2,804.5	-555.0	1,268.4	1,154.9	113.52	11.173	
12,800.0	9,857.9	12,731.5	9,860.7	59.5	58.7	-90.05	2,904.2	-559.1	1,273.5	1,156.6	116.91	10.893	
12,900.0	9,855.1	12,831.4	9,858.0	61.1	60.4	-90.05	3,004.0	-563.2	1,278.7	1,158.4	120.31	10.628	
13,000.0	9,852.3	12,931.3	9,855.2	62.8	62.1	-90.08	3,103.7	-567.3	1,283.3	1,159.7	123.61	10.382	
13,100.0	9,849.5	13,031.2	9,852.4	64.3	63.8	-90.09	3,203.6	-571.4	1,285.6	1,158.7	126.89	10.132	
13,200.0	9,846.7	13,131.2	9,849.6	66.0	65.6	-90.09	3,303.4	-575.5	1,287.7	1,157.4	130.34	9.879	
13,300.0	9,844.0	13,231.2	9,846.8	67.7	67.3	-90.09	3,403.3	-579.6	1,289.8	1,156.0	133.81	9.639	
13,400.0	9,841.2	13,331.2	9,844.0	69.4	69.0	-90.09	3,503.1	-583.7	1,291.9	1,154.6	137.29	9.410	
13,500.0	9,838.4	13,431.1	9,841.2	71.2	70.8	-90.09	3,603.0	-587.8	1,294.0	1,153.2	140.78	9.192	
13,600.0	9,835.6	13,531.1	9,838.4	72.9	72.5	-90.09	3,702.9	-591.9	1,296.1	1,151.9	144.28	8.984	
13,700.0	9,832.8	13,631.1	9,835.6	74.6	74.3	-90.09	3,802.7	-596.0	1,298.2	1,150.5	147.79	8.785	
13,800.0	9,830.0	13,731.1	9,832.8	76.3	76.1	-90.09	3,902.6	-600.1	1,300.4	1,149.1	151.30	8.595	
13,900.0	9,827.2	13,831.1	9,830.1	78.1	77.8	-90.09	4,002.4	-604.2	1,302.5	1,147.6	154.82	8.413	
14,000.0	9,824.5	13,931.0	9,827.3	79.8	79.6	-90.09	4,102.3	-608.3	1,304.6	1,146.2	158.35	8.238	
14,100.0	9,821.7	14,031.0	9,824.5	81.6	81.4	-90.09	4,202.1	-612.4	1,306.7	1,144.8	161.89	8.071	
14,200.0	9,818.9	14,131.0	9,821.7	83.3	83.2	-90.09	4,302.0	-616.5	1,308.8	1,143.3	165.43	7.911	
14,300.0	9,816.1	14,231.0	9,818.9	85.1	84.9	-90.09	4,401.8	-620.6	1,310.9	1,141.9	168.98	7.758	
14,400.0	9,813.3	14,330.9	9,816.1	86.8	86.7	-90.09	4,501.7	-624.7	1,313.0	1,140.5	172.53	7.610	
14,500.0	9,810.5	14,430.9	9,813.3	88.6	88.5	-90.09	4,601.6	-628.8	1,315.1	1,139.0	176.09	7.468	
14,600.0	9,807.7	14,530.9	9,810.5	90.3	90.3	-90.09	4,701.4	-632.9	1,317.2	1,137.6	179.66	7.332	
14,700.0	9,805.0	14,630.9	9,807.7	92.1	92.1	-90.09	4,801.3	-637.0	1,319.3	1,136.1	183.22	7.201	
14,798.4	9,802.2	14,729.2	9,805.0	93.8	93.8	-90.09	4,899.5	-641.1	1,321.4	1,134.7	186.74	7.076 SF	

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset/TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 30 WCD Federal Com 3H - Wellbore #1 - Plan #2 03Aug15 kjs														Offset Site Error: 0.0 usft	
Survey Program: 0-MWD														Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis			Distance		Warning						
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation				
Depth	Depth	Depth	Depth	Reference	Offset	Toolface	+N-S	+E-W	Centres	Ellipses	Separation	Factor	Warning		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)				
0.0	0.0	1.0	1.0	0.0	0.0	-107.35	-25.0	-80.0	83.8						
100.0	100.0	101.0	101.0	0.1	0.1	-107.35	-25.0	-80.0	83.8	83.6	0.18	460.370			
200.0	200.0	201.0	201.0	0.3	0.3	-107.35	-25.0	-80.0	83.8	83.2	0.63	132.705			
300.0	300.0	301.0	301.0	0.5	0.5	-107.35	-25.0	-80.0	83.8	82.7	1.08	77.526			
400.0	400.0	401.0	401.0	0.8	0.8	-107.35	-25.0	-80.0	83.8	82.3	1.53	54.758			
500.0	500.0	501.0	501.0	1.0	1.0	-107.35	-25.0	-80.0	83.8	81.8	1.98	42.327			
600.0	600.0	601.0	601.0	1.2	1.2	-107.35	-25.0	-80.0	83.8	81.4	2.43	34.496			
700.0	700.0	701.0	701.0	1.4	1.4	-107.35	-25.0	-80.0	83.8	80.9	2.88	29.110			
800.0	800.0	801.0	801.0	1.7	1.7	-107.35	-25.0	-80.0	83.8	80.5	3.33	25.179			
900.0	900.0	901.0	901.0	1.9	1.9	-107.35	-25.0	-80.0	83.8	80.0	3.78	22.183			
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-107.35	-25.0	-80.0	83.8	79.6	4.23	19.825			
1,100.0	1,100.0	1,101.0	1,101.0	2.3	2.3	-107.35	-25.0	-80.0	83.8	79.1	4.68	17.919			
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	-107.35	-25.0	-80.0	83.8	78.7	5.13	16.348			
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	-107.35	-25.0	-80.0	83.8	78.2	5.58	15.030			
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	-107.35	-25.0	-80.0	83.8	77.8	6.03	13.909			
1,500.0	1,500.0	1,501.0	1,501.0	3.2	3.2	-107.35	-25.0	-80.0	83.8	77.3	6.48	12.943			
1,600.0	1,600.0	1,601.0	1,601.0	3.5	3.5	-107.35	-25.0	-80.0	83.8	76.9	6.93	12.103			
1,700.0	1,700.0	1,701.0	1,701.0	3.7	3.7	-107.35	-25.0	-80.0	83.8	76.4	7.37	11.365			
1,800.0	1,800.0	1,801.0	1,801.0	3.9	3.9	-107.35	-25.0	-80.0	83.8	76.0	7.82	10.712			
1,900.0	1,900.0	1,901.0	1,901.0	4.1	4.1	-107.35	-25.0	-80.0	83.8	75.5	8.27	10.131			
2,000.0	2,000.0	2,003.1	2,003.1	4.3	4.4	154.97	-25.1	-78.6	83.7	75.0	8.69	9.633			
2,100.0	2,099.9	2,105.2	2,105.1	4.5	4.6	155.08	-25.5	-74.5	83.6	74.5	9.08	9.200			
2,200.0	2,199.7	2,207.2	2,206.9	4.7	4.8	155.26	-26.0	-67.7	83.3	73.8	9.47	8.790			
2,223.3	2,223.0	2,230.7	2,230.3	4.8	4.8	155.30	-26.2	-65.8	83.2	73.6	9.57	8.696	CC, ES		
2,300.0	2,299.3	2,307.4	2,306.7	5.0	5.0	155.66	-26.7	-59.5	83.5	73.7	9.87	8.462			
2,400.0	2,398.9	2,407.3	2,406.3	5.2	5.2	156.12	-27.4	-51.4	84.0	73.7	10.28	8.167			
2,500.0	2,498.5	2,507.3	2,506.0	5.4	5.4	156.57	-28.0	-43.2	84.4	73.7	10.70	7.891			
2,600.0	2,598.1	2,607.3	2,605.7	5.6	5.6	157.01	-28.7	-35.1	84.9	73.8	11.12	7.634			
2,700.0	2,697.7	2,707.3	2,705.3	5.9	5.9	157.45	-29.4	-26.9	85.4	73.8	11.55	7.393			
2,800.0	2,797.4	2,807.3	2,805.0	6.1	6.1	157.89	-30.1	-18.7	85.8	73.9	11.98	7.167			
2,900.0	2,897.0	2,907.3	2,904.7	6.3	6.3	158.32	-30.7	-10.6	86.3	73.9	12.41	6.956			
3,000.0	2,996.6	3,007.3	3,004.3	6.6	6.6	158.75	-31.4	-2.4	86.8	73.9	12.84	6.757			
3,100.0	3,096.2	3,107.3	3,104.0	6.8	6.8	159.17	-32.1	5.7	87.3	74.0	13.28	6.571			
3,200.0	3,195.8	3,207.3	3,203.6	7.1	7.1	159.59	-32.8	13.9	87.8	74.0	13.72	6.397			
3,300.0	3,295.4	3,307.3	3,303.3	7.3	7.3	160.00	-33.4	22.1	88.3	74.1	14.16	6.232			
3,400.0	3,395.0	3,407.3	3,403.0	7.6	7.6	160.41	-34.1	30.2	88.8	74.2	14.60	6.077			
3,500.0	3,494.6	3,507.3	3,502.6	7.8	7.8	160.81	-34.8	38.4	89.3	74.2	15.05	5.931			
3,600.0	3,594.2	3,607.3	3,602.3	8.1	8.0	161.21	-35.5	46.5	89.8	74.3	15.49	5.793			
3,700.0	3,693.8	3,707.3	3,701.9	8.3	8.3	161.60	-36.1	54.7	90.3	74.3	15.94	5.663			
3,800.0	3,793.4	3,807.3	3,801.6	8.6	8.6	161.99	-36.8	62.9	90.8	74.4	16.39	5.540			
3,900.0	3,893.0	3,907.3	3,901.3	8.8	8.8	162.38	-37.5	71.0	91.3	74.5	16.84	5.423			
4,000.0	3,992.6	4,007.3	4,000.9	9.1	9.1	162.76	-38.2	79.2	91.8	74.5	17.29	5.313			
4,100.0	4,092.2	4,107.3	4,100.6	9.4	9.3	163.14	-38.8	87.3	92.4	74.6	17.74	5.208			
4,200.0	4,191.9	4,207.3	4,200.2	9.6	9.6	163.51	-39.5	95.5	92.9	74.7	18.19	5.108			
4,300.0	4,291.5	4,307.3	4,299.9	9.9	9.8	163.88	-40.2	103.6	93.4	74.8	18.64	5.013			
4,400.0	4,391.1	4,407.3	4,399.6	10.1	10.1	164.24	-40.9	111.8	94.0	74.9	19.09	4.923			
4,500.0	4,490.7	4,507.3	4,499.2	10.4	10.3	164.60	-41.5	120.0	94.5	75.0	19.54	4.837			
4,600.0	4,590.3	4,607.3	4,598.9	10.7	10.6	164.96	-42.2	128.1	95.1	75.1	19.99	4.755			
4,700.0	4,689.9	4,707.3	4,698.6	10.9	10.9	165.31	-42.9	136.3	95.6	75.2	20.45	4.676			
4,800.0	4,789.5	4,807.3	4,798.2	11.2	11.1	165.66	-43.6	144.4	96.2	75.3	20.90	4.601			
4,900.0	4,889.1	4,907.3	4,897.9	11.5	11.4	166.00	-44.2	152.6	96.7	75.4	21.35	4.530			

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 30 WCD Federal Com 3H - Wellbore #1 - Plan #2 03Aug15 kjs													Offset Site Error:
Survey Program: 0-MWD													0.0 usft
Reference	Offset	Semi Major Axis		Distance		Minimum 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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,988.7	5,007.3	4,997.5	11.7	11.6	166.34	-44.9	160.8	97.3	75.5	21.80	4.461	
5,100.0	5,088.3	5,107.3	5,097.2	12.0	11.9	166.68	-45.6	168.9	97.8	75.6	22.26	4.396	
5,200.0	5,187.9	5,207.3	5,196.9	12.3	12.2	167.01	-46.3	177.1	98.4	75.7	22.71	4.333	
5,300.0	5,287.5	5,307.3	5,296.5	12.5	12.4	167.34	-46.9	185.2	99.0	75.8	23.17	4.273	
5,400.0	5,387.1	5,407.3	5,396.2	12.8	12.7	167.66	-47.6	193.4	99.6	75.9	23.62	4.215	
5,500.0	5,486.7	5,507.2	5,495.8	13.1	12.9	167.98	-48.3	201.6	100.1	76.1	24.08	4.159	
5,600.0	5,586.4	5,607.2	5,595.5	13.3	13.2	168.30	-49.0	209.7	100.7	76.2	24.53	4.106	
5,700.0	5,686.0	5,707.2	5,695.2	13.6	13.5	168.61	-49.6	217.9	101.3	76.3	24.99	4.054	
5,800.0	5,785.6	5,807.2	5,794.8	13.9	13.7	168.92	-50.3	226.0	101.9	76.4	25.44	4.005	
5,900.0	5,885.2	5,907.2	5,894.5	14.1	14.0	169.23	-51.0	234.2	102.5	76.6	25.90	3.957	
6,000.0	5,984.8	6,007.2	5,994.1	14.4	14.2	169.53	-51.7	242.3	103.1	76.7	26.35	3.911	
6,100.0	6,084.4	6,107.2	6,093.8	14.7	14.5	169.83	-52.3	250.5	103.7	76.9	26.81	3.867	
6,200.0	6,184.0	6,207.2	6,193.5	15.0	14.8	170.13	-53.0	258.7	104.3	77.0	27.26	3.824	
6,300.0	6,283.6	6,307.2	6,293.1	15.2	15.0	170.42	-53.7	266.8	104.9	77.1	27.72	3.783	
6,400.0	6,383.2	6,407.2	6,392.8	15.5	15.3	170.71	-54.4	275.0	105.5	77.3	28.17	3.743	
6,500.0	6,482.8	6,507.2	6,492.5	15.8	15.6	170.99	-55.0	283.1	106.1	77.4	28.63	3.705	
6,600.0	6,582.4	6,607.2	6,592.1	16.0	15.8	171.28	-55.7	291.3	106.7	77.6	29.09	3.668	
6,700.0	6,682.0	6,707.2	6,691.8	16.3	16.1	171.55	-56.4	299.5	107.3	77.7	29.54	3.632	
6,800.0	6,781.6	6,807.2	6,791.4	16.6	16.4	171.83	-57.1	307.6	107.9	77.9	30.00	3.597	
6,900.0	6,881.2	6,907.2	6,891.1	16.8	16.6	172.10	-57.7	315.8	108.5	78.1	30.46	3.563	
7,000.0	6,980.9	7,007.2	6,990.8	17.1	16.9	172.37	-58.4	323.9	109.1	78.2	30.91	3.530	
7,100.0	7,080.5	7,107.2	7,090.4	17.4	17.2	172.64	-59.1	332.1	109.8	78.4	31.37	3.499	
7,200.0	7,180.1	7,207.2	7,190.1	17.7	17.4	172.90	-59.8	340.3	110.4	78.6	31.83	3.468	
7,300.0	7,279.7	7,307.2	7,289.7	17.9	17.7	173.17	-60.4	348.4	111.0	78.7	32.28	3.438	
7,400.0	7,379.3	7,407.2	7,389.4	18.2	17.9	173.42	-61.1	356.6	111.6	78.9	32.74	3.410	
7,500.0	7,478.9	7,507.2	7,489.1	18.5	18.2	173.68	-61.8	364.7	112.3	79.1	33.20	3.382	
7,600.0	7,578.5	7,607.2	7,588.7	18.8	18.5	173.93	-62.5	372.9	112.9	79.2	33.66	3.354	
7,700.0	7,678.1	7,707.2	7,688.4	19.0	18.7	174.18	-63.1	381.0	113.5	79.4	34.11	3.328	
7,800.0	7,777.7	7,807.2	7,788.0	19.3	19.0	174.43	-63.8	389.2	114.2	79.6	34.57	3.302	
7,900.0	7,877.3	7,907.2	7,887.7	19.6	19.3	174.67	-64.5	397.4	114.8	79.8	35.03	3.277	
8,000.0	7,976.9	8,007.2	7,987.4	19.8	19.5	174.91	-65.2	405.5	115.4	80.0	35.49	3.253	
8,100.0	8,076.5	8,107.2	8,087.0	20.1	19.8	175.15	-65.8	413.7	116.1	80.1	35.95	3.229	
8,200.0	8,176.1	8,207.2	8,186.7	20.4	20.1	175.39	-66.5	421.8	116.7	80.3	36.40	3.206	
8,300.0	8,275.7	8,307.2	8,286.3	20.7	20.3	175.62	-67.2	430.0	117.4	80.5	36.86	3.184	
8,400.0	8,375.4	8,407.2	8,386.0	20.9	20.6	175.85	-67.9	438.2	118.0	80.7	37.32	3.162	
8,500.0	8,475.0	8,507.2	8,485.7	21.2	20.9	176.08	-68.5	446.3	118.7	80.9	37.78	3.141	
8,600.0	8,574.6	8,607.1	8,585.3	21.5	21.1	176.30	-69.2	454.5	119.3	81.1	38.24	3.121	
8,700.0	8,674.2	8,707.1	8,685.0	21.8	21.4	176.53	-69.9	462.6	120.0	81.3	38.70	3.100	
8,800.0	8,773.8	8,807.1	8,784.7	22.0	21.7	176.75	-70.6	470.8	120.6	81.5	39.16	3.081	
8,900.0	8,873.4	8,907.1	8,884.3	22.3	21.9	176.97	-71.2	479.0	121.3	81.7	39.62	3.062	
9,000.0	8,973.0	9,007.1	8,984.0	22.6	22.2	177.18	-71.9	487.1	122.0	81.9	40.08	3.043	
9,100.0	9,072.6	9,107.1	9,083.6	22.8	22.5	177.40	-72.6	495.3	122.6	82.1	40.54	3.025	
9,200.0	9,172.2	9,207.1	9,183.3	23.1	22.7	177.61	-73.3	503.4	123.3	82.3	41.00	3.007	
9,300.0	9,271.8	9,307.1	9,283.0	23.4	23.0	177.82	-73.9	511.6	123.9	82.5	41.46	2.990	
9,400.0	9,371.4	9,407.1	9,382.6	23.7	23.3	178.02	-74.6	519.7	124.6	82.7	41.92	2.973	
9,500.0	9,471.0	9,507.1	9,482.3	23.9	23.5	-150.93	-75.3	527.9	125.2	82.8	42.38	2.954	
9,583.1	9,553.1	9,589.4	9,564.3	24.1	23.8	-111.20	-75.9	534.6	124.9	82.1	42.83	2.917	
9,600.0	9,569.5	9,605.8	9,580.7	24.2	23.8	-110.00	-76.0	536.0	125.0	82.0	42.95	2.910 SF	
9,700.0	9,662.9	9,699.3	9,673.8	24.4	24.1	-115.37	-76.6	543.6	130.5	86.8	43.68	2.987	
9,800.0	9,747.1	9,783.4	9,757.7	24.5	24.3	-126.91	-77.2	550.5	154.5	111.0	43.51	3.550	
9,900.0	9,818.5	9,854.6	9,828.6	24.7	24.5	-135.03	-77.6	556.3	203.4	161.6	41.83	4.862	

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 30 WCD Federal Com 3H - Wellbore #1 - Plan #2 03Aug15 kjs														Offset Site Error	0.0 usft
Survey Program: 0-MWD														Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance		Minimum		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)	Minimum Separation (usft)	Separation Factor	Warning		
10,000.0	9,874.0	9,909.6	9,883.4	24.8	24.6	-136.90	-78.0	560.7	273.7	233.7	40.04	6.836			
10,100.0	9,911.1	9,946.1	9,919.8	25.1	24.7	-130.28	-78.3	563.7	358.7	318.2	40.50	8.858			
10,200.0	9,928.2	9,962.5	9,936.1	25.4	24.8	-107.30	-78.4	565.1	452.5	407.7	44.80	10.101			
10,300.0	9,927.6	9,961.3	9,934.9	25.9	24.8	-85.78	-78.4	565.0	549.7	503.9	45.75	12.014			
10,400.0	9,924.8	9,957.9	9,931.6	26.5	24.7	-84.16	-78.3	564.7	647.7	601.4	46.31	13.986			
10,500.0	9,922.0	9,954.6	9,928.2	27.2	24.7	-82.56	-78.3	564.4	746.3	699.3	46.95	15.895			
10,600.0	9,919.2	9,951.2	9,924.9	28.1	24.7	-80.97	-78.3	564.1	845.2	797.5	47.66	17.733			
10,700.0	9,916.4	9,947.8	9,921.5	29.0	24.7	-79.41	-78.3	563.9	944.3	895.8	48.43	19.497			
10,800.0	9,913.6	9,944.5	9,918.2	30.0	24.7	-77.86	-78.2	563.6	1,043.5	994.3	49.25	21.189			
10,900.0	9,910.8	9,941.1	9,914.8	31.2	24.7	-76.35	-78.2	563.3	1,142.9	1,092.8	50.11	22.809			
11,000.0	9,908.0	9,937.7	9,911.4	32.3	24.7	-74.86	-78.2	563.0	1,242.4	1,191.4	51.00	24.362			
11,100.0	9,905.3	9,934.4	9,908.1	33.6	24.7	-73.39	-78.2	562.8	1,341.9	1,290.0	51.91	25.852			
11,200.0	9,902.5	9,931.0	9,904.7	34.9	24.7	-71.96	-78.2	562.5	1,441.5	1,388.7	52.84	27.283			



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK 30 WCD Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error
Survey Program: 0-MWD														0.0 usft
Reference	Offset	Semi Major Axis		Reference	Offset	Highside	Offset Wellbore Control		Distance		Minimum	Separation	Warning	Offset Well Error
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/S (usft)	+E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor		0.0 usft
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-239.9	239.9					
100.0	100.0	98.0	98.0	0.1	0.1	-90.00	0.0	-239.9	239.9	239.7	0.18	1,347.640		
200.0	200.0	198.0	198.0	0.3	0.3	-90.00	0.0	-239.9	239.9	239.3	0.62	383.932		
300.0	300.0	298.0	298.0	0.5	0.5	-90.00	0.0	-239.9	239.9	238.8	1.07	223.291		
400.0	400.0	398.0	398.0	0.8	0.8	-90.00	0.0	-239.9	239.9	238.4	1.52	157.424		
500.0	500.0	498.0	498.0	1.0	1.0	-90.00	0.0	-239.9	239.9	237.9	1.97	121.564		
600.0	600.0	598.0	598.0	1.2	1.2	-90.00	0.0	-239.9	239.9	237.5	2.42	99.010		
700.0	700.0	698.0	698.0	1.4	1.4	-90.00	0.0	-239.9	239.9	237.0	2.87	83.516		
800.0	800.0	798.0	798.0	1.7	1.7	-90.00	0.0	-239.9	239.9	236.6	3.32	72.215		
900.0	900.0	898.0	898.0	1.9	1.9	-90.00	0.0	-239.9	239.9	236.1	3.77	63.607		
1,000.0	1,000.0	998.0	998.0	2.1	2.1	-90.00	0.0	-239.9	239.9	235.7	4.22	56.833		
1,100.0	1,100.0	1,098.0	1,098.0	2.3	2.3	-90.00	0.0	-239.9	239.9	235.2	4.67	51.363		
1,200.0	1,200.0	1,198.0	1,198.0	2.6	2.6	-90.00	0.0	-239.9	239.9	234.8	5.12	46.854		
1,300.0	1,300.0	1,298.0	1,298.0	2.8	2.8	-90.00	0.0	-239.9	239.9	234.3	5.57	43.072		
1,400.0	1,400.0	1,398.0	1,398.0	3.0	3.0	-90.00	0.0	-239.9	239.9	233.9	6.02	39.856		
1,500.0	1,500.0	1,498.0	1,498.0	3.2	3.2	-90.00	0.0	-239.9	239.9	233.4	6.47	37.086		
1,600.0	1,600.0	1,598.0	1,598.0	3.5	3.5	-90.00	0.0	-239.9	239.9	233.0	6.92	34.676		
1,700.0	1,700.0	1,698.0	1,698.0	3.7	3.7	-90.00	0.0	-239.9	239.9	232.5	7.37	32.560		
1,800.0	1,800.0	1,798.0	1,798.0	3.9	3.9	-90.00	0.0	-239.9	239.9	232.1	7.82	30.688		
1,900.0	1,900.0	1,898.0	1,898.0	4.1	4.1	-90.00	0.0	-239.9	239.9	231.6	8.27	29.019 CC, ES		
2,000.0	2,000.0	1,992.3	1,992.3	4.3	4.3	172.27	-0.3	-241.0	242.3	233.7	8.67	27.956		
2,100.0	2,099.9	2,087.5	2,087.5	4.5	4.5	172.19	-1.0	-244.3	249.7	240.7	9.04	27.615 SF		
2,200.0	2,199.7	2,187.0	2,186.8	4.7	4.7	172.15	-2.0	-248.5	260.4	250.9	9.42	27.636		
2,300.0	2,299.3	2,286.1	2,285.9	5.0	4.9	172.19	-3.0	-252.6	273.1	263.3	9.81	27.840		
2,400.0	2,398.9	2,385.3	2,385.0	5.2	5.1	172.23	-4.0	-256.8	286.0	275.8	10.21	28.018		
2,500.0	2,498.5	2,484.5	2,484.0	5.4	5.3	172.27	-4.9	-260.9	299.0	288.4	10.61	28.170		
2,600.0	2,598.1	2,583.6	2,583.1	5.6	5.5	172.31	-5.9	-265.1	311.9	300.9	11.02	28.298		
2,700.0	2,697.7	2,682.8	2,682.2	5.9	5.7	172.34	-6.9	-269.2	324.8	313.4	11.43	28.409		
2,800.0	2,797.4	2,781.9	2,781.2	6.1	5.9	172.38	-7.9	-273.4	337.8	325.9	11.85	28.503		
2,900.0	2,897.0	2,881.1	2,880.3	6.3	6.2	172.41	-8.9	-277.5	350.7	338.4	12.27	28.584		
3,000.0	2,996.6	2,980.3	2,979.4	6.6	6.4	172.43	-9.8	-281.7	363.7	351.0	12.69	28.653		
3,100.0	3,096.2	3,079.4	3,078.4	6.8	6.6	172.46	-10.8	-285.8	376.6	363.5	13.12	28.713		
3,200.0	3,195.8	3,178.6	3,177.5	7.1	6.8	172.48	-11.8	-289.9	389.5	376.0	13.54	28.763		
3,300.0	3,295.4	3,277.7	3,276.6	7.3	7.0	172.50	-12.8	-294.1	402.5	388.5	13.97	28.806		
3,400.0	3,395.0	3,376.9	3,375.6	7.6	7.3	172.53	-13.7	-298.2	415.4	401.0	14.40	28.843		
3,500.0	3,494.6	3,476.1	3,474.7	7.8	7.5	172.55	-14.7	-302.4	428.3	413.5	14.83	28.875		
3,600.0	3,594.2	3,575.2	3,573.8	8.1	7.7	172.56	-15.7	-306.5	441.3	426.0	15.27	28.901		
3,700.0	3,693.8	3,674.4	3,672.8	8.3	7.9	172.58	-16.7	-310.7	454.2	438.5	15.70	28.924		
3,800.0	3,793.4	3,773.5	3,771.9	8.6	8.1	172.60	-17.6	-314.8	467.1	451.0	16.14	28.943		
3,900.0	3,893.0	3,872.7	3,871.0	8.8	8.4	172.61	-18.6	-319.0	480.1	463.5	16.58	28.958		
4,000.0	3,992.6	3,971.9	3,970.0	9.1	8.6	172.63	-19.6	-323.1	493.0	476.0	17.02	28.971		
4,100.0	4,092.2	4,071.0	4,069.1	9.4	8.8	172.64	-20.6	-327.3	505.9	488.5	17.46	28.982		
4,200.0	4,191.9	4,170.2	4,168.2	9.6	9.0	172.66	-21.6	-331.4	518.9	501.0	17.90	28.990		
4,300.0	4,291.5	4,269.3	4,267.3	9.9	9.3	172.67	-22.5	-335.6	531.8	513.5	18.34	28.997		
4,400.0	4,391.1	4,368.5	4,366.3	10.1	9.5	172.68	-23.5	-339.7	544.7	526.0	18.78	29.002		
4,500.0	4,490.7	4,467.7	4,465.4	10.4	9.7	172.69	-24.5	-343.9	557.7	538.5	19.23	29.006		
4,600.0	4,590.3	4,566.8	4,564.5	10.7	10.0	172.70	-25.5	-348.0	570.6	550.9	19.67	29.008		
4,700.0	4,689.9	4,666.0	4,663.5	10.9	10.2	172.71	-26.4	-352.2	583.6	563.4	20.12	29.009		
4,800.0	4,789.5	4,765.1	4,762.6	11.2	10.4	172.72	-27.4	-356.3	596.5	575.9	20.56	29.009		
4,900.0	4,889.1	4,864.3	4,861.7	11.5	10.6	172.73	-28.4	-360.5	609.4	588.4	21.01	29.009		
5,000.0	4,988.7	4,963.5	4,960.7	11.7	10.9	172.74	-29.4	-364.6	622.4	600.9	21.46	29.007		

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



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design														Offset Site Error: 0.0 usft
EK 30 WCD Federal Com - EK 30 WCD Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Well Error: 0.0 usft
Survey Program: 0:MWD	Reference	Offset	Semi Major Axis		Distance		Minimum 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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.0	5,088.3	5,062.6	5,059.8	12.0	11.1	172.75	-30.3	-368.8	635.3	613.4	21.90	29.005		
5,200.0	5,187.9	5,161.8	5,158.9	12.3	11.3	172.76	-31.3	-372.9	648.2	625.9	22.35	29.003		
5,300.0	5,287.5	5,260.9	5,257.9	12.5	11.6	172.77	-32.3	-377.0	661.2	638.4	22.80	29.000		
5,400.0	5,387.1	5,360.1	5,357.0	12.8	11.8	172.78	-33.3	-381.2	674.1	650.9	23.25	28.996		
5,500.0	5,486.7	5,459.3	5,456.1	13.1	12.0	172.78	-34.2	-385.3	687.0	663.3	23.70	28.992		
5,600.0	5,586.4	5,558.4	5,555.1	13.3	12.3	172.79	-35.2	-389.5	700.0	675.8	24.15	28.988		
5,700.0	5,686.0	5,657.6	5,654.2	13.6	12.5	172.80	-36.2	-393.6	712.9	688.3	24.60	28.984		
5,800.0	5,785.6	5,756.7	5,753.3	13.9	12.7	172.80	-37.2	-397.8	725.8	700.8	25.05	28.979		
5,900.0	5,885.2	5,855.9	5,852.3	14.1	13.0	172.81	-38.2	-401.9	738.8	713.3	25.50	28.974		
6,000.0	5,984.8	5,955.1	5,951.4	14.4	13.2	172.82	-39.1	-406.1	751.7	725.8	25.95	28.968		
6,100.0	6,084.4	6,054.2	6,050.5	14.7	13.4	172.82	-40.1	-410.2	764.7	738.3	26.40	28.963		
6,200.0	6,184.0	6,153.4	6,149.5	15.0	13.7	172.83	-41.1	-414.4	777.6	750.7	26.85	28.957		
6,300.0	6,283.6	6,252.5	6,248.6	15.2	13.9	172.84	-42.1	-418.5	790.5	763.2	27.31	28.952		
6,400.0	6,383.2	6,351.7	6,347.7	15.5	14.1	172.84	-43.0	-422.7	803.5	775.7	27.76	28.946		
6,500.0	6,482.8	6,450.9	6,446.8	15.8	14.3	172.85	-44.0	-426.8	816.4	788.2	28.21	28.940		
6,600.0	6,582.4	6,550.0	6,545.8	16.0	14.6	172.85	-45.0	-431.0	829.3	800.7	28.66	28.934		
6,700.0	6,682.0	6,649.2	6,644.9	16.3	14.8	172.86	-46.0	-435.1	842.3	813.2	29.12	28.928		
6,800.0	6,781.6	6,748.3	6,744.0	16.6	15.0	172.86	-46.9	-439.3	855.2	825.6	29.57	28.922		
6,900.0	6,881.2	6,847.5	6,843.0	16.8	15.3	172.87	-47.9	-443.4	868.1	838.1	30.02	28.916		
7,000.0	6,980.9	6,946.7	6,942.1	17.1	15.5	172.87	-48.9	-447.6	881.1	850.6	30.48	28.910		
7,100.0	7,080.5	7,045.8	7,041.2	17.4	15.7	172.88	-49.9	-451.7	894.0	863.1	30.93	28.904		
7,200.0	7,180.1	7,145.0	7,140.2	17.7	16.0	172.88	-50.9	-455.9	907.0	875.6	31.38	28.898		
7,300.0	7,279.7	7,244.1	7,239.3	17.9	16.2	172.88	-51.8	-460.0	919.9	888.1	31.84	28.892		
7,400.0	7,379.3	7,343.3	7,338.4	18.2	16.4	172.89	-52.8	-464.1	932.8	900.5	32.29	28.886		
7,500.0	7,478.9	7,442.5	7,437.4	18.5	16.7	172.89	-53.8	-468.3	945.8	913.0	32.75	28.879		
7,600.0	7,578.5	7,541.6	7,536.5	18.8	16.9	172.90	-54.8	-472.4	958.7	925.5	33.20	28.873		
7,700.0	7,678.1	7,640.8	7,635.6	19.0	17.1	172.90	-55.7	-476.6	971.6	938.0	33.66	28.867		
7,800.0	7,777.7	7,739.9	7,734.6	19.3	17.4	172.90	-56.7	-480.7	984.6	950.5	34.11	28.861		
7,900.0	7,877.3	7,839.1	7,833.7	19.6	17.6	172.91	-57.7	-484.9	997.5	962.9	34.57	28.855		
8,000.0	7,976.9	7,938.2	7,932.8	19.8	17.9	172.91	-58.7	-489.0	1,010.4	975.4	35.03	28.849		
8,100.0	8,076.5	8,037.4	8,031.8	20.1	18.1	172.91	-59.6	-493.2	1,023.4	987.9	35.48	28.843		
8,200.0	8,176.1	8,136.6	8,130.9	20.4	18.3	172.92	-60.6	-497.3	1,036.3	1,000.4	35.94	28.837		
8,300.0	8,275.7	8,235.7	8,230.0	20.7	18.6	172.92	-61.6	-501.5	1,049.3	1,012.9	36.39	28.831		
8,400.0	8,375.4	8,334.9	8,329.0	20.9	18.8	172.92	-62.6	-505.6	1,062.2	1,025.3	36.85	28.825		
8,500.0	8,475.0	8,434.0	8,428.1	21.2	19.0	172.93	-63.5	-509.8	1,075.1	1,037.8	37.31	28.820		
8,600.0	8,574.6	8,533.2	8,527.2	21.5	19.3	172.93	-64.5	-513.9	1,088.1	1,050.3	37.76	28.814		
8,700.0	8,674.2	8,632.4	8,626.3	21.8	19.5	172.93	-65.5	-518.1	1,101.0	1,062.8	38.22	28.808		
8,800.0	8,773.8	8,731.5	8,725.3	22.0	19.7	172.93	-66.5	-522.2	1,113.9	1,075.3	38.67	28.802		
8,900.0	8,873.4	8,830.7	8,824.4	22.3	20.0	172.94	-67.5	-526.4	1,126.9	1,087.7	39.13	28.797		
9,000.0	8,973.0	8,929.8	8,923.5	22.6	20.2	172.94	-68.4	-530.5	1,139.8	1,100.2	39.59	28.791		
9,100.0	9,072.6	9,029.0	9,022.5	22.8	20.4	172.94	-69.4	-534.7	1,152.7	1,112.7	40.05	28.786		
9,200.0	9,172.2	9,128.2	9,121.6	23.1	20.7	172.95	-70.4	-538.8	1,165.7	1,125.2	40.50	28.780		
9,300.0	9,271.8	9,227.3	9,220.7	23.4	20.9	172.95	-71.4	-543.0	1,178.6	1,137.7	40.96	28.775		
9,400.0	9,371.4	9,326.5	9,319.7	23.7	21.1	172.95	-72.3	-547.1	1,191.5	1,150.1	41.42	28.769		
9,500.0	9,471.0	9,425.6	9,418.8	23.9	21.4	-155.60	-73.3	-551.2	1,204.5	1,162.6	41.87	28.766		
9,600.0	9,569.5	9,523.5	9,516.6	24.2	21.6	-107.16	-74.3	-555.3	1,216.9	1,174.6	42.30	28.769		
9,700.0	9,662.9	9,616.1	9,609.1	24.4	21.8	-98.70	-75.2	-559.2	1,229.0	1,186.3	42.70	28.780		
9,800.0	9,747.1	9,699.5	9,692.4	24.5	22.0	-96.05	-76.0	-562.7	1,241.8	1,198.7	43.08	28.826		
9,900.0	9,818.5	9,770.0	9,762.8	24.7	22.2	-94.92	-76.7	-565.6	1,256.9	1,213.5	43.45	28.927		
10,000.0	9,874.0	9,824.4	9,817.2	24.8	22.3	-93.80	-77.2	-567.9	1,276.0	1,232.1	43.87	29.088		
10,100.0	9,911.1	9,860.5	9,853.3	25.1	22.4	-91.92	-77.6	-569.4	1,300.2	1,255.8	44.34	29.320		

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 30 WCD Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs											Offset Site Error: 0.0 usft		
Survey Program: 0-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)	Minimum Separation (usft)	Separation Factor	Warning
10,200.0	9,928.2	9,876.6	9,869.3	25.4	22.4	-88.78	-77.8	-570.1	1,330.7	1,285.9	44.85	29.672	
10,300.0	9,927.6	9,874.9	9,867.6	25.9	22.4	-86.65	-77.7	-570.0	1,367.6	1,322.3	45.35	30.159	
10,400.0	9,924.8	9,871.1	9,863.8	26.5	22.4	-86.48	-77.7	-569.9	1,410.6	1,364.5	46.04	30.637	
10,500.0	9,922.0	9,867.3	9,860.0	27.2	22.4	-86.31	-77.7	-569.7	1,459.1	1,412.3	46.85	31.147	
10,600.0	9,919.2	9,863.5	9,856.2	28.1	22.4	-86.13	-77.6	-569.6	1,512.7	1,464.9	47.75	31.679	



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design: EK 30 WCD Federal Com - EK 31 BS2 Federal Com 3H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error: 0.0 usft
Survey Program: 0-MWD														Offset Well Error: 0.0 usft
Reference	Measured Depth	Vertical Depth	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)		
0.0	0.0	1.0	1.0	0.0	0.0	-160.47	-225.2	-79.9	239.0					
100.0	100.0	101.0	101.0	0.1	0.1	-160.47	-225.2	-79.9	239.0	238.8	0.18	1,312.497		
200.0	200.0	201.0	201.0	0.3	0.3	-160.47	-225.2	-79.9	239.0	238.3	0.63	378.336		
300.0	300.0	301.0	301.0	0.5	0.5	-160.47	-225.2	-79.9	239.0	237.9	1.08	221.024		
400.0	400.0	401.0	401.0	0.8	0.8	-160.47	-225.2	-79.9	239.0	237.4	1.53	156.112		
500.0	500.0	501.0	501.0	1.0	1.0	-160.47	-225.2	-79.9	239.0	237.0	1.98	120.672		
600.0	600.0	601.0	601.0	1.2	1.2	-160.47	-225.2	-79.9	239.0	236.5	2.43	98.346		
700.0	700.0	701.0	701.0	1.4	1.4	-160.47	-225.2	-79.9	239.0	236.1	2.88	82.992		
800.0	800.0	801.0	801.0	1.7	1.7	-160.47	-225.2	-79.9	239.0	235.6	3.33	71.784		
900.0	900.0	901.0	901.0	1.9	1.9	-160.47	-225.2	-79.9	239.0	235.2	3.78	63.244		
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-160.47	-225.2	-79.9	239.0	234.7	4.23	56.519		
1,100.0	1,100.0	1,101.0	1,101.0	2.3	2.3	-160.47	-225.2	-79.9	239.0	234.3	4.68	51.087		
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	-160.47	-225.2	-79.9	239.0	233.8	5.13	46.608		
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	-160.47	-225.2	-79.9	239.0	233.4	5.58	42.851		
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	-160.47	-225.2	-79.9	239.0	232.9	6.03	39.654		
1,500.0	1,500.0	1,501.0	1,501.0	3.2	3.2	-160.47	-225.2	-79.9	239.0	232.5	6.48	36.901		
1,600.0	1,600.0	1,601.0	1,601.0	3.5	3.5	-160.47	-225.2	-79.9	239.0	232.0	6.93	34.506		
1,700.0	1,700.0	1,701.0	1,701.0	3.7	3.7	-160.47	-225.2	-79.9	239.0	231.6	7.37	32.402		
1,800.0	1,800.0	1,801.0	1,801.0	3.9	3.9	-160.47	-225.2	-79.9	239.0	231.1	7.82	30.541		
1,900.0	1,900.0	1,901.0	1,901.0	4.1	4.1	-160.47	-225.2	-79.9	239.0	230.7	8.27	28.882		
2,000.0	2,000.0	2,004.3	2,004.3	4.3	4.4	101.86	-224.9	-78.5	238.5	229.8	8.70	27.406		
2,100.0	2,099.9	2,107.6	2,107.5	4.5	4.6	101.97	-224.1	-74.4	237.2	228.1	9.11	26.034		
2,200.0	2,199.7	2,210.2	2,209.8	4.7	4.8	102.16	-222.7	-67.6	235.1	225.6	9.53	24.671		
2,300.0	2,299.3	2,310.1	2,309.5	5.0	5.0	102.67	-221.3	-60.3	233.1	223.1	9.96	23.410		
2,400.0	2,398.9	2,410.1	2,409.2	5.2	5.2	103.23	-219.8	-52.9	231.1	220.7	10.39	22.237		
2,500.0	2,498.5	2,510.0	2,508.8	5.4	5.5	103.79	-218.3	-45.5	229.1	218.3	10.84	21.146		
2,600.0	2,598.1	2,610.0	2,608.5	5.6	5.7	104.37	-216.9	-38.2	227.2	215.9	11.29	20.129		
2,700.0	2,697.7	2,709.9	2,708.2	5.9	5.9	104.96	-215.4	-30.8	225.2	213.5	11.74	19.183		
2,800.0	2,797.4	2,809.9	2,807.9	6.1	6.1	105.55	-213.9	-23.4	223.3	211.1	12.20	18.301		
2,900.0	2,897.0	2,909.8	2,907.5	6.3	6.4	106.16	-212.4	-16.1	221.5	208.8	12.67	17.480		
3,000.0	2,996.6	3,009.8	3,007.2	6.6	6.6	106.78	-211.0	-8.7	219.6	206.5	13.14	16.714		
3,100.0	3,096.2	3,109.7	3,106.9	6.8	6.9	107.40	-209.5	-1.3	217.8	204.2	13.61	15.999		
3,200.0	3,195.8	3,209.7	3,206.5	7.1	7.1	108.04	-208.0	6.0	216.0	201.9	14.09	15.330		
3,300.0	3,295.4	3,309.7	3,306.2	7.3	7.3	108.69	-206.6	13.4	214.2	199.7	14.57	14.705		
3,400.0	3,395.0	3,409.6	3,405.9	7.6	7.6	109.35	-205.1	20.8	212.5	197.4	15.05	14.120		
3,500.0	3,494.6	3,509.6	3,505.6	7.8	7.8	110.02	-203.6	28.1	210.8	195.2	15.53	13.571		
3,600.0	3,594.2	3,609.5	3,605.2	8.1	8.1	110.70	-202.1	35.5	209.1	193.1	16.01	13.057		
3,700.0	3,693.8	3,709.5	3,704.9	8.3	8.3	111.39	-200.7	42.9	207.4	190.9	16.50	12.573		
3,800.0	3,793.4	3,809.4	3,804.6	8.6	8.6	112.09	-199.2	50.2	205.8	188.8	16.98	12.118		
3,900.0	3,893.0	3,909.4	3,904.2	8.8	8.8	112.81	-197.7	57.6	204.2	186.7	17.47	11.691		
4,000.0	3,992.6	4,009.3	4,003.9	9.1	9.1	113.53	-196.3	65.0	202.7	184.7	17.95	11.287		
4,100.0	4,092.2	4,109.3	4,103.6	9.4	9.3	114.27	-194.8	72.3	201.1	182.7	18.44	10.907		
4,200.0	4,191.9	4,209.2	4,203.3	9.6	9.6	115.02	-193.3	79.7	199.6	180.7	18.92	10.549		
4,300.0	4,291.5	4,309.2	4,302.9	9.9	9.8	115.77	-191.8	87.1	198.2	178.8	19.41	10.210		
4,400.0	4,391.1	4,409.2	4,402.6	10.1	10.1	116.54	-190.4	94.4	196.7	176.9	19.89	9.890		
4,500.0	4,490.7	4,509.1	4,502.3	10.4	10.3	117.32	-188.9	101.8	195.4	175.0	20.38	9.587		
4,600.0	4,590.3	4,609.1	4,601.9	10.7	10.6	118.12	-187.4	109.2	194.0	173.1	20.86	9.300		
4,700.0	4,689.9	4,709.0	4,701.6	10.9	10.8	118.92	-185.9	116.5	192.7	171.4	21.34	9.029		
4,800.0	4,789.5	4,809.0	4,801.3	11.2	11.1	119.73	-184.5	123.9	191.4	169.6	21.82	8.772		
4,900.0	4,889.1	4,908.9	4,901.0	11.5	11.3	120.55	-183.0	131.2	190.2	167.9	22.30	8.528		
5,000.0	4,988.7	5,008.9	5,000.6	11.7	11.6	121.39	-181.5	138.6	189.0	166.2	22.78	8.296		

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



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK 31 BS2 Federal Com 3H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error	0.0 usft
Survey Program: 0-MWD														Offset Well Error	0.0 usft
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)	Minimum Separation (usft)	Separation Factor	Warning		
5,100.0	5,088.3	5,108.8	5,100.3	12.0	11.8	122.23	-180.1	146.0	187.8	164.6	23.26	8.077			
5,200.0	5,187.9	5,208.8	5,200.0	12.3	12.1	123.09	-178.6	153.3	186.7	163.0	23.73	7.868			
5,300.0	5,287.5	5,308.8	5,299.7	12.5	12.3	123.95	-177.1	160.7	185.6	161.4	24.20	7.670			
5,400.0	5,387.1	5,408.7	5,399.3	12.8	12.6	124.83	-175.6	168.1	184.6	159.9	24.67	7.482			
5,500.0	5,486.7	5,508.7	5,499.0	13.1	12.9	125.71	-174.2	175.4	183.6	158.5	25.14	7.303			
5,600.0	5,586.4	5,608.6	5,598.7	13.3	13.1	126.61	-172.7	182.8	182.7	157.1	25.61	7.133			
5,700.0	5,686.0	5,708.6	5,698.3	13.6	13.4	127.51	-171.2	190.2	181.8	155.7	26.08	6.972			
5,800.0	5,785.6	5,808.5	5,798.0	13.9	13.6	128.42	-169.8	197.5	180.9	154.4	26.54	6.818			
5,900.0	5,885.2	5,908.5	5,897.7	14.1	13.9	129.34	-168.3	204.9	180.1	153.1	27.00	6.672			
6,000.0	5,984.8	6,008.4	5,997.4	14.4	14.1	130.27	-166.8	212.3	179.4	151.9	27.46	6.532			
6,100.0	6,084.4	6,108.4	6,097.0	14.7	14.4	131.21	-165.3	219.6	178.7	150.8	27.92	6.400			
6,200.0	6,184.0	6,208.3	6,196.7	15.0	14.6	132.15	-163.9	227.0	178.0	149.6	28.37	6.274			
6,300.0	6,283.6	6,308.3	6,296.4	15.2	14.9	133.10	-162.4	234.4	177.4	148.6	28.82	6.154			
6,400.0	6,383.2	6,408.3	6,396.0	15.5	15.2	134.06	-160.9	241.7	176.8	147.6	29.28	6.040			
6,500.0	6,482.8	6,508.2	6,495.7	15.8	15.4	135.02	-159.5	249.1	176.3	146.6	29.72	5.932			
6,600.0	6,582.4	6,608.2	6,595.4	16.0	15.7	135.99	-158.0	256.5	175.9	145.7	30.17	5.829			
6,700.0	6,682.0	6,708.1	6,695.1	16.3	15.9	136.96	-156.5	263.8	175.4	144.8	30.62	5.730			
6,800.0	6,781.6	6,808.1	6,794.7	16.6	16.2	137.93	-155.0	271.2	175.1	144.0	31.06	5.637			
6,900.0	6,881.2	6,908.0	6,894.4	16.8	16.4	138.91	-153.6	278.6	174.8	143.3	31.50	5.548			
7,000.0	6,980.9	7,008.0	6,994.1	17.1	16.7	139.90	-152.1	285.9	174.5	142.6	31.94	5.464			
7,100.0	7,080.5	7,107.9	7,093.8	17.4	17.0	140.88	-150.6	293.3	174.3	141.9	32.38	5.383			
7,200.0	7,180.1	7,207.9	7,193.4	17.7	17.2	141.87	-149.1	300.7	174.1	141.3	32.81	5.307			
7,300.0	7,279.7	7,307.8	7,293.1	17.9	17.5	142.86	-147.7	308.0	174.0	140.8	33.25	5.235			
7,400.0	7,379.3	7,407.8	7,392.8	18.2	17.7	143.85	-146.2	315.4	174.0	140.3	33.68	5.166			
7,453.1	7,432.2	7,460.9	7,445.7	18.4	17.9	144.38	-145.4	319.3	174.0	140.1	33.91	5.130 CC			
7,500.0	7,478.9	7,507.8	7,492.4	18.5	18.0	144.84	-144.7	322.8	174.0	139.9	34.11	5.100			
7,600.0	7,578.5	7,607.7	7,592.1	18.8	18.3	145.83	-143.3	330.1	174.0	139.5	34.54	5.038			
7,700.0	7,678.1	7,707.7	7,691.8	19.0	18.5	146.82	-141.8	337.5	174.1	139.2	34.97	4.979			
7,800.0	7,777.7	7,807.6	7,791.5	19.3	18.8	147.81	-140.3	344.9	174.3	138.9	35.40	4.923			
7,900.0	7,877.3	7,907.6	7,891.1	19.6	19.0	148.80	-138.8	352.2	174.5	138.7	35.83	4.870			
8,000.0	7,976.9	8,007.5	7,990.8	19.8	19.3	149.78	-137.4	359.6	174.7	138.5	36.26	4.819			
8,100.0	8,076.5	8,107.5	8,090.5	20.1	19.6	150.76	-135.9	367.0	175.1	138.4	36.69	4.772			
8,200.0	8,176.1	8,207.4	8,190.1	20.4	19.8	151.74	-134.4	374.3	175.4	138.3	37.11	4.726			
8,300.0	8,275.7	8,307.4	8,289.8	20.7	20.1	152.71	-133.0	381.7	175.8	138.3	37.54	4.684 ES			
8,400.0	8,375.4	8,407.3	8,389.5	20.9	20.3	153.68	-131.5	389.0	176.3	138.3	37.97	4.643			
8,500.0	8,475.0	8,507.3	8,489.2	21.2	20.6	154.64	-130.0	396.4	176.8	138.4	38.40	4.605			
8,600.0	8,574.6	8,607.3	8,588.8	21.5	20.8	155.60	-128.5	403.8	177.4	138.5	38.82	4.568			
8,700.0	8,674.2	8,707.2	8,688.5	21.8	21.1	156.55	-127.1	411.1	178.0	138.7	39.25	4.534			
8,800.0	8,773.8	8,807.2	8,788.2	22.0	21.4	157.49	-125.6	418.5	178.6	138.9	39.68	4.502			
8,900.0	8,873.4	8,907.1	8,887.8	22.3	21.6	158.43	-124.1	425.9	179.3	139.2	40.11	4.471			
9,000.0	8,973.0	9,007.1	8,987.5	22.6	21.9	159.36	-122.7	433.2	180.1	139.5	40.54	4.442			
9,100.0	9,072.6	9,107.0	9,087.2	22.8	22.1	160.28	-121.2	440.6	180.9	139.9	40.97	4.415			
9,200.0	9,172.2	9,207.0	9,186.9	23.1	22.4	161.19	-119.7	448.0	181.7	140.3	41.41	4.389			
9,300.0	9,271.8	9,306.9	9,286.5	23.4	22.7	162.09	-118.2	455.3	182.6	140.8	41.84	4.365			
9,400.0	9,371.4	9,406.9	9,386.2	23.7	22.9	162.99	-116.8	462.7	183.6	141.3	42.28	4.342			
9,500.0	9,471.0	9,505.8	9,484.8	23.9	23.2	163.92	-115.8	470.0	184.7	142.0	42.71	4.325 SF			
9,600.0	9,569.5	9,595.3	9,573.3	24.2	23.4	163.81	-126.9	476.9	191.3	148.1	43.20	4.428			
9,700.0	9,662.9	9,663.8	9,638.6	24.4	23.5	162.55	-146.5	482.2	216.3	172.8	43.42	4.980			
9,800.0	9,747.1	9,706.8	9,678.0	24.5	23.6	162.50	-163.5	485.6	268.8	225.8	43.01	6.250			
9,900.0	9,818.5	9,725.0	9,694.1	24.7	23.6	162.45	-171.8	487.0	343.8	300.7	43.07	7.982			
10,000.0	9,874.0	9,733.3	9,701.3	24.8	23.6	162.40	-175.8	487.7	430.9	386.9	43.95	9.804			

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error	0.0 usft
EK 30 WCD Federal Com - EK 31 BS2 Federal Com 3H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Well Error	0.0 usft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,100.0	9,911.1	9,725.0	9,694.1	25.1	23.6	-64.70	-171.8	487.0	522.1	480.6	41.43	12.602			
10,200.0	9,928.2	9,712.8	9,683.3	25.4	23.6	-42.80	-166.2	486.1	612.2	576.7	35.52	17.236			
10,300.0	9,927.6	9,700.0	9,671.8	25.9	23.6	-35.53	-160.6	485.1	699.2	665.8	33.40	20.931			
10,400.0	9,924.8	9,675.0	9,649.0	26.5	23.5	-33.70	-150.6	483.1	787.4	754.3	33.15	23.754			
10,500.0	9,922.0	9,662.6	9,637.5	27.2	23.5	-32.84	-146.1	482.1	877.5	844.3	33.26	26.382			
10,600.0	9,919.2	9,650.0	9,625.7	28.1	23.5	-32.01	-141.8	481.1	969.0	935.6	33.43	28.984			
10,700.0	9,916.4	9,638.9	9,615.1	29.0	23.5	-31.30	-138.3	480.3	1,061.7	1,028.0	33.69	31.513			
10,800.0	9,913.6	9,625.0	9,601.9	30.0	23.4	-30.46	-134.3	479.2	1,155.3	1,121.4	33.94	34.041			
10,900.0	9,910.8	9,625.0	9,601.9	31.2	23.4	-30.46	-134.3	479.2	1,249.7	1,215.1	34.53	36.190			
11,000.0	9,908.0	9,612.6	9,590.0	32.3	23.4	-29.74	-131.0	478.2	1,344.6	1,309.7	34.89	38.541			
11,100.0	9,905.3	9,600.0	9,577.8	33.6	23.4	-29.04	-128.0	477.2	1,440.2	1,404.9	35.27	40.830			



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 31 BS2 Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error:	0.0 usft
Survey Program: 0-MWD														Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	+E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-136.22	-250.3	-239.9	346.7						
100.0	100.0	100.0	100.0	0.1	0.1	-136.22	-250.3	-239.9	346.7	346.5	0.18	1,928.123			
200.0	200.0	200.0	200.0	0.3	0.3	-136.22	-250.3	-239.9	346.7	346.1	0.63	550.893			
300.0	300.0	300.0	300.0	0.5	0.5	-136.22	-250.3	-239.9	346.7	345.6	1.08	321.354			
400.0	400.0	400.0	400.0	0.8	0.8	-136.22	-250.3	-239.9	346.7	345.2	1.53	226.838			
500.0	500.0	500.0	500.0	1.0	1.0	-136.22	-250.3	-239.9	346.7	344.7	1.98	175.284			
600.0	600.0	600.0	600.0	1.2	1.2	-136.22	-250.3	-239.9	346.7	344.3	2.43	142.824			
700.0	700.0	700.0	700.0	1.4	1.4	-136.22	-250.3	-239.9	346.7	343.8	2.88	120.508			
800.0	800.0	800.0	800.0	1.7	1.7	-136.22	-250.3	-239.9	346.7	343.4	3.33	104.223			
900.0	900.0	900.0	900.0	1.9	1.9	-136.22	-250.3	-239.9	346.7	342.9	3.78	91.816			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-136.22	-250.3	-239.9	346.7	342.5	4.23	82.048			
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-136.22	-250.3	-239.9	346.7	342.0	4.68	74.159			
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-136.22	-250.3	-239.9	346.7	341.6	5.12	67.654			
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-136.22	-250.3	-239.9	346.7	341.1	5.57	62.198			
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-136.22	-250.3	-239.9	346.7	340.7	6.02	57.556			
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-136.22	-250.3	-239.9	346.7	340.2	6.47	53.559			
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-136.22	-250.3	-239.9	346.7	339.8	6.92	50.081			
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-136.22	-250.3	-239.9	346.7	339.3	7.37	47.027			
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-136.22	-250.3	-239.9	346.7	338.9	7.82	44.325			
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-136.22	-250.3	-239.9	346.7	338.4	8.27	41.916 CC, ES			
2,000.0	2,000.0	1,996.3	1,996.3	4.3	4.3	126.42	-249.9	-241.0	348.0	339.3	8.69	40.059			
2,100.0	2,099.9	2,092.3	2,092.2	4.5	4.5	127.40	-248.7	-244.5	352.0	342.9	9.08	38.757			
2,200.0	2,199.7	2,191.5	2,191.3	4.7	4.8	128.89	-247.0	-249.3	358.3	348.8	9.49	37.769			
2,300.0	2,299.3	2,290.5	2,290.2	5.0	5.0	130.61	-245.3	-254.1	366.3	356.4	9.90	36.995			
2,400.0	2,398.9	2,389.6	2,389.1	5.2	5.2	132.32	-243.6	-258.9	374.7	364.4	10.32	36.299			
2,500.0	2,498.5	2,488.6	2,488.0	5.4	5.4	133.94	-241.8	-263.7	383.5	372.7	10.75	35.672			
2,600.0	2,598.1	2,587.6	2,586.9	5.6	5.6	135.50	-240.1	-268.5	392.5	381.3	11.18	35.107			
2,700.0	2,697.7	2,686.6	2,685.8	5.9	5.8	136.99	-238.4	-273.3	401.8	390.2	11.61	34.599			
2,800.0	2,797.4	2,785.7	2,784.7	6.1	6.1	138.40	-236.7	-278.1	411.4	399.4	12.05	34.142			
2,900.0	2,897.0	2,884.7	2,883.6	6.3	6.3	139.76	-235.0	-282.9	421.3	408.8	12.49	33.730			
3,000.0	2,996.6	2,983.7	2,982.5	6.6	6.5	141.05	-233.3	-287.7	431.3	418.4	12.93	33.359			
3,100.0	3,096.2	3,082.8	3,081.4	6.8	6.7	142.28	-231.6	-292.5	441.6	428.2	13.37	33.025			
3,200.0	3,195.8	3,181.8	3,180.3	7.1	7.0	143.46	-229.9	-297.3	452.0	438.2	13.81	32.723			
3,300.0	3,295.4	3,280.8	3,279.2	7.3	7.2	144.58	-228.2	-302.1	462.7	448.4	14.26	32.451			
3,400.0	3,395.0	3,379.8	3,378.1	7.6	7.4	145.65	-226.5	-306.9	473.5	458.8	14.70	32.206			
3,500.0	3,494.6	3,478.9	3,477.0	7.8	7.7	146.68	-224.8	-311.7	484.5	469.3	15.15	31.983			
3,600.0	3,594.2	3,577.9	3,575.8	8.1	7.9	147.65	-223.1	-316.5	495.6	480.0	15.59	31.782			
3,700.0	3,693.8	3,676.9	3,674.7	8.3	8.1	148.59	-221.4	-321.3	506.8	490.8	16.04	31.600			
3,800.0	3,793.4	3,776.0	3,773.6	8.6	8.3	149.49	-219.7	-326.1	518.2	501.7	16.48	31.435			
3,900.0	3,893.0	3,875.0	3,872.5	8.8	8.6	150.34	-217.9	-330.9	529.7	512.8	16.93	31.285			
4,000.0	3,992.6	3,974.0	3,971.4	9.1	8.8	151.17	-216.2	-335.7	541.3	523.9	17.38	31.148			
4,100.0	4,092.2	4,073.0	4,070.3	9.4	9.0	151.95	-214.5	-340.5	553.0	535.2	17.83	31.024			
4,200.0	4,191.9	4,172.1	4,169.2	9.6	9.3	152.71	-212.8	-345.3	564.8	546.6	18.27	30.911			
4,300.0	4,291.5	4,271.1	4,268.1	9.9	9.5	153.43	-211.1	-350.1	576.7	558.0	18.72	30.808			
4,400.0	4,391.1	4,370.1	4,367.0	10.1	9.7	154.12	-209.4	-354.9	588.7	569.6	19.17	30.714			
4,500.0	4,490.7	4,469.2	4,465.9	10.4	10.0	154.79	-207.7	-359.7	600.8	581.2	19.62	30.628			
4,600.0	4,590.3	4,568.2	4,564.8	10.7	10.2	155.43	-206.0	-364.5	613.0	592.9	20.06	30.550			
4,700.0	4,689.9	4,667.2	4,663.7	10.9	10.4	156.04	-204.3	-369.3	625.2	604.7	20.51	30.478			
4,800.0	4,789.5	4,766.2	4,762.6	11.2	10.7	156.64	-202.6	-374.1	637.5	616.5	20.96	30.413			
4,900.0	4,889.1	4,865.3	4,861.5	11.5	10.9	157.20	-200.9	-378.9	649.9	628.5	21.41	30.353			
5,000.0	4,988.7	4,964.3	4,960.4	11.7	11.2	157.75	-199.2	-383.8	662.3	640.4	21.86	30.298			

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

EK 30 WCD Federal Com - EK 31 BS2 Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs													Offset Site Error	0.0 usft
Survey Program: 0-MWD													Offset Well Error	0.0 usft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation	Warning		
Depth	Depth	Depth	Depth	Depth	Depth	Toolface	N-S	Centres	Ellipses	Separation	Factor			
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
5,100.0	5,088.3	5,063.3	5,059.3	12.0	11.4	158.28	-197.5	-388.6	674.8	652.5	22.31	30.248		
5,200.0	5,187.9	5,162.4	5,158.2	12.3	11.6	158.79	-195.8	-393.4	687.3	664.6	22.76	30.201		
5,300.0	5,287.5	5,261.4	5,257.1	12.5	11.9	159.28	-194.0	-398.2	699.9	676.7	23.21	30.159		
5,400.0	5,387.1	5,360.4	5,356.0	12.8	12.1	159.75	-192.3	-403.0	712.5	688.9	23.66	30.120		
5,500.0	5,486.7	5,459.5	5,454.9	13.1	12.3	160.21	-190.6	-407.8	725.2	701.1	24.11	30.084		
5,600.0	5,586.4	5,558.5	5,553.8	13.3	12.6	160.65	-188.9	-412.6	737.9	713.4	24.56	30.052		
5,700.0	5,686.0	5,657.5	5,652.7	13.6	12.8	161.08	-187.2	-417.4	750.7	725.7	25.01	30.022		
5,800.0	5,785.6	5,756.5	5,751.6	13.9	13.0	161.49	-185.5	-422.2	763.5	738.1	25.46	29.994		
5,900.0	5,885.2	5,855.6	5,850.5	14.1	13.3	161.89	-183.8	-427.0	776.4	750.5	25.91	29.968		
6,000.0	5,984.8	5,954.6	5,949.4	14.4	13.5	162.27	-182.1	-431.8	789.2	762.9	26.36	29.945		
6,100.0	6,084.4	6,053.6	6,048.3	14.7	13.8	162.65	-180.4	-436.6	802.2	775.4	26.81	29.924		
6,200.0	6,184.0	6,152.7	6,147.2	15.0	14.0	163.01	-178.7	-441.4	815.1	787.9	27.26	29.904		
6,300.0	6,283.6	6,251.7	6,246.1	15.2	14.2	163.36	-177.0	-446.2	828.1	800.4	27.71	29.886		
6,400.0	6,383.2	6,350.7	6,345.0	15.5	14.5	163.70	-175.3	-451.0	841.1	812.9	28.16	29.869		
6,500.0	6,482.8	6,449.7	6,443.9	15.8	14.7	164.02	-173.6	-455.8	854.1	825.5	28.61	29.854		
6,600.0	6,582.4	6,548.8	6,542.8	16.0	14.9	164.34	-171.9	-460.6	867.2	838.1	29.06	29.840		
6,700.0	6,682.0	6,647.8	6,641.7	16.3	15.2	164.65	-170.1	-465.4	880.3	850.8	29.51	29.827		
6,800.0	6,781.6	6,746.8	6,740.6	16.6	15.4	164.95	-168.4	-470.2	893.4	863.4	29.96	29.815		
6,900.0	6,881.2	6,845.9	6,839.5	16.8	15.7	165.24	-166.7	-475.0	906.5	876.1	30.42	29.804		
7,000.0	6,980.9	6,944.9	6,938.4	17.1	15.9	165.53	-165.0	-479.8	919.7	888.8	30.87	29.794		
7,100.0	7,080.5	7,043.9	7,037.3	17.4	16.1	165.80	-163.3	-484.6	932.9	901.6	31.32	29.785		
7,200.0	7,180.1	7,142.9	7,136.2	17.7	16.4	166.07	-161.6	-489.4	946.1	914.3	31.77	29.777		
7,300.0	7,279.7	7,242.0	7,235.1	17.9	16.6	166.33	-159.9	-494.2	959.3	927.1	32.22	29.770		
7,400.0	7,379.3	7,341.0	7,334.0	18.2	16.8	166.59	-158.2	-499.0	972.5	939.9	32.68	29.763		
7,500.0	7,478.9	7,440.0	7,432.9	18.5	17.1	166.83	-156.5	-503.8	985.8	952.7	33.13	29.757		
7,600.0	7,578.5	7,539.1	7,531.8	18.8	17.3	167.07	-154.8	-508.6	999.1	965.5	33.58	29.751		
7,700.0	7,678.1	7,638.1	7,630.7	19.0	17.6	167.31	-153.1	-513.4	1,012.4	978.3	34.03	29.746		
7,800.0	7,777.7	7,737.1	7,729.6	19.3	17.8	167.53	-151.4	-518.2	1,025.7	991.2	34.49	29.741		
7,900.0	7,877.3	7,836.1	7,828.5	19.6	18.0	167.75	-149.7	-523.0	1,039.0	1,004.1	34.94	29.737		
8,000.0	7,976.9	7,935.2	7,927.3	19.8	18.3	167.97	-148.0	-527.8	1,052.3	1,016.9	35.39	29.733		
8,100.0	8,076.5	8,034.2	8,026.2	20.1	18.5	168.18	-146.2	-532.6	1,065.7	1,029.8	35.85	29.730		
8,200.0	8,176.1	8,133.2	8,125.1	20.4	18.8	168.39	-144.5	-537.4	1,079.1	1,042.8	36.30	29.727		
8,300.0	8,275.7	8,232.3	8,224.0	20.7	19.0	168.59	-142.8	-542.3	1,092.4	1,055.7	36.75	29.724		
8,400.0	8,375.4	8,331.3	8,322.9	20.9	19.2	168.78	-141.1	-547.1	1,105.8	1,068.6	37.21	29.722		
8,500.0	8,475.0	8,430.3	8,421.8	21.2	19.5	168.97	-139.4	-551.9	1,119.2	1,081.6	37.66	29.720		
8,600.0	8,574.6	8,529.4	8,520.7	21.5	19.7	169.16	-137.7	-556.7	1,132.7	1,094.5	38.11	29.718		
8,700.0	8,674.2	8,628.4	8,619.6	21.8	19.9	169.34	-136.0	-561.5	1,146.1	1,107.5	38.57	29.717		
8,800.0	8,773.8	8,727.4	8,718.5	22.0	20.2	169.52	-134.3	-566.3	1,159.5	1,120.5	39.02	29.715		
8,900.0	8,873.4	8,826.4	8,817.4	22.3	20.4	169.70	-132.6	-571.1	1,173.0	1,133.5	39.48	29.714		
9,000.0	8,973.0	8,925.5	8,916.3	22.6	20.7	169.87	-130.9	-575.9	1,186.4	1,146.5	39.93	29.713		
9,100.0	9,072.6	9,024.5	9,015.2	22.8	20.9	170.03	-129.2	-580.7	1,199.9	1,159.5	40.38	29.713		
9,200.0	9,172.2	9,123.5	9,114.1	23.1	21.1	170.19	-127.5	-585.5	1,213.4	1,172.6	40.84	29.712		
9,300.0	9,271.8	9,222.6	9,213.0	23.4	21.4	170.35	-125.8	-590.3	1,226.9	1,185.6	41.29	29.712		
9,400.0	9,371.4	9,321.6	9,311.9	23.7	21.6	170.51	-124.1	-595.1	1,240.4	1,198.6	41.75	29.712 SF		
9,500.0	9,471.0	9,420.6	9,410.8	23.9	21.9	170.67	-122.3	-599.9	1,253.9	1,211.7	42.19	29.722		
9,600.0	9,569.5	9,517.5	9,507.5	24.2	22.1	170.83	-120.6	-604.7	1,267.5	1,225.0	42.65	29.786		
9,700.0	9,662.9	9,597.0	9,585.7	24.4	22.2	170.99	-118.9	-609.5	1,281.1	1,238.2	43.11	29.920		
9,800.0	9,747.1	9,650.0	9,636.1	24.5	22.3	171.15	-117.2	-614.3	1,294.7	1,251.3	43.57	30.164		
9,900.0	9,818.5	9,675.0	9,659.2	24.7	22.3	171.31	-115.5	-619.1	1,308.3	1,264.4	44.03	30.512		
10,000.0	9,874.0	9,687.4	9,670.4	24.8	22.3	171.47	-113.8	-623.9	1,321.9	1,277.5	44.49	30.953		
10,100.0	9,911.1	9,684.0	9,667.3	25.1	22.3	171.63	-112.1	-628.7	1,335.5	1,290.6	44.95	31.548		

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 31 BS2 Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error:	0.0 usft
Survey Program: 0-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)	Minimum Separation (usft)	Separation Factor	Warning		
10,200.0	9,928.2	9,675.0	9,659.2	25.4	22.3	-79.79	-162.7	-610.6	1,422.9	1,378.9	43.97	32.364			
10,300.0	9,927.6	9,650.0	9,636.1	25.9	22.3	-76.55	-153.2	-609.8	1,462.9	1,418.8	44.08	33.188			
10,400.0	9,924.8	9,638.0	9,624.8	26.5	22.3	-76.07	-149.0	-609.4	1,507.6	1,462.9	44.67	33.750			



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

EK 30 WCD Federal Com - EK 31 WCD Federal Com 3H - Wellbore #1 - Plan #2 03Aug15 kjs													Offset Site Error:	0.0 usft	
Survey Program: 0-MWD													Offset Well Error:	0.0 usft	
Reference		Offset		Semi Major Axis		Distance				Minimum		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)	Separation (usft)	Factor			
0.0	0.0	1.0	1.0	0.0	0.0	180.00	-250.2	0.0	250.2						
100.0	100.0	101.0	101.0	0.1	0.1	180.00	-250.2	0.0	250.2	250.0	0.18	1,374.267			
200.0	200.0	201.0	201.0	0.3	0.3	180.00	-250.2	0.0	250.2	249.6	0.63	396.141			
300.0	300.0	301.0	301.0	0.5	0.5	180.00	-250.2	0.0	250.2	249.1	1.08	231.426			
400.0	400.0	401.0	401.0	0.8	0.8	180.00	-250.2	0.0	250.2	248.7	1.53	163.459			
500.0	500.0	501.0	501.0	1.0	1.0	180.00	-250.2	0.0	250.2	248.2	1.98	126.352			
600.0	600.0	601.0	601.0	1.2	1.2	180.00	-250.2	0.0	250.2	247.8	2.43	102.975			
700.0	700.0	701.0	701.0	1.4	1.4	180.00	-250.2	0.0	250.2	247.3	2.88	86.898			
800.0	800.0	801.0	801.0	1.7	1.7	180.00	-250.2	0.0	250.2	246.9	3.33	75.163			
900.0	900.0	901.0	901.0	1.9	1.9	180.00	-250.2	0.0	250.2	246.4	3.78	66.220			
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	180.00	-250.2	0.0	250.2	246.0	4.23	59.179			
1,100.0	1,100.0	1,101.0	1,101.0	2.3	2.3	180.00	-250.2	0.0	250.2	245.5	4.68	53.491			
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	180.00	-250.2	0.0	250.2	245.1	5.13	48.801			
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	180.00	-250.2	0.0	250.2	244.6	5.58	44.867			
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	180.00	-250.2	0.0	250.2	244.2	6.03	41.520			
1,500.0	1,500.0	1,501.0	1,501.0	3.2	3.2	180.00	-250.2	0.0	250.2	243.7	6.48	38.638			
1,600.0	1,600.0	1,601.0	1,601.0	3.5	3.5	180.00	-250.2	0.0	250.2	243.3	6.93	36.130			
1,700.0	1,700.0	1,701.0	1,701.0	3.7	3.7	180.00	-250.2	0.0	250.2	242.8	7.37	33.927			
1,800.0	1,800.0	1,801.0	1,801.0	3.9	3.9	180.00	-250.2	0.0	250.2	242.4	7.82	31.978			
1,900.0	1,900.0	1,901.0	1,901.0	4.1	4.1	180.00	-250.2	0.0	250.2	241.9	8.27	30.241			
2,000.0	2,000.0	2,002.2	2,002.2	4.3	4.4	82.30	-250.0	1.3	249.8	241.1	8.70	28.716			
2,100.0	2,099.9	2,103.3	2,103.2	4.5	4.6	82.31	-249.2	5.3	248.6	239.4	9.10	27.304			
2,200.0	2,199.7	2,204.5	2,204.2	4.7	4.8	82.32	-248.1	11.9	246.5	237.0	9.52	25.895			
2,300.0	2,299.3	2,304.6	2,303.9	5.0	5.0	82.44	-246.6	20.1	243.9	233.9	9.95	24.515			
2,400.0	2,398.9	2,404.5	2,403.5	5.2	5.2	82.59	-245.1	28.2	241.2	230.8	10.39	23.223			
2,500.0	2,498.5	2,504.5	2,503.2	5.4	5.4	82.75	-243.7	36.4	238.6	227.7	10.84	22.017			
2,600.0	2,598.1	2,604.5	2,602.8	5.6	5.7	82.91	-242.2	44.5	235.9	224.6	11.29	20.892			
2,700.0	2,697.7	2,704.4	2,702.4	5.9	5.9	83.07	-240.7	52.7	233.3	221.5	11.76	19.841			
2,800.0	2,797.4	2,804.4	2,802.0	6.1	6.1	83.23	-239.3	60.8	230.6	218.4	12.23	18.861			
2,900.0	2,897.0	2,904.4	2,901.6	6.3	6.4	83.40	-237.8	69.0	228.0	215.3	12.71	17.945			
3,000.0	2,996.6	3,004.3	3,001.3	6.6	6.6	83.57	-236.3	77.1	225.4	212.2	13.19	17.089			
3,100.0	3,096.2	3,104.3	3,100.9	6.8	6.9	83.75	-234.9	85.2	222.7	209.0	13.67	16.288			
3,200.0	3,195.8	3,204.2	3,200.5	7.1	7.1	83.93	-233.4	93.4	220.1	205.9	14.16	15.537			
3,300.0	3,295.4	3,304.2	3,300.1	7.3	7.4	84.11	-231.9	101.5	217.4	202.8	14.66	14.834			
3,400.0	3,395.0	3,404.2	3,399.7	7.6	7.6	84.30	-230.5	109.7	214.8	199.7	15.16	14.173			
3,500.0	3,494.6	3,504.1	3,499.4	7.8	7.9	84.50	-229.0	117.8	212.2	196.5	15.66	13.551			
3,600.0	3,594.2	3,604.1	3,599.0	8.1	8.1	84.70	-227.5	126.0	209.6	193.4	16.16	12.967			
3,700.0	3,693.8	3,704.1	3,698.6	8.3	8.4	84.90	-226.1	134.1	206.9	190.3	16.67	12.415			
3,800.0	3,793.4	3,804.0	3,798.2	8.6	8.6	85.11	-224.6	142.3	204.3	187.1	17.18	11.895			
3,900.0	3,893.0	3,904.0	3,897.8	8.8	8.9	85.32	-223.1	150.4	201.7	184.0	17.69	11.404			
4,000.0	3,992.6	4,004.0	3,997.5	9.1	9.1	85.55	-221.7	158.6	199.1	180.9	18.20	10.939			
4,100.0	4,092.2	4,103.9	4,097.1	9.4	9.4	85.77	-220.2	166.7	196.5	177.8	18.71	10.499			
4,200.0	4,191.9	4,203.9	4,196.7	9.6	9.6	86.00	-218.7	174.9	193.9	174.6	19.23	10.082			
4,300.0	4,291.5	4,303.8	4,296.3	9.9	9.9	86.24	-217.3	183.0	191.3	171.5	19.75	9.686			
4,400.0	4,391.1	4,403.8	4,395.9	10.1	10.1	86.49	-215.8	191.1	188.6	168.4	20.26	9.310			
4,500.0	4,490.7	4,503.8	4,495.5	10.4	10.4	86.74	-214.3	199.3	186.0	165.3	20.78	8.952			
4,600.0	4,590.3	4,603.7	4,595.2	10.7	10.7	87.00	-212.9	207.4	183.5	162.1	21.30	8.611			
4,700.0	4,689.9	4,703.7	4,694.8	10.9	10.9	87.27	-211.4	215.6	180.9	159.0	21.83	8.287			
4,800.0	4,789.5	4,803.7	4,794.4	11.2	11.2	87.54	-209.9	223.7	178.3	155.9	22.35	7.977			
4,900.0	4,889.1	4,903.6	4,894.0	11.5	11.4	87.82	-208.5	231.9	175.7	152.8	22.87	7.682			
5,000.0	4,988.7	5,003.6	4,993.6	11.7	11.7	88.12	-207.0	240.0	173.1	149.7	23.40	7.399			

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



Anticollision Report

Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Reference Site: EK 30 WCD Federal Com
Site Error: 0.0 usft
Reference Well: EK 30-BS2 Federal Com 3H
Well Error: 0.0 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
TVD Reference: WELL @ 3883.0usft (Original Well Elev)
MD Reference: WELL @ 3883.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK 31 WCD Federal Com 3H - Wellbore #1 - Plan #2 03Aug15 kjs														Offset Site Error: 0.0 usft
Survey Program: 0-MWD														Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis		Reference		Offset	Highside	Offset Wellbore Control		Distance		Minimum	Separation	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)		N/S (usft)	E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
5,100.0	5,088.3	5,103.5	5,093.3	12.0	12.0	88.41		-205.5	248.2	170.5	146.6	23.92	7.130	
5,200.0	5,187.9	5,203.5	5,192.9	12.3	12.2	88.72		-204.1	256.3	168.0	143.5	24.45	6.871	
5,300.0	5,287.5	5,303.5	5,292.5	12.5	12.5	89.04		-202.6	264.5	165.4	140.4	24.97	6.624	
5,400.0	5,387.1	5,403.4	5,392.1	12.8	12.7	89.37		-201.1	272.6	162.8	137.3	25.50	6.387	
5,500.0	5,486.7	5,503.4	5,491.7	13.1	13.0	89.71		-199.7	280.8	160.3	134.3	26.02	6.160	
5,600.0	5,586.4	5,603.4	5,591.4	13.3	13.3	90.06		-198.2	288.9	157.7	131.2	26.55	5.941	
5,700.0	5,686.0	5,703.3	5,691.0	13.6	13.5	90.42		-196.7	297.0	155.2	128.1	27.08	5.732	
5,800.0	5,785.6	5,803.3	5,790.6	13.9	13.8	90.80		-195.3	305.2	152.7	125.1	27.60	5.531	
5,900.0	5,885.2	5,903.2	5,890.2	14.1	14.1	91.18		-193.8	313.3	150.1	122.0	28.13	5.337	
6,000.0	5,984.8	6,003.2	5,989.8	14.4	14.3	91.58		-192.3	321.5	147.6	119.0	28.66	5.151	
6,100.0	6,084.4	6,103.2	6,089.5	14.7	14.6	91.99		-190.9	329.6	145.1	115.9	29.18	4.972	
6,200.0	6,184.0	6,203.1	6,189.1	15.0	14.9	92.42		-189.4	337.8	142.6	112.9	29.71	4.799	
6,300.0	6,283.6	6,303.1	6,288.7	15.2	15.1	92.87		-187.9	345.9	140.1	109.9	30.24	4.633	
6,400.0	6,383.2	6,403.1	6,388.3	15.5	15.4	93.32		-186.5	354.1	137.6	106.8	30.76	4.473	
6,500.0	6,482.8	6,503.0	6,487.9	15.8	15.6	93.80		-185.0	362.2	135.1	103.8	31.29	4.319	
6,600.0	6,582.4	6,603.0	6,587.6	16.0	15.9	94.29		-183.5	370.4	132.7	100.8	31.81	4.170	
6,700.0	6,682.0	6,702.9	6,687.2	16.3	16.2	94.81		-182.1	378.5	130.2	97.9	32.34	4.026	
6,800.0	6,781.6	6,802.9	6,786.8	16.6	16.4	95.34		-180.6	386.7	127.7	94.9	32.86	3.887	
6,900.0	6,881.2	6,902.9	6,886.4	16.8	16.7	95.89		-179.1	394.8	125.3	91.9	33.38	3.754	
7,000.0	6,980.9	7,002.8	6,986.0	17.1	17.0	96.47		-177.7	403.0	122.9	89.0	33.90	3.624	
7,100.0	7,080.5	7,102.8	7,085.7	17.4	17.2	97.07		-176.2	411.1	120.5	86.0	34.42	3.500	
7,200.0	7,180.1	7,202.8	7,185.3	17.7	17.5	97.69		-174.7	419.2	118.1	83.1	34.94	3.379	
7,300.0	7,279.7	7,302.7	7,284.9	17.9	17.8	98.34		-173.3	427.4	115.7	80.2	35.46	3.263	
7,400.0	7,379.3	7,402.7	7,384.5	18.2	18.0	99.01		-171.8	435.5	113.3	77.3	35.97	3.150	
7,500.0	7,478.9	7,502.7	7,484.1	18.5	18.3	99.72		-170.3	443.7	111.0	74.5	36.49	3.041	
7,600.0	7,578.5	7,602.6	7,583.8	18.8	18.6	100.45		-168.9	451.8	108.6	71.6	37.00	2.936	
7,700.0	7,678.1	7,702.6	7,683.4	19.0	18.8	101.22		-167.4	460.0	106.3	68.8	37.50	2.835	
7,800.0	7,777.7	7,802.5	7,783.0	19.3	19.1	102.02		-165.9	468.1	104.0	66.0	38.01	2.737	
7,900.0	7,877.3	7,902.5	7,882.6	19.6	19.4	102.85		-164.5	476.3	101.7	63.2	38.51	2.642	
8,000.0	7,976.9	8,002.5	7,982.2	19.8	19.6	103.73		-163.0	484.4	99.5	60.5	39.01	2.551	
8,100.0	8,076.5	8,102.4	8,081.9	20.1	19.9	104.64		-161.5	492.6	97.3	57.8	39.50	2.462	
8,200.0	8,176.1	8,202.4	8,181.5	20.4	20.2	105.60		-160.1	500.7	95.1	55.1	39.99	2.377	
8,300.0	8,275.7	8,302.4	8,281.1	20.7	20.4	106.60		-158.6	508.9	92.9	52.4	40.47	2.295	
8,400.0	8,375.4	8,402.3	8,380.7	20.9	20.7	107.65		-157.1	517.0	90.7	49.8	40.95	2.216	
8,500.0	8,475.0	8,502.3	8,480.3	21.2	21.0	108.75		-155.7	525.1	88.6	47.2	41.42	2.140	
8,600.0	8,574.6	8,602.2	8,580.0	21.5	21.2	109.91		-154.2	533.3	86.5	44.7	41.88	2.066	
8,700.0	8,674.2	8,702.2	8,679.6	21.8	21.5	111.12		-152.7	541.4	84.5	42.2	42.34	1.996	
8,800.0	8,773.8	8,802.2	8,779.2	22.0	21.8	112.39		-151.3	549.6	82.5	39.7	42.79	1.928	
8,900.0	8,873.4	8,902.1	8,878.8	22.3	22.0	113.72		-149.8	557.7	80.5	37.3	43.23	1.863	
9,000.0	8,973.0	9,002.1	8,978.4	22.6	22.3	115.12		-148.3	565.9	78.6	35.0	43.66	1.801	
9,100.0	9,072.6	9,102.1	9,078.0	22.8	22.6	116.59		-146.9	574.0	76.8	32.7	44.08	1.741	
9,200.0	9,172.2	9,202.0	9,177.7	23.1	22.8	118.13		-145.4	582.2	74.9	30.5	44.49	1.685	
9,300.0	9,271.8	9,302.0	9,277.3	23.4	23.1	119.74		-143.9	590.3	73.2	28.3	44.88	1.631	
9,400.0	9,371.4	9,401.9	9,376.9	23.7	23.4	121.43		-142.5	598.5	71.5	26.2	45.27	1.579	
9,480.0	9,451.1	9,481.9	9,456.6	23.9	23.6	147.35		-141.3	605.0	71.4	25.8	45.61	1.565	
9,500.0	9,471.0	9,501.9	9,476.5	23.9	23.6	153.99		-141.0	606.6	70.3	24.7	45.63	1.541 CC, ES, SF	
9,600.0	9,569.5	9,600.9	9,575.2	24.2	23.9	-163.29		-139.6	614.7	80.6	34.9	45.74	1.762	
9,700.0	9,662.9	9,695.1	9,669.1	24.4	24.1	-163.07		-138.2	622.4	109.4	64.6	44.71	2.446	
9,800.0	9,747.1	9,780.4	9,754.0	24.5	24.4	-166.12		-136.9	629.3	157.8	115.7	42.15	3.745	
9,900.0	9,818.5	9,853.0	9,826.4	24.7	24.6	-167.68		-135.9	635.2	224.1	185.5	38.59	5.808	
10,000.0	9,874.0	9,909.8	9,883.0	24.8	24.7	-166.92		-135.0	639.8	304.8	269.9	34.96	8.720	

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design: EK 30 WCD Federal Com - EK 31 WCD Federal Com 3H - Wellbore #1 - Plan #2 03Aug15 kjs														Offset Site Error:	0.0 usft
Survey Program: 0-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)	Minimum Separation (usft)	Separation Factor			
10,100.0	9,911.1	9,948.3	9,921.4	25.1	24.8	-161.94	-134.5	643.0	396.0	363.2	32.86	12.053			
10,200.0	9,928.2	9,966.8	9,939.8	25.4	24.9	-140.11	-134.2	644.5	493.6	455.8	37.84	13.045			
10,300.0	9,927.6	9,967.7	9,940.7	25.9	24.9	-83.24	-134.2	644.6	593.3	547.7	45.67	12.992			
10,400.0	9,924.8	9,966.5	9,939.5	26.5	24.9	-81.38	-134.2	644.5	693.2	647.0	46.16	15.017			
10,500.0	9,922.0	9,965.3	9,938.3	27.2	24.9	-79.54	-134.2	644.4	793.1	746.3	46.72	16.973			
10,600.0	9,919.2	9,964.1	9,937.1	28.1	24.9	-77.74	-134.2	644.3	893.0	845.6	47.35	18.859			
10,700.0	9,916.4	9,962.8	9,935.9	29.0	24.9	-75.97	-134.2	644.2	992.9	944.9	48.02	20.675			
10,800.0	9,913.6	9,961.6	9,934.6	30.0	24.9	-74.23	-134.3	644.1	1,092.8	1,044.1	48.74	22.421			
10,900.0	9,910.8	9,960.4	9,933.4	31.2	24.9	-72.53	-134.3	644.0	1,192.8	1,143.3	49.49	24.101			
11,000.0	9,908.0	9,959.1	9,932.2	32.3	24.8	-70.88	-134.3	643.9	1,292.7	1,242.4	50.26	25.718			
11,100.0	9,905.3	9,957.9	9,931.0	33.6	24.8	-69.26	-134.3	643.8	1,392.7	1,341.6	51.06	27.277			
11,200.0	9,902.5	9,956.7	9,929.8	34.9	24.8	-67.69	-134.3	643.7	1,492.6	1,440.8	51.86	28.782			



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK 31 WCD Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error: 0.0 usft
Survey Program: 0-MWD														Offset Well Error: 0.0 usft
Reference	Vertical	Measured	Vertical	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	1.0	1.0	0.0	0.0	-144.62	-225.2	-159.9	276.2					
100.0	100.0	101.0	101.0	0.1	0.1	-144.62	-225.2	-159.9	276.2	276.0	0.18	1,517.043		
200.0	200.0	201.0	201.0	0.3	0.3	-144.62	-225.2	-159.9	276.2	275.6	0.63	437.297		
300.0	300.0	301.0	301.0	0.5	0.5	-144.62	-225.2	-159.9	276.2	275.1	1.08	255.469		
400.0	400.0	401.0	401.0	0.8	0.8	-144.62	-225.2	-159.9	276.2	274.7	1.53	180.441		
500.0	500.0	501.0	501.0	1.0	1.0	-144.62	-225.2	-159.9	276.2	274.2	1.98	139.479		
600.0	600.0	601.0	601.0	1.2	1.2	-144.62	-225.2	-159.9	276.2	273.8	2.43	113.673		
700.0	700.0	701.0	701.0	1.4	1.4	-144.62	-225.2	-159.9	276.2	273.3	2.88	95.926		
800.0	800.0	801.0	801.0	1.7	1.7	-144.62	-225.2	-159.9	276.2	272.9	3.33	82.971		
900.0	900.0	901.0	901.0	1.9	1.9	-144.62	-225.2	-159.9	276.2	272.4	3.78	73.100		
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-144.62	-225.2	-159.9	276.2	272.0	4.23	65.327		
1,100.0	1,100.0	1,101.0	1,101.0	2.3	2.3	-144.62	-225.2	-159.9	276.2	271.5	4.68	59.049		
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	-144.62	-225.2	-159.9	276.2	271.1	5.13	53.871		
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	-144.62	-225.2	-159.9	276.2	270.6	5.58	49.529		
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	-144.62	-225.2	-159.9	276.2	270.2	6.03	45.834		
1,500.0	1,500.0	1,501.0	1,501.0	3.2	3.2	-144.62	-225.2	-159.9	276.2	269.7	6.48	42.652		
1,600.0	1,600.0	1,601.0	1,601.0	3.5	3.5	-144.62	-225.2	-159.9	276.2	269.3	6.93	39.883		
1,700.0	1,700.0	1,701.0	1,701.0	3.7	3.7	-144.62	-225.2	-159.9	276.2	268.8	7.37	37.452		
1,800.0	1,800.0	1,801.0	1,801.0	3.9	3.9	-144.62	-225.2	-159.9	276.2	268.4	7.82	35.300		
1,866.3	1,866.3	1,867.3	1,867.3	4.1	4.1	-144.62	-225.2	-159.9	276.2	268.1	8.12	34.004 CC		
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-144.62	-225.2	-159.9	276.2	267.9	8.27	33.392 ES		
2,000.0	2,000.0	1,998.4	1,998.4	4.3	4.3	118.14	-224.9	-161.1	277.3	268.6	8.69	31.903		
2,100.0	2,099.9	2,096.4	2,096.4	4.5	4.6	119.48	-223.9	-164.6	280.5	271.4	9.09	30.866		
2,200.0	2,199.7	2,195.9	2,195.7	4.7	4.8	121.34	-222.9	-168.7	285.5	276.0	9.49	30.074		
2,300.0	2,299.3	2,295.0	2,294.8	5.0	5.0	123.50	-221.8	-172.8	292.0	282.1	9.91	29.471		
2,400.0	2,398.9	2,394.2	2,393.8	5.2	5.2	125.63	-220.7	-176.9	299.0	288.7	10.33	28.946		
2,500.0	2,498.5	2,493.3	2,492.9	5.4	5.4	127.66	-219.6	-180.9	306.4	295.7	10.76	28.487		
2,600.0	2,598.1	2,592.5	2,591.9	5.6	5.6	129.59	-218.5	-185.0	314.2	303.0	11.19	28.086		
2,700.0	2,697.7	2,691.6	2,691.0	5.9	5.8	131.43	-217.5	-189.1	322.3	310.7	11.62	27.737		
2,800.0	2,797.4	2,790.8	2,790.1	6.1	6.1	133.18	-216.4	-193.1	330.7	318.7	12.06	27.433		
2,900.0	2,897.0	2,889.9	2,889.1	6.3	6.3	134.84	-215.3	-197.2	339.5	327.0	12.49	27.170		
3,000.0	2,996.6	2,989.0	2,988.2	6.6	6.5	136.41	-214.2	-201.3	348.5	335.5	12.93	26.943		
3,100.0	3,096.2	3,088.2	3,087.2	6.8	6.7	137.91	-213.1	-205.3	357.7	344.3	13.37	26.747		
3,200.0	3,195.8	3,187.3	3,186.3	7.1	6.9	139.33	-212.0	-209.4	367.2	353.4	13.82	26.578		
3,300.0	3,295.4	3,286.5	3,285.3	7.3	7.2	140.68	-211.0	-213.5	376.9	362.6	14.26	26.433		
3,400.0	3,395.0	3,385.6	3,384.4	7.6	7.4	141.96	-209.9	-217.5	386.8	372.1	14.70	26.309		
3,500.0	3,494.6	3,484.8	3,483.4	7.8	7.6	143.17	-208.8	-221.6	396.8	381.7	15.14	26.204		
3,600.0	3,594.2	3,583.9	3,582.5	8.1	7.8	144.33	-207.7	-225.7	407.1	391.5	15.59	26.114		
3,700.0	3,693.8	3,683.1	3,681.5	8.3	8.1	145.43	-206.6	-229.7	417.5	401.4	16.03	26.039		
3,800.0	3,793.4	3,782.2	3,780.6	8.6	8.3	146.48	-205.6	-233.8	428.0	411.5	16.48	25.976		
3,900.0	3,893.0	3,881.3	3,879.7	8.8	8.5	147.47	-204.5	-237.9	438.7	421.8	16.92	25.924		
4,000.0	3,992.6	3,980.5	3,978.7	9.1	8.7	148.42	-203.4	-241.9	449.5	432.1	17.37	25.882		
4,100.0	4,092.2	4,079.6	4,077.8	9.4	9.0	149.33	-202.3	-246.0	460.4	442.6	17.81	25.847		
4,200.0	4,191.9	4,178.8	4,176.8	9.6	9.2	150.19	-201.2	-250.1	471.4	453.2	18.26	25.820		
4,300.0	4,291.5	4,277.9	4,275.9	9.9	9.4	151.01	-200.2	-254.2	482.6	463.9	18.70	25.800		
4,400.0	4,391.1	4,377.1	4,374.9	10.1	9.7	151.80	-199.1	-258.2	493.8	474.6	19.15	25.785		
4,500.0	4,490.7	4,476.2	4,474.0	10.4	9.9	152.55	-198.0	-262.3	505.1	485.5	19.60	25.775		
4,600.0	4,590.3	4,575.4	4,573.0	10.7	10.1	153.26	-196.9	-266.4	516.5	496.5	20.04	25.769		
4,700.0	4,689.9	4,674.5	4,672.1	10.9	10.3	153.95	-195.8	-270.4	528.0	507.5	20.49	25.767 SF		
4,800.0	4,789.5	4,773.6	4,771.1	11.2	10.6	154.61	-194.8	-274.5	539.5	518.6	20.94	25.768		
4,900.0	4,889.1	4,872.8	4,870.2	11.5	10.8	155.24	-193.7	-278.6	551.1	529.7	21.38	25.772		

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



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well Ek 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK 31 WCD Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs														Offset Site Error: 0.0 usft
Survey Program: 0-MWD														Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Between	Between	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/S (usft)	+E/W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor		
5,000.0	4,988.7	4,971.9	4,969.3	11.7	11.0	155.84	-192.6	-282.6	562.8	541.0	21.83	25.779		
5,100.0	5,088.3	5,071.1	5,068.3	12.0	11.3	156.42	-191.5	-286.7	574.5	552.2	22.28	25.787		
5,200.0	5,187.9	5,170.2	5,167.4	12.3	11.5	156.98	-190.4	-290.8	586.3	563.6	22.73	25.798		
5,300.0	5,287.5	5,269.4	5,266.4	12.5	11.7	157.51	-189.3	-294.8	598.2	575.0	23.18	25.810		
5,400.0	5,387.1	5,368.5	5,365.5	12.8	12.0	158.03	-188.3	-298.9	610.1	586.4	23.62	25.824		
5,500.0	5,486.7	5,467.7	5,464.5	13.1	12.2	158.52	-187.2	-303.0	622.0	597.9	24.07	25.839		
5,600.0	5,586.4	5,566.8	5,563.6	13.3	12.4	159.00	-186.1	-307.0	634.0	609.5	24.52	25.855		
5,700.0	5,686.0	5,665.9	5,662.6	13.6	12.7	159.46	-185.0	-311.1	646.0	621.0	24.97	25.872		
5,800.0	5,785.6	5,765.1	5,761.7	13.9	12.9	159.90	-183.9	-315.2	658.1	632.6	25.42	25.890		
5,900.0	5,885.2	5,864.2	5,860.7	14.1	13.1	160.32	-182.9	-319.3	670.2	644.3	25.87	25.908		
6,000.0	5,984.8	5,963.4	5,959.8	14.4	13.4	160.73	-181.8	-323.3	682.3	656.0	26.32	25.927		
6,100.0	6,084.4	6,062.5	6,058.9	14.7	13.6	161.13	-180.7	-327.4	694.5	667.7	26.77	25.946		
6,200.0	6,184.0	6,161.7	6,157.9	15.0	13.8	161.51	-179.6	-331.5	706.7	679.4	27.22	25.966		
6,300.0	6,283.6	6,260.8	6,257.0	15.2	14.1	161.88	-178.5	-335.5	718.9	691.2	27.67	25.985		
6,400.0	6,383.2	6,359.9	6,356.0	15.5	14.3	162.24	-177.5	-339.6	731.2	703.0	28.12	26.006		
6,500.0	6,482.8	6,459.1	6,455.1	15.8	14.5	162.58	-176.4	-343.7	743.4	714.9	28.57	26.026		
6,600.0	6,582.4	6,558.2	6,554.1	16.0	14.7	162.92	-175.3	-347.7	755.7	726.7	29.02	26.046		
6,700.0	6,682.0	6,657.4	6,653.2	16.3	15.0	163.24	-174.2	-351.8	768.1	738.6	29.47	26.067		
6,800.0	6,781.6	6,756.5	6,752.2	16.6	15.2	163.55	-173.1	-355.9	780.4	750.5	29.92	26.087		
6,900.0	6,881.2	6,855.7	6,851.3	16.8	15.4	163.86	-172.0	-359.9	792.8	762.5	30.37	26.108		
7,000.0	6,980.9	6,954.8	6,950.4	17.1	15.7	164.15	-171.0	-364.0	805.2	774.4	30.82	26.128		
7,100.0	7,080.5	7,054.0	7,049.4	17.4	15.9	164.44	-169.9	-368.1	817.7	786.4	31.27	26.149		
7,200.0	7,180.1	7,153.1	7,148.5	17.7	16.1	164.71	-168.8	-372.1	830.1	798.4	31.72	26.169		
7,300.0	7,279.7	7,252.2	7,247.5	17.9	16.4	164.98	-167.7	-376.2	842.6	810.4	32.17	26.189		
7,400.0	7,379.3	7,351.4	7,346.6	18.2	16.6	165.24	-166.6	-380.3	855.0	822.4	32.62	26.209		
7,500.0	7,478.9	7,450.5	7,445.6	18.5	16.8	165.50	-165.6	-384.4	867.5	834.5	33.08	26.229		
7,600.0	7,578.5	7,549.7	7,544.7	18.8	17.1	165.74	-164.5	-388.4	880.0	846.5	33.53	26.249		
7,700.0	7,678.1	7,648.8	7,643.7	19.0	17.3	165.98	-163.4	-392.5	892.6	858.6	33.98	26.268		
7,800.0	7,777.7	7,748.0	7,742.8	19.3	17.5	166.21	-162.3	-396.6	905.1	870.7	34.43	26.288		
7,900.0	7,877.3	7,847.1	7,841.8	19.6	17.8	166.44	-161.2	-400.6	917.7	882.8	34.88	26.307		
8,000.0	7,976.9	7,946.3	7,940.9	19.8	18.0	166.66	-160.2	-404.7	930.2	894.9	35.34	26.326		
8,100.0	8,076.5	8,045.4	8,040.0	20.1	18.2	166.87	-159.1	-408.8	942.8	907.0	35.79	26.345		
8,200.0	8,176.1	8,144.5	8,139.0	20.4	18.5	167.08	-158.0	-412.8	955.4	919.2	36.24	26.363		
8,300.0	8,275.7	8,243.7	8,238.1	20.7	18.7	167.28	-156.9	-416.9	968.0	931.3	36.69	26.382		
8,400.0	8,375.4	8,342.8	8,337.1	20.9	18.9	167.48	-155.8	-421.0	980.6	943.5	37.15	26.400		
8,500.0	8,475.0	8,442.0	8,436.2	21.2	19.2	167.68	-154.8	-425.0	993.3	955.7	37.60	26.418		
8,600.0	8,574.6	8,541.1	8,535.2	21.5	19.4	167.86	-153.7	-429.1	1,005.9	967.9	38.05	26.435		
8,700.0	8,674.2	8,640.3	8,634.3	21.8	19.6	168.05	-152.6	-433.2	1,018.6	980.1	38.51	26.453		
8,800.0	8,773.8	8,739.4	8,733.3	22.0	19.9	168.23	-151.5	-437.2	1,031.2	992.3	38.96	26.470		
8,900.0	8,873.4	8,838.6	8,832.4	22.3	20.1	168.40	-150.4	-441.3	1,043.9	1,004.5	39.41	26.487		
9,000.0	8,973.0	8,937.7	8,931.4	22.6	20.3	168.57	-149.3	-445.4	1,056.6	1,016.7	39.87	26.504		
9,100.0	9,072.6	9,036.8	9,030.5	22.8	20.6	168.74	-148.3	-449.5	1,069.3	1,029.0	40.32	26.520		
9,200.0	9,172.2	9,136.0	9,129.6	23.1	20.8	168.90	-147.2	-453.5	1,082.0	1,041.2	40.77	26.537		
9,300.0	9,271.8	9,235.1	9,228.6	23.4	21.1	169.06	-146.1	-457.6	1,094.7	1,053.5	41.23	26.553		
9,400.0	9,371.4	9,334.3	9,327.7	23.7	21.3	169.21	-145.0	-461.7	1,107.4	1,065.7	41.68	26.569		
9,500.0	9,471.0	9,433.4	9,426.7	23.9	21.5	169.20	-143.9	-465.7	1,120.1	1,078.0	42.12	26.595		
9,600.0	9,569.5	9,531.6	9,524.8	24.2	21.8	169.58	-142.9	-469.8	1,133.3	1,090.8	42.50	26.665		
9,700.0	9,662.9	9,625.0	9,618.1	24.4	22.0	169.88	-141.9	-473.6	1,147.3	1,104.4	42.87	26.759		
9,800.0	9,747.1	9,709.4	9,702.5	24.5	22.2	169.95	-140.9	-477.1	1,163.0	1,119.8	43.23	26.904		
9,900.0	9,818.5	9,781.3	9,774.3	24.7	22.3	169.97	-140.1	-480.0	1,182.1	1,138.5	43.59	27.119		
10,000.0	9,874.0	9,837.5	9,830.5	24.8	22.5	169.91	-139.5	-482.3	1,206.0	1,162.0	44.01	27.404		

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 31 WCD Federal Com 4H - Wellbore #1 - Design #1 29Jul15 kjs													Offset Site Error:
Survey Program: 0-MWD													0.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre N/S	Offset Wellbore Centre E/W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
10,100.0	9,911.1	9,875.5	9,868.4	25.1	22.6	-93.44	-139.1	-483.9	1,235.7	1,191.2	44.52	27.757	
10,200.0	9,928.2	9,893.6	9,886.5	25.4	22.6	-89.58	-138.9	-484.6	1,272.4	1,227.3	45.06	28.240	
10,300.0	9,927.6	9,894.0	9,886.9	25.9	22.6	-87.12	-138.9	-484.6	1,315.5	1,269.9	45.57	28.871	
10,400.0	9,924.8	9,892.3	9,885.2	26.5	22.6	-87.04	-138.9	-484.6	1,364.6	1,318.3	46.27	29.491	
10,500.0	9,922.0	9,890.6	9,883.5	27.2	22.6	-86.95	-139.0	-484.5	1,419.0	1,371.9	47.09	30.136	
10,600.0	9,919.2	9,888.8	9,881.7	28.1	22.6	-86.87	-139.0	-484.4	1,478.1	1,430.1	48.00	30.793	



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK 'B' 8701 JV-P #1 - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 usft
Survey Program: 214-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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
12,700.0	9,860.7	9,875.0	9,873.8	57.8	20.7	-89.18	3,146.9	-761.4	1,502.3	1,424.8	77.50	19.385			
12,800.0	9,857.9	9,873.8	9,872.6	59.5	20.7	-89.13	3,146.9	-761.4	1,487.2	1,408.1	79.18	18.782			
12,900.0	9,855.1	9,872.6	9,871.4	61.1	20.7	-89.09	3,146.9	-761.4	1,478.8	1,397.9	80.87	18.285			
13,000.0	9,852.3	9,871.4	9,870.3	62.8	20.7	-89.07	3,146.9	-761.4	1,476.5	1,394.2	82.34	17.931			
13,004.7	9,852.2	9,871.4	9,870.2	62.8	20.7	-89.07	3,146.9	-761.4	1,476.5	1,394.1	82.41	17.916 CC, ES			
13,100.0	9,849.5	9,870.3	9,869.1	64.3	20.7	-89.04	3,146.9	-761.3	1,478.7	1,394.8	83.83	17.639			
13,200.0	9,846.7	9,869.2	9,868.0	66.0	20.7	-89.00	3,146.8	-761.3	1,487.4	1,401.8	85.54	17.388			
13,300.0	9,844.0	9,868.1	9,866.9	67.7	20.7	-88.96	3,146.8	-761.3	1,502.7	1,415.5	87.26	17.221 SF			

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



Anticollision Report

Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Reference Site: EK 30 WCD Federal Com
Site Error: 0.0 usft
Reference Well: EK 30 BS2 Federal Com 3H
Well Error: 0.0 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
TVD Reference: WELL @ 3883.0usft (Original Well Elev)
MD Reference: WELL @ 3883.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK Penrose Sand Unit #401 - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 usft
Survey Program: 833-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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,400.0	9,924.8	9,932.0	9,930.4	26.5	20.4	-94.30	2,005.8	438.8	1,469.8	1,425.0	44.83	32.784	
10,500.0	9,922.0	9,930.4	9,928.8	27.2	20.4	-93.96	2,005.8	438.9	1,371.5	1,325.9	45.67	30.034	
10,600.0	9,919.2	9,928.8	9,927.2	28.1	20.4	-93.61	2,005.8	438.9	1,273.6	1,227.0	46.60	27.330	
10,700.0	9,916.4	9,927.2	9,925.6	29.0	20.4	-93.27	2,005.7	438.9	1,176.0	1,128.3	47.62	24.694	
10,800.0	9,913.6	9,925.6	9,924.0	30.0	20.4	-92.92	2,005.7	438.9	1,078.8	1,030.0	48.72	22.141	
10,900.0	9,910.8	9,924.0	9,922.4	31.2	20.4	-92.58	2,005.7	438.9	982.1	932.2	49.89	19.685	
11,000.0	9,908.0	9,922.4	9,920.8	32.3	20.4	-92.23	2,005.7	439.0	886.2	835.1	51.13	17.335	
11,100.0	9,905.3	9,920.8	9,919.2	33.6	20.4	-91.89	2,005.7	439.0	791.4	738.9	52.41	15.099	
11,200.0	9,902.5	9,919.2	9,917.6	34.9	20.4	-91.54	2,005.7	439.0	697.9	644.2	53.75	12.985	
11,300.0	9,899.7	9,917.6	9,916.0	36.2	20.4	-91.20	2,005.6	439.0	606.5	551.4	55.13	11.003	
11,400.0	9,896.9	9,916.0	9,914.4	37.6	20.4	-90.85	2,005.6	439.0	518.4	461.8	56.54	9.168	
11,500.0	9,894.1	9,914.4	9,912.8	39.0	20.3	-90.51	2,005.6	439.0	435.4	377.4	57.99	7.508	
11,600.0	9,891.3	9,912.8	9,911.2	40.4	20.3	-90.16	2,005.6	439.1	361.0	301.6	59.47	6.071	
11,700.0	9,888.5	9,911.2	9,909.6	41.9	20.3	-89.82	2,005.6	439.1	301.9	241.0	60.97	4.952	
11,800.0	9,885.8	9,909.7	9,908.1	43.4	20.3	-89.48	2,005.5	439.1	268.3	205.8	62.49	4.292	
11,846.0	9,884.5	9,908.9	9,907.3	44.1	20.3	-89.32	2,005.5	439.1	264.3	201.1	63.21	4.181 CC, ES, SF	
11,900.0	9,883.0	9,908.1	9,906.5	44.9	20.3	-89.13	2,005.5	439.1	269.7	205.7	64.04	4.212	
12,000.0	9,880.2	9,906.5	9,904.9	46.5	20.3	-88.79	2,005.5	439.1	305.9	240.3	65.60	4.662	
12,100.0	9,877.4	9,904.9	9,903.3	48.1	20.3	-88.45	2,005.5	439.2	366.5	299.3	67.18	5.456	
12,200.0	9,874.6	9,903.3	9,901.7	49.7	20.3	-88.11	2,005.5	439.2	441.7	372.9	68.77	6.423	
12,300.0	9,871.8	9,901.8	9,900.2	51.3	20.3	-87.76	2,005.4	439.2	525.3	454.9	70.38	7.463	
12,400.0	9,869.0	9,900.2	9,898.6	52.9	20.3	-87.42	2,005.4	439.2	613.7	541.7	71.99	8.525	
12,500.0	9,866.2	9,898.6	9,897.0	54.5	20.3	-87.08	2,005.4	439.2	705.3	631.7	73.62	9.581	
12,600.0	9,863.5	9,897.0	9,895.4	56.1	20.3	-86.74	2,005.4	439.3	798.9	723.6	75.25	10.617	
12,700.0	9,860.7	9,895.5	9,893.9	57.8	20.3	-86.40	2,005.4	439.3	893.8	817.0	76.89	11.626	
12,800.0	9,857.9	9,893.9	9,892.3	59.5	20.3	-86.06	2,005.3	439.3	989.8	911.3	78.53	12.604	
12,900.0	9,855.1	9,892.3	9,890.7	61.1	20.3	-85.72	2,005.3	439.3	1,086.5	1,006.3	80.18	13.551	
13,000.0	9,852.3	9,890.8	9,889.2	62.8	20.3	-85.38	2,005.3	439.3	1,183.6	1,101.9	81.65	14.496	
13,100.0	9,849.5	9,889.2	9,887.6	64.3	20.3	-85.04	2,005.3	439.3	1,280.6	1,197.5	83.12	15.407	
13,200.0	9,846.7	9,887.7	9,886.1	66.0	20.3	-84.70	2,005.3	439.4	1,378.1	1,293.3	84.80	16.251	
13,300.0	9,844.0	9,886.2	9,884.6	67.7	20.3	-84.36	2,005.2	439.4	1,475.8	1,389.4	86.48	17.066	

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



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK Penrose Sand Unit #402 - Wellbore #1 - Wellbore #1														Offset Site Error: 0.0 usft
Survey Program: 182-MWD														Offset Well Error: 0.0 usft
Reference	Offset	Semi-Major Axis		Distance		Minimum 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)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	13.9	13.9	0.0	0.0	38.28	714.6	563.9	910.3					
100.0	100.0	113.3	113.3	0.1	0.1	38.26	714.8	563.7	910.3	910.1	0.21	4,389.394		
200.0	200.0	213.0	213.0	0.3	0.3	38.21	715.4	563.2	910.4	909.9	0.57	1,607.198		
300.0	300.0	313.3	313.3	0.5	0.5	38.17	715.8	562.7	910.5	909.5	1.00	914.072		
400.0	400.0	413.3	413.3	0.8	0.7	38.14	716.2	562.4	910.6	909.2	1.43	637.658		
500.0	500.0	513.1	513.1	1.0	0.9	38.10	716.6	561.9	910.7	908.8	1.86	489.273		
600.0	600.0	612.9	612.9	1.2	1.1	38.05	717.2	561.4	910.8	908.5	2.29	396.938		
700.0	700.0	712.7	712.6	1.4	1.3	37.99	717.9	560.7	910.9	908.2	2.73	333.944		
800.0	800.0	812.4	812.4	1.7	1.5	37.92	718.8	559.9	911.1	907.9	3.16	288.226		
900.0	900.0	912.4	912.4	1.9	1.7	37.84	719.7	559.0	911.3	907.7	3.60	253.479		
1,000.0	1,000.0	1,012.5	1,012.5	2.1	1.9	37.76	720.5	558.2	911.4	907.4	4.03	226.189		
1,100.0	1,100.0	1,112.7	1,112.6	2.3	2.1	37.69	721.3	557.4	911.6	907.1	4.46	204.208		
1,200.0	1,200.0	1,212.8	1,212.7	2.6	2.3	37.63	722.1	556.7	911.8	906.9	4.90	186.125		
1,300.0	1,300.0	1,312.9	1,312.8	2.8	2.6	37.57	722.7	556.1	911.9	906.6	5.33	170.986		
1,400.0	1,400.0	1,412.8	1,412.7	3.0	2.8	37.52	723.4	555.4	912.0	906.3	5.77	158.140		
1,500.0	1,500.0	1,512.6	1,512.6	3.2	3.0	37.45	724.1	554.7	912.2	906.0	6.20	147.095		
1,600.0	1,600.0	1,612.5	1,612.4	3.5	3.2	37.39	724.9	554.0	912.3	905.7	6.64	137.497		
1,700.0	1,700.0	1,712.4	1,712.3	3.7	3.4	37.31	725.8	553.1	912.5	905.4	7.07	129.080		
1,800.0	1,800.0	1,812.3	1,812.2	3.9	3.6	37.23	726.7	552.2	912.7	905.2	7.50	121.625		
1,900.0	1,900.0	1,912.3	1,912.2	4.1	3.8	37.15	727.6	551.3	912.9	905.0	7.94	114.926		
2,000.0	2,000.0	2,012.2	2,012.1	4.3	4.0	-60.71	728.6	550.4	912.5	904.1	8.38	108.934		
2,100.0	2,099.9	2,112.1	2,112.0	4.5	4.2	-61.03	729.5	549.5	910.8	902.0	8.79	103.660		
2,200.0	2,199.7	2,211.8	2,211.7	4.7	4.5	-61.51	730.4	548.6	907.8	898.6	9.20	98.677		
2,300.0	2,299.3	2,311.3	2,311.2	5.0	4.7	-62.09	731.4	547.7	904.0	894.3	9.62	93.939		
2,400.0	2,398.9	2,410.7	2,410.5	5.2	4.9	-62.67	732.4	546.8	900.1	890.0	10.06	89.507		
2,500.0	2,498.5	2,510.0	2,509.9	5.4	5.1	-63.26	733.4	545.8	896.3	885.8	10.49	85.410		
2,600.0	2,598.1	2,609.3	2,609.2	5.6	5.3	-63.86	734.5	544.7	892.7	881.8	10.94	81.618		
2,700.0	2,697.7	2,708.7	2,708.5	5.9	5.5	-64.47	735.6	543.6	889.2	877.8	11.38	78.102		
2,800.0	2,797.4	2,808.0	2,807.8	6.1	5.8	-65.09	736.9	542.4	885.8	873.9	11.84	74.837		
2,900.0	2,897.0	2,907.2	2,907.0	6.3	6.0	-65.72	738.2	541.2	882.5	870.2	12.29	71.784		
3,000.0	2,996.6	3,006.5	3,006.2	6.6	6.2	-66.36	739.5	539.8	879.4	866.6	12.75	68.943		
3,100.0	3,096.2	3,105.7	3,105.4	6.8	6.4	-67.01	740.9	538.5	876.4	863.1	13.22	66.296		
3,200.0	3,195.8	3,204.9	3,204.6	7.1	6.7	-67.67	742.5	537.0	873.5	859.8	13.69	63.828		
3,300.0	3,295.4	3,304.1	3,303.8	7.3	6.9	-68.35	744.0	535.5	870.8	856.6	14.15	61.522		
3,400.0	3,395.0	3,403.2	3,402.9	7.6	7.1	-69.03	745.7	533.9	868.2	853.6	14.63	59.366		
3,500.0	3,494.6	3,502.4	3,502.0	7.8	7.3	-69.72	747.4	532.2	865.9	850.8	15.10	57.347		
3,600.0	3,594.2	3,601.5	3,601.1	8.1	7.5	-70.43	749.2	530.5	863.6	848.0	15.57	55.454		
3,700.0	3,693.8	3,700.5	3,700.1	8.3	7.8	-71.14	751.0	528.7	861.5	845.5	16.05	53.675		
3,800.0	3,793.4	3,799.4	3,798.9	8.6	8.0	-71.86	753.0	526.8	859.7	843.1	16.53	52.001		
3,900.0	3,893.0	3,898.2	3,897.7	8.8	8.2	-72.60	755.1	524.8	858.0	841.0	17.01	50.429		
4,000.0	3,992.6	3,996.9	3,996.4	9.1	8.4	-73.35	757.4	522.6	856.5	839.0	17.50	48.952		
4,100.0	4,092.2	4,095.7	4,095.1	9.4	8.7	-74.12	759.7	520.3	855.3	837.3	17.98	47.564		
4,200.0	4,191.9	4,195.5	4,194.8	9.6	8.9	-74.90	762.2	518.0	854.3	835.8	18.46	46.278		
4,300.0	4,291.5	4,296.0	4,295.3	9.9	9.1	-75.67	764.4	515.8	853.2	834.3	18.93	45.070		
4,400.0	4,391.1	4,396.6	4,395.9	10.1	9.3	-76.42	766.4	513.9	852.2	832.8	19.41	43.919		
4,500.0	4,490.7	4,497.3	4,496.5	10.4	9.5	-77.15	768.2	512.2	851.2	831.4	19.88	42.820		
4,600.0	4,590.3	4,598.0	4,597.3	10.7	9.7	-77.86	769.6	510.8	850.2	829.9	20.35	41.770		
4,700.0	4,689.9	4,696.7	4,695.9	10.9	9.9	-78.55	771.0	509.5	849.2	828.4	20.83	40.779		
4,800.0	4,789.5	4,794.2	4,793.3	11.2	10.1	-79.25	772.6	507.9	848.6	827.3	21.29	39.850		
4,900.0	4,889.1	4,893.1	4,892.2	11.5	10.3	-79.99	774.5	506.1	848.2	826.4	21.78	38.939		
5,000.0	4,988.7	4,992.1	4,991.2	11.7	10.6	-80.73	776.4	504.2	848.1	825.8	22.27	38.073		

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



Anticollision Report

Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Reference Site: EK 30 WCD Federal Com
Site Error: 0.0 usft
Reference Well: EK 30 BS2 Federal Com 3H
Well Error: 0.0 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
TVD Reference: WELL @ 3883.0usft (Original Well Elev)
MD Reference: WELL @ 3883.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - EK Penrose Sand Unit #402 - Wellbore #1 - Wellbore #1														Offset Site Error
Survey Program: 182-MWD														0.0 usft
Reference (Semi Major Axis)														Offset Well Error
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	0.0 usft
5,037.6	5,026.2	5,029.3	5,028.4	11.8	10.7	-81.02	777.2	503.5	848.1	825.6	22.46	37.760		
5,100.0	5,088.3	5,091.1	5,090.2	12.0	10.8	-81.48	778.5	502.2	848.1	825.3	22.77	37.253		
5,200.0	5,187.9	5,190.1	5,189.1	12.3	11.0	-82.24	780.5	500.2	848.3	825.0	23.26	36.475		
5,300.0	5,287.5	5,289.1	5,288.1	12.5	11.2	-83.00	782.7	498.2	848.7	825.0	23.75	35.737		
5,400.0	5,387.1	5,388.4	5,387.3	12.8	11.5	-83.76	784.9	496.1	849.3	825.1	24.24	35.034		
5,500.0	5,486.7	5,487.8	5,486.6	13.1	11.7	-84.52	787.0	494.0	850.0	825.3	24.74	34.365		
5,600.0	5,586.4	5,587.1	5,585.9	13.3	11.9	-85.28	789.2	491.8	850.9	825.7	25.23	33.729		
5,700.0	5,686.0	5,686.5	5,685.2	13.6	12.1	-86.04	791.4	489.7	852.0	826.3	25.72	33.122		
5,800.0	5,785.6	5,785.8	5,784.6	13.9	12.4	-86.80	793.6	487.6	853.2	827.0	26.22	32.544		
5,900.0	5,885.2	5,885.2	5,883.9	14.1	12.6	-87.55	795.8	485.5	854.5	827.8	26.71	31.993		
6,000.0	5,984.8	5,984.5	5,983.2	14.4	12.8	-88.30	798.0	483.4	856.0	828.8	27.20	31.469		
6,100.0	6,084.4	6,084.8	6,083.4	14.7	13.0	-89.06	800.1	481.3	857.6	829.9	27.69	30.975		
6,200.0	6,184.0	6,186.2	6,184.8	15.0	13.3	-89.80	802.1	479.4	859.2	831.0	28.16	30.507		
6,300.0	6,283.6	6,287.8	6,286.3	15.2	13.5	-90.52	803.8	477.8	860.7	832.0	28.64	30.050		
6,400.0	6,383.2	6,389.4	6,387.9	15.5	13.7	-91.22	805.1	476.5	862.0	832.9	29.12	29.605		
6,500.0	6,482.8	6,491.0	6,489.5	15.8	13.9	-91.89	806.2	475.4	863.2	833.6	29.59	29.170		
6,600.0	6,582.4	6,591.0	6,589.5	16.0	14.1	-92.54	807.1	474.5	864.4	834.3	30.05	28.764		
6,700.0	6,682.0	6,691.0	6,689.5	16.3	14.3	-93.19	808.0	473.7	865.6	835.1	30.51	28.373		
6,800.0	6,781.6	6,791.1	6,789.6	16.6	14.5	-93.83	808.8	473.0	866.9	835.9	30.96	27.996		
6,900.0	6,881.2	6,891.1	6,889.6	16.8	14.7	-94.46	809.5	472.3	868.2	836.8	31.42	27.631		
7,000.0	6,980.9	6,991.2	6,989.7	17.1	14.8	-95.08	810.1	471.6	869.5	837.7	31.88	27.278		
7,100.0	7,080.5	7,091.3	7,089.7	17.4	15.0	-95.70	810.7	471.1	871.0	838.6	32.33	26.937		
7,200.0	7,180.1	7,191.4	7,189.8	17.7	15.2	-96.32	811.3	470.6	872.4	839.6	32.79	26.607		
7,300.0	7,279.7	7,291.5	7,289.9	17.9	15.4	-96.93	811.7	470.1	873.9	840.6	33.24	26.288		
7,400.0	7,379.3	7,391.6	7,390.1	18.2	15.6	-97.53	812.1	469.7	875.4	841.7	33.70	25.978		
7,500.0	7,478.9	7,491.4	7,489.9	18.5	15.8	-98.12	812.5	469.4	877.0	842.8	34.15	25.677		
7,600.0	7,578.5	7,589.3	7,587.8	18.8	16.0	-98.71	812.9	469.0	878.7	844.1	34.62	25.382		
7,700.0	7,678.1	7,687.2	7,685.6	19.0	16.2	-99.30	813.5	468.4	880.7	845.6	35.08	25.104		
7,800.0	7,777.7	7,785.0	7,783.4	19.3	16.4	-99.91	814.3	467.6	883.0	847.5	35.55	24.842		
7,900.0	7,877.3	7,882.8	7,881.2	19.6	16.6	-100.52	815.3	466.7	885.7	849.7	36.01	24.595		
8,000.0	7,976.9	7,980.5	7,979.0	19.8	16.8	-101.13	816.4	465.6	888.6	852.1	36.47	24.362		
8,100.0	8,076.5	8,078.6	8,077.0	20.1	17.0	-101.76	817.7	464.3	891.8	854.8	36.95	24.137		
8,200.0	8,176.1	8,176.6	8,175.0	20.4	17.3	-102.38	819.2	462.9	895.3	857.8	37.42	23.925		
8,300.0	8,275.7	8,278.7	8,277.0	20.7	17.5	-103.03	820.7	461.5	898.8	860.9	37.89	23.722		
8,400.0	8,375.4	8,380.8	8,379.1	20.9	17.7	-103.65	821.9	460.3	902.1	863.7	38.36	23.519		
8,500.0	8,475.0	8,482.9	8,481.3	21.2	17.9	-104.26	822.8	459.4	905.2	866.4	38.82	23.316		
8,600.0	8,574.6	8,585.1	8,583.5	21.5	18.1	-104.85	823.4	458.8	908.2	868.9	39.29	23.114		
8,700.0	8,674.2	8,685.4	8,683.8	21.8	18.3	-105.41	823.8	458.4	910.9	871.2	39.75	22.914		
8,800.0	8,773.8	8,780.8	8,779.2	22.0	18.5	-105.95	824.4	457.8	914.1	873.9	40.21	22.733		
8,900.0	8,873.4	8,876.1	8,874.4	22.3	18.7	-106.51	825.4	456.9	917.7	877.1	40.66	22.571		
9,000.0	8,973.0	8,972.3	8,970.6	22.6	18.9	-107.08	826.8	455.5	921.9	880.8	41.11	22.425		
9,100.0	9,072.6	9,072.6	9,070.9	22.8	19.1	-107.68	828.3	454.1	926.3	884.8	41.57	22.283		
9,200.0	9,172.2	9,173.0	9,171.2	23.1	19.3	-108.27	829.8	452.7	930.7	888.7	42.03	22.144		
9,300.0	9,271.8	9,273.3	9,271.6	23.4	19.6	-108.85	831.1	451.4	935.1	892.6	42.49	22.008		
9,400.0	9,371.4	9,373.7	9,372.0	23.7	19.8	-109.43	832.4	450.2	939.5	896.6	42.95	21.876		
9,500.0	9,471.0	9,474.2	9,472.4	23.9	20.0	-78.88	833.5	449.0	943.3	899.9	43.40	21.736		
9,600.0	9,569.5	9,573.6	9,571.8	24.2	20.2	-32.25	834.6	448.0	932.7	889.5	43.10	21.637		
9,700.0	9,662.9	9,668.1	9,666.3	24.4	20.4	-25.65	835.6	447.1	902.2	860.4	41.76	21.604		
9,800.0	9,747.1	9,700.0	9,698.2	24.5	20.4	-24.67	835.9	446.8	855.1	815.6	39.54	21.627		
9,900.0	9,818.5	9,700.0	9,698.2	24.7	20.4	-25.59	835.9	446.8	798.9	761.9	36.93	21.630		
10,000.0	9,874.0	9,700.0	9,698.2	24.8	20.4	-28.29	835.9	446.8	734.8	700.1	34.69	21.185		

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - EK Penrose Sand Unit #402 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 usft
Survey Program 182-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)	Minimum Separation (usft)	Separation Factor		
10,100.0	9,911.1	9,700.0	9,698.2	25.1	20.4	-33.08	835.9	446.8	663.9	630.3	33.69	19.705		
10,200.0	9,928.2	9,700.0	9,698.2	25.4	20.4	-41.58	835.9	446.8	587.9	552.9	35.02	16.789		
10,300.0	9,927.6	9,700.0	9,698.2	25.9	20.4	-46.39	835.9	446.8	510.1	473.6	36.49	13.979		
10,400.0	9,924.8	9,700.0	9,698.2	26.5	20.4	-46.39	835.9	446.8	440.1	403.2	36.93	11.917		
10,500.0	9,922.0	9,700.0	9,698.2	27.2	20.4	-46.39	835.9	446.8	383.6	346.2	37.46	10.241		
10,600.0	9,919.2	9,700.0	9,698.2	28.1	20.4	-46.39	835.9	446.8	347.4	309.3	38.08	9.124		
10,682.5	9,916.9	9,700.0	9,698.2	28.8	20.4	-46.39	835.9	446.8	337.5	298.8	38.65	8.732 CC, ES		
10,700.0	9,916.4	9,700.0	9,698.2	29.0	20.4	-46.39	835.9	446.8	337.9	299.2	38.77	8.716 SF		
10,800.0	9,913.6	9,700.0	9,698.2	30.0	20.4	-46.39	835.9	446.8	357.4	317.8	39.53	9.040		
10,900.0	9,910.8	9,700.0	9,698.2	31.2	20.4	-46.39	835.9	446.8	401.5	361.2	40.36	9.949		
11,000.0	9,908.0	9,700.0	9,698.2	32.3	20.4	-46.39	835.9	446.8	463.4	422.1	41.24	11.237		
11,100.0	9,905.3	9,700.0	9,698.2	33.6	20.4	-46.39	835.9	446.8	536.9	494.7	42.17	12.732		
11,200.0	9,902.5	9,700.0	9,698.2	34.9	20.4	-46.39	835.9	446.8	617.8	574.7	43.14	14.321		
11,300.0	9,899.7	9,700.0	9,698.2	36.2	20.4	-46.39	835.9	446.8	703.7	659.6	44.16	15.937		
11,400.0	9,896.9	9,700.0	9,698.2	37.6	20.4	-46.39	835.9	446.8	792.9	747.7	45.21	17.540		
11,500.0	9,894.1	9,700.0	9,698.2	39.0	20.4	-46.39	835.9	446.8	884.4	838.2	46.29	19.108		
11,600.0	9,891.3	9,700.0	9,698.2	40.4	20.4	-46.39	835.9	446.8	977.6	930.2	47.40	20.627		
11,700.0	9,888.5	9,700.0	9,698.2	41.9	20.4	-46.39	835.9	446.8	1,072.0	1,023.5	48.53	22.090		
11,800.0	9,885.8	9,700.0	9,698.2	43.4	20.4	-46.39	835.9	446.8	1,167.4	1,117.7	49.69	23.495		
11,900.0	9,883.0	9,700.0	9,698.2	44.9	20.4	-46.39	835.9	446.8	1,263.4	1,212.6	50.86	24.840		
12,000.0	9,880.2	9,700.0	9,698.2	46.5	20.4	-46.39	835.9	446.8	1,360.1	1,308.0	52.06	26.126		
12,100.0	9,877.4	9,700.0	9,698.2	48.1	20.4	-46.39	835.9	446.8	1,457.1	1,403.9	53.27	27.355		



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - McElvain #1 - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 360-MWD													0.0 usft
Reference													Offset Well Error:
Offset													0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,600.0	9,891.3	9,923.2	9,921.4	40.4	21.0	-102.26	3,213.5	575.0	1,462.1	1,402.4	59.66	24.507	
11,700.0	9,888.5	9,921.0	9,919.3	41.9	21.0	-101.42	3,213.5	575.0	1,362.6	1,301.3	61.24	22.249	
11,800.0	9,885.8	9,918.9	9,917.1	43.4	21.0	-100.58	3,213.5	575.0	1,263.2	1,200.3	62.85	20.099	
11,900.0	9,883.0	9,916.7	9,914.9	44.9	21.0	-99.72	3,213.5	575.1	1,163.9	1,099.4	64.47	18.053	
12,000.0	9,880.2	9,914.5	9,912.8	46.5	21.0	-98.87	3,213.5	575.1	1,064.7	998.6	66.11	16.104	
12,100.0	9,877.4	9,912.4	9,910.6	48.1	21.0	-98.01	3,213.5	575.1	965.7	897.9	67.77	14.250	
12,200.0	9,874.6	9,910.2	9,908.4	49.7	21.0	-97.14	3,213.5	575.1	866.9	797.5	69.43	12.486	
12,300.0	9,871.8	9,908.1	9,906.3	51.3	21.0	-96.28	3,213.5	575.1	768.4	697.3	71.11	10.807	
12,400.0	9,869.0	9,905.9	9,904.1	52.9	21.0	-95.41	3,213.4	575.1	670.4	597.6	72.79	9.211	
12,500.0	9,866.2	9,903.7	9,901.9	54.5	21.0	-94.53	3,213.4	575.1	573.0	498.6	74.47	7.695	
12,600.0	9,863.5	9,901.6	9,899.8	56.1	21.0	-93.66	3,213.4	575.1	476.8	400.6	76.15	6.261	
12,700.0	9,860.7	9,899.4	9,897.6	57.8	21.0	-92.78	3,213.4	575.2	382.4	304.6	77.84	4.913	
12,800.0	9,857.9	9,897.2	9,895.4	59.5	21.0	-91.90	3,213.4	575.2	291.8	212.3	79.52	3.669	
12,900.0	9,855.1	9,895.1	9,893.3	61.1	21.0	-91.02	3,213.4	575.2	209.8	128.6	81.20	2.584	
13,000.0	9,852.3	9,892.9	9,891.1	62.8	21.0	-90.17	3,213.4	575.2	150.9	68.3	82.64	1.826	
13,059.2	9,850.7	9,891.6	9,889.8	63.7	21.0	-89.66	3,213.3	575.2	139.0	55.5	83.50	1.665 CC, ES, SF	
13,100.0	9,849.5	9,890.7	9,889.0	64.3	21.0	-89.30	3,213.3	575.2	144.4	60.3	84.09	1.717	
13,200.0	9,846.7	9,888.6	9,886.8	66.0	21.0	-88.42	3,213.3	575.2	197.2	111.4	85.75	2.299	
13,300.0	9,844.0	9,886.5	9,884.7	67.7	20.9	-87.53	3,213.3	575.2	277.3	189.9	87.40	3.173	
13,400.0	9,841.2	9,884.3	9,882.5	69.4	20.9	-86.65	3,213.3	575.3	367.3	278.2	89.04	4.125	
13,500.0	9,838.4	9,882.2	9,880.4	71.2	20.9	-85.77	3,213.3	575.3	461.4	370.7	90.66	5.089	
13,600.0	9,835.6	9,880.0	9,878.2	72.9	20.9	-84.88	3,213.3	575.3	557.6	465.3	92.27	6.043	
13,700.0	9,832.8	9,877.9	9,876.1	74.6	20.9	-84.01	3,213.3	575.3	654.9	561.0	93.87	6.977	
13,800.0	9,830.0	9,875.7	9,873.9	76.3	20.9	-83.13	3,213.2	575.3	752.9	657.4	95.44	7.888	
13,900.0	9,827.2	9,873.6	9,871.8	78.1	20.9	-82.26	3,213.2	575.3	851.3	754.3	97.00	8.776	
14,000.0	9,824.5	9,871.4	9,869.6	79.8	20.9	-81.39	3,213.2	575.3	950.1	851.6	98.55	9.641	
14,100.0	9,821.7	9,869.3	9,867.5	81.6	20.9	-80.52	3,213.2	575.3	1,049.1	949.1	100.07	10.484	
14,200.0	9,818.9	9,867.1	9,865.4	83.3	20.9	-79.66	3,213.2	575.4	1,148.3	1,046.7	101.57	11.305	
14,300.0	9,816.1	9,865.0	9,863.2	85.1	20.9	-78.80	3,213.2	575.4	1,247.6	1,144.5	103.05	12.106	
14,400.0	9,813.3	9,862.8	9,861.1	86.8	20.9	-77.95	3,213.2	575.4	1,347.0	1,242.5	104.51	12.888	
14,500.0	9,810.5	9,860.7	9,858.9	88.6	20.9	-77.10	3,213.2	575.4	1,446.5	1,340.5	105.95	13.652	

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - McElvain #11 Unit D - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 usft
Survey Program: 238-MWD											Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance		Minimum 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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
0.0	0.0	0.0	0.0	0.0	0.0	-174.90	-1,007.9	-89.9	1,011.9			
100.0	100.0	97.9	97.9	0.1	0.1	-174.90	-1,007.8	-90.0	1,011.8	1,011.6	0.19	5,283.373
200.0	200.0	200.4	200.4	0.3	0.2	-174.87	-1,007.4	-90.4	1,011.4	1,010.9	0.52	1,935.187
300.0	300.0	301.3	301.3	0.5	0.4	-174.83	-1,006.8	-91.0	1,010.9	1,009.9	0.93	1,088.538
400.0	400.0	401.3	401.3	0.8	0.6	-174.80	-1,006.1	-91.6	1,010.3	1,008.9	1.38	733.130
500.0	500.0	501.9	501.9	1.0	0.8	-174.76	-1,005.5	-92.2	1,009.7	1,007.9	1.83	552.046
600.0	600.0	604.3	604.3	1.2	1.1	-174.71	-1,004.6	-93.1	1,009.0	1,006.7	2.28	441.715
700.0	700.0	706.7	706.7	1.4	1.3	-174.64	-1,003.5	-94.1	1,008.0	1,005.2	2.74	367.964
800.0	800.0	807.9	807.9	1.7	1.5	-174.56	-1,002.2	-95.4	1,006.8	1,003.6	3.19	315.387
900.0	900.0	909.0	908.9	1.9	1.8	-174.48	-1,000.8	-96.8	1,005.5	1,001.9	3.64	275.870
1,000.0	1,000.0	1,010.1	1,010.1	2.1	2.0	-174.38	-999.2	-98.3	1,004.1	1,000.0	4.10	245.033
1,100.0	1,100.0	1,111.9	1,111.8	2.3	2.2	-174.28	-997.5	-100.0	1,002.6	998.1	4.55	220.217
1,200.0	1,200.0	1,214.9	1,214.8	2.6	2.5	-174.15	-995.5	-101.9	1,000.9	995.8	5.01	199.735
1,300.0	1,300.0	1,317.5	1,317.3	2.8	2.7	-174.01	-993.1	-104.2	998.8	993.3	5.47	182.744
1,400.0	1,400.0	1,412.5	1,412.2	3.0	2.9	-173.88	-991.0	-106.2	996.8	990.9	5.88	169.532
1,500.0	1,500.0	1,508.7	1,508.5	3.2	3.1	-173.79	-989.4	-107.7	995.4	989.1	6.29	158.263
1,600.0	1,600.0	1,606.6	1,606.3	3.5	3.2	-173.70	-988.1	-109.0	994.2	987.5	6.69	148.559
1,700.0	1,700.0	1,704.4	1,704.1	3.7	3.4	-173.64	-987.0	-110.0	993.2	986.1	7.09	139.987
1,800.0	1,800.0	1,804.8	1,804.5	3.9	3.6	-173.58	-986.1	-111.0	992.3	984.8	7.52	131.909
1,900.0	1,900.0	1,905.6	1,905.2	4.1	3.8	-173.51	-985.0	-112.0	991.4	983.4	7.96	124.617
2,000.0	2,000.0	2,006.3	2,006.0	4.3	4.0	88.95	-983.8	-113.2	990.3	982.0	8.38	118.208
2,100.0	2,099.9	2,106.3	2,105.9	4.5	4.3	89.27	-982.6	-114.3	989.2	980.4	8.78	112.644
2,200.0	2,199.7	2,205.1	2,204.7	4.7	4.5	89.73	-981.4	-115.4	988.1	978.9	9.19	107.521
2,300.0	2,299.3	2,303.7	2,303.3	5.0	4.7	90.30	-980.4	-116.5	987.2	977.6	9.61	102.766
2,400.0	2,398.9	2,403.0	2,402.6	5.2	4.9	90.87	-979.4	-117.4	986.5	976.4	10.03	98.345
2,500.0	2,498.5	2,503.3	2,502.9	5.4	5.1	91.46	-978.4	-118.4	985.8	975.3	10.46	94.216
2,600.0	2,598.1	2,603.7	2,603.2	5.6	5.3	92.05	-977.3	-119.5	985.1	974.2	10.90	90.377
2,700.0	2,697.7	2,704.7	2,704.2	5.9	5.5	92.65	-976.0	-120.7	984.5	973.1	11.35	86.758
2,800.0	2,797.4	2,807.3	2,806.9	6.1	5.7	93.28	-974.4	-122.3	983.6	971.8	11.81	83.276
2,900.0	2,897.0	2,909.9	2,909.4	6.3	6.0	93.95	-972.3	-124.2	982.6	970.3	12.28	80.022
3,000.0	2,996.6	3,011.1	3,010.6	6.6	6.2	94.63	-969.9	-126.6	981.4	968.7	12.74	77.008
3,100.0	3,096.2	3,108.1	3,107.5	6.8	6.4	95.28	-967.7	-128.7	980.4	967.2	13.19	74.314
3,200.0	3,195.8	3,205.1	3,204.4	7.1	6.6	95.91	-965.8	-130.5	979.8	966.2	13.64	71.812
3,300.0	3,295.4	3,302.6	3,302.0	7.3	6.8	96.52	-964.2	-132.1	979.6	965.5	14.10	69.494
3,372.3	3,367.4	3,374.0	3,373.4	7.5	6.9	96.96	-963.1	-133.1	979.5	965.1	14.42	67.930 CC
3,400.0	3,395.0	3,401.5	3,400.8	7.6	7.0	97.13	-962.7	-133.5	979.5	965.0	14.54	67.350
3,500.0	3,494.6	3,500.3	3,499.6	7.8	7.2	97.74	-961.3	-134.9	979.7	964.7	14.99	65.338
3,600.0	3,594.2	3,599.2	3,598.5	8.1	7.4	98.33	-960.0	-136.1	980.0	964.5	15.44	63.449 ES
3,700.0	3,693.8	3,698.4	3,697.7	8.3	7.6	98.93	-958.8	-137.3	980.4	964.5	15.90	61.645
3,800.0	3,793.4	3,797.9	3,797.2	8.6	7.8	99.53	-957.5	-138.6	981.0	964.6	16.37	59.929
3,900.0	3,893.0	3,897.4	3,896.6	8.8	8.0	100.12	-956.3	-139.8	981.7	964.8	16.84	58.311
4,000.0	3,992.6	3,996.9	3,996.1	9.1	8.2	100.72	-955.0	-141.0	982.5	965.2	17.30	56.783
4,100.0	4,092.2	4,095.8	4,095.0	9.4	8.4	101.31	-953.8	-142.1	983.4	965.6	17.77	55.345
4,200.0	4,191.9	4,194.4	4,193.6	9.6	8.6	101.88	-952.7	-143.2	984.5	966.2	18.23	53.993
4,300.0	4,291.5	4,293.0	4,292.2	9.9	8.9	102.45	-951.8	-144.1	985.8	967.1	18.70	52.716
4,400.0	4,391.1	4,391.6	4,390.8	10.1	9.1	103.00	-951.0	-144.9	987.2	968.1	19.17	51.510
4,500.0	4,490.7	4,491.6	4,490.8	10.4	9.3	103.55	-950.3	-145.5	988.9	969.2	19.64	50.360
4,600.0	4,590.3	4,593.8	4,593.0	10.7	9.5	104.13	-949.2	-146.6	990.4	970.3	20.11	49.242
4,700.0	4,689.9	4,695.9	4,695.1	10.9	9.7	104.75	-947.7	-148.1	991.8	971.2	20.59	48.169
4,800.0	4,789.5	4,797.9	4,797.0	11.2	9.9	105.41	-945.6	-150.0	993.0	971.9	21.07	47.137
4,900.0	4,889.1	4,897.5	4,896.6	11.5	10.1	106.07	-943.3	-152.3	994.1	972.6	21.54	46.159

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



Anticollision Report

Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Reference Site: EK 30 WCD Federal Com
Site Error: 0.0 usft
Reference Well: EK 30 BS2 Federal Com 3H
Well Error: 0.0 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
TVD Reference: WELL @ 3883.0usft (Original Well Elev)
MD Reference: WELL @ 3883.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - McElvain #11 Unit D - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 usft
Survey Program: 238-MWD													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		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)	Offset Wellbore Centre E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,988.7	4,994.3	4,993.3	11.7	10.3	106.69	-941.3	-154.2	995.5	973.5	22.00	45.249	
5,100.0	5,088.3	5,091.1	5,090.1	12.0	10.5	107.27	-939.8	-155.6	997.4	974.9	22.47	44.392	
5,200.0	5,187.9	5,188.1	5,187.1	12.3	10.7	107.82	-938.8	-156.6	999.5	976.6	22.93	43.585	
5,300.0	5,287.5	5,287.6	5,286.5	12.5	11.0	108.35	-938.1	-157.3	1,002.0	978.6	23.40	42.814	
5,400.0	5,387.1	5,387.8	5,386.8	12.8	11.2	108.89	-937.3	-158.0	1,004.4	980.6	23.87	42.073	
5,500.0	5,486.7	5,488.0	5,486.9	13.1	11.4	109.44	-936.4	-159.0	1,006.9	982.6	24.34	41.362	
5,600.0	5,586.4	5,588.2	5,587.1	13.3	11.6	110.00	-935.2	-160.1	1,009.4	984.6	24.81	40.679	
5,700.0	5,686.0	5,687.9	5,686.8	13.6	11.8	110.56	-934.0	-161.3	1,012.0	986.7	25.29	40.020	
5,800.0	5,785.6	5,787.4	5,786.3	13.9	12.0	111.12	-932.8	-162.5	1,014.6	988.8	25.76	39.385	
5,900.0	5,885.2	5,886.8	5,885.7	14.1	12.2	111.67	-931.5	-163.7	1,017.3	991.1	26.24	38.777	
6,000.0	5,984.8	5,986.3	5,985.2	14.4	12.4	112.23	-930.3	-164.9	1,020.2	993.4	26.71	38.195	
6,100.0	6,084.4	6,085.4	6,084.3	14.7	12.7	112.77	-929.0	-166.1	1,023.1	995.9	27.18	37.645	
6,200.0	6,184.0	6,184.3	6,183.2	15.0	12.9	113.30	-928.0	-167.1	1,026.2	998.5	27.64	37.123	
6,300.0	6,283.6	6,283.3	6,282.1	15.2	13.1	113.82	-927.1	-168.0	1,029.4	1,001.3	28.11	36.623	
6,400.0	6,383.2	6,382.2	6,381.1	15.5	13.3	114.32	-926.3	-168.7	1,032.8	1,004.2	28.57	36.145	
6,500.0	6,482.8	6,481.7	6,480.6	15.8	13.5	114.81	-925.6	-169.3	1,036.2	1,007.2	29.04	35.686	
6,600.0	6,582.4	6,581.5	6,580.3	16.0	13.7	115.31	-924.9	-170.0	1,039.8	1,010.3	29.50	35.243	
6,700.0	6,682.0	6,681.3	6,680.1	16.3	13.9	115.81	-924.1	-170.8	1,043.4	1,013.4	29.97	34.816	
6,800.0	6,781.6	6,781.0	6,779.8	16.6	14.1	116.31	-923.3	-171.6	1,047.0	1,016.6	30.43	34.405	
6,900.0	6,881.2	6,880.8	6,879.6	16.8	14.3	116.81	-922.3	-172.5	1,050.7	1,019.8	30.90	34.005	
7,000.0	6,980.9	6,980.5	6,979.3	17.1	14.5	117.31	-921.3	-173.5	1,054.5	1,023.1	31.37	33.615	
7,100.0	7,080.5	7,080.2	7,079.0	17.4	14.8	117.82	-920.2	-174.6	1,058.3	1,026.5	31.84	33.239	
7,200.0	7,180.1	7,179.9	7,178.7	17.7	15.0	118.32	-919.1	-175.7	1,062.2	1,029.9	32.31	32.877	
7,300.0	7,279.7	7,279.1	7,277.9	17.9	15.2	118.83	-917.9	-176.9	1,066.2	1,033.4	32.77	32.533	
7,400.0	7,379.3	7,378.1	7,376.8	18.2	15.4	119.31	-916.9	-177.8	1,070.3	1,037.0	33.23	32.207	
7,500.0	7,478.9	7,477.1	7,475.8	18.5	15.6	119.78	-916.1	-178.6	1,074.5	1,040.8	33.69	31.893	
7,600.0	7,578.5	7,576.1	7,574.9	18.8	15.8	120.22	-915.5	-179.1	1,078.8	1,044.7	34.15	31.591	
7,700.0	7,678.1	7,675.6	7,674.3	19.0	16.0	120.65	-915.2	-179.4	1,083.2	1,048.6	34.61	31.300	
7,800.0	7,777.7	7,775.3	7,774.0	19.3	16.2	121.08	-914.8	-179.8	1,087.7	1,052.7	35.07	31.018	
7,900.0	7,877.3	7,875.0	7,873.7	19.6	16.4	121.51	-914.3	-180.3	1,092.3	1,056.7	35.53	30.745	
8,000.0	7,976.9	7,974.7	7,973.4	19.8	16.6	121.95	-913.8	-180.8	1,096.8	1,060.9	35.98	30.481	
8,100.0	8,076.5	8,074.3	8,073.0	20.1	16.9	122.38	-913.1	-181.4	1,101.5	1,065.0	36.45	30.222	
8,200.0	8,176.1	8,173.8	8,172.5	20.4	17.1	122.81	-912.5	-182.0	1,106.2	1,069.3	36.91	29.969	
8,300.0	8,275.7	8,273.4	8,272.1	20.7	17.3	123.24	-911.9	-182.6	1,110.9	1,073.6	37.37	29.725	
8,400.0	8,375.4	8,372.9	8,371.6	20.9	17.5	123.66	-911.3	-183.2	1,115.8	1,077.9	37.84	29.489	
8,500.0	8,475.0	8,472.7	8,471.4	21.2	17.7	124.09	-910.6	-183.9	1,120.6	1,082.3	38.30	29.258	
8,600.0	8,574.6	8,572.6	8,571.3	21.5	17.9	124.53	-909.5	-184.9	1,125.5	1,086.8	38.77	29.034	
8,700.0	8,674.2	8,672.4	8,671.1	21.8	18.2	125.00	-908.1	-186.3	1,130.5	1,091.3	39.23	28.817	
8,800.0	8,773.8	8,772.1	8,770.8	22.0	18.4	125.49	-906.3	-188.0	1,135.5	1,095.8	39.69	28.607	
8,900.0	8,873.4	8,871.6	8,870.2	22.3	18.6	126.00	-904.2	-190.0	1,140.5	1,100.4	40.15	28.408	
9,000.0	8,973.0	8,970.8	8,969.4	22.6	18.8	126.50	-902.2	-192.0	1,145.7	1,105.1	40.60	28.218	
9,100.0	9,072.6	9,070.1	9,068.7	22.8	19.0	126.97	-900.4	-193.7	1,150.9	1,109.9	41.05	28.038	
9,200.0	9,172.2	9,169.4	9,168.0	23.1	19.2	127.42	-899.0	-195.0	1,156.3	1,114.8	41.49	27.867	
9,300.0	9,271.8	9,268.9	9,267.4	23.4	19.4	127.83	-898.0	-196.0	1,161.7	1,119.7	41.94	27.698	
9,400.0	9,371.4	9,368.4	9,366.9	23.7	19.6	128.23	-897.1	-196.9	1,167.2	1,124.8	42.39	27.532	
9,500.0	9,471.0	9,467.9	9,466.4	23.9	19.8	128.67	-896.1	-197.9	1,173.1	1,130.3	42.79	27.412 SF	
9,600.0	9,569.5	9,566.3	9,564.8	24.2	20.1	-151.15	-894.5	-199.4	1,179.0	1,136.4	43.20	27.291	
9,700.0	9,662.9	9,660.3	9,658.7	24.4	20.3	-140.58	-892.4	-201.5	1,184.4	1,142.5	43.61	27.170	
9,800.0	9,747.1	9,746.0	9,744.4	24.5	20.4	-134.38	-889.9	-203.8	1,189.4	1,148.6	44.02	27.049	
9,900.0	9,818.5	9,816.0	9,814.4	24.7	20.4	-125.95	-889.9	-203.8	1,194.4	1,154.6	44.43	26.928	
10,000.0	9,874.0	9,874.0	9,874.4	24.8	20.4	-114.75	-889.9	-203.8	1,199.4	1,160.6	44.84	26.807	

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - McElvain #11 Unit D - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 usft
Survey Program: 238-MWD													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Minimum 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)	Minimum Separation (usft)	Separation Factor		
10,100.0	9,911.1	9,746.0	9,744.4	25.1	20.4	-100.36	-889.9	-203.8	1,461.9	1,419.1	42.81	34.147		



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design EK 30 WCD Federal Com - McElvain #3 - Wellbore #1 - Wellbore #1											Offset Site Error		0.0 usft
Survey Program: 350-MWD											Offset Well Error		0.0 usft
Reference		Offset		Semi-Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	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)			
0.0	0.0	29.5	29.5	0.0	0.0	-19.89	663.1	-239.9	705.2				
100.0	100.0	127.9	127.9	0.1	0.1	-19.90	663.2	-240.0	705.3	705.1	0.23	3,109.618	ES
200.0	200.0	226.4	226.4	0.3	0.2	-19.91	663.5	-240.3	705.7	705.2	0.56	1,267.241	
300.0	300.0	324.8	324.8	0.5	0.3	-19.93	664.0	-240.8	706.4	705.5	0.89	796.360	
400.0	400.0	424.4	424.4	0.8	0.5	-19.96	664.6	-241.4	707.2	705.8	1.31	541.459	
500.0	500.0	524.4	524.4	1.0	0.8	-19.99	665.3	-242.0	707.9	706.2	1.76	403.249	
600.0	600.0	624.4	624.3	1.2	1.0	-20.02	665.9	-242.6	708.7	706.5	2.21	321.385	
700.0	700.0	724.4	724.3	1.4	1.2	-20.05	666.5	-243.2	709.5	706.9	2.65	267.250	
800.0	800.0	824.4	824.3	1.7	1.4	-20.08	667.2	-243.8	710.3	707.2	3.10	228.795	
900.0	900.0	924.4	924.3	1.9	1.7	-20.11	667.8	-244.4	711.1	707.6	3.55	200.073	
1,000.0	1,000.0	1,024.3	1,024.3	2.1	1.9	-20.13	668.4	-245.0	711.9	707.9	4.00	177.803	
1,100.0	1,100.0	1,124.3	1,124.3	2.3	2.1	-20.16	669.0	-245.7	712.7	708.3	4.45	160.030	
1,200.0	1,200.0	1,224.3	1,224.3	2.6	2.3	-20.19	669.7	-246.3	713.5	708.6	4.90	145.517	
1,300.0	1,300.0	1,324.3	1,324.3	2.8	2.6	-20.22	670.3	-246.9	714.3	709.0	5.35	133.442	
1,400.0	1,400.0	1,425.1	1,425.0	3.0	2.8	-20.25	670.9	-247.4	715.1	709.3	5.78	123.695	
1,500.0	1,500.0	1,525.9	1,525.9	3.2	3.0	-20.27	671.4	-247.9	715.7	709.5	6.21	115.325	
1,600.0	1,600.0	1,626.8	1,626.7	3.5	3.2	-20.29	671.8	-248.3	716.2	709.6	6.63	108.010	
1,700.0	1,700.0	1,727.2	1,727.1	3.7	3.4	-20.30	672.1	-248.6	716.6	709.6	7.06	101.543	
1,800.0	1,800.0	1,827.2	1,827.1	3.9	3.6	-20.31	672.4	-248.9	717.0	709.6	7.49	95.795	
1,900.0	1,900.0	1,927.2	1,927.1	4.1	3.8	-20.33	672.8	-249.2	717.4	709.5	7.91	90.668	
2,000.0	2,000.0	2,027.2	2,027.1	4.3	4.0	-118.12	673.1	-249.5	718.5	710.1	8.32	86.325	
2,100.0	2,099.9	2,127.1	2,127.0	4.5	4.2	-118.38	673.4	-249.8	720.7	712.0	8.72	82.655	
2,200.0	2,199.7	2,226.8	2,226.8	4.7	4.4	-118.80	673.7	-250.2	724.3	715.1	9.13	79.305	
2,300.0	2,299.3	2,326.4	2,326.4	5.0	4.6	-119.39	674.0	-250.5	728.9	719.3	9.56	76.237	
2,400.0	2,398.9	2,426.0	2,425.9	5.2	4.8	-120.00	674.3	-250.8	733.7	723.7	10.00	73.403	
2,500.0	2,498.5	2,525.6	2,525.5	5.4	5.1	-120.61	674.6	-251.1	738.6	728.1	10.43	70.784	
2,600.0	2,598.1	2,625.2	2,625.1	5.6	5.3	-121.21	674.9	-251.4	743.6	732.7	10.88	68.361	
2,700.0	2,697.7	2,723.6	2,723.5	5.9	5.5	-121.79	675.3	-251.7	748.7	737.3	11.32	66.134	
2,800.0	2,797.4	2,821.6	2,821.5	6.1	5.7	-122.37	675.8	-252.2	754.0	742.3	11.77	64.088	
2,900.0	2,897.0	2,919.5	2,919.4	6.3	5.9	-122.94	676.5	-252.8	759.7	747.5	12.21	62.205	
3,000.0	2,996.6	3,017.3	3,017.3	6.6	6.2	-123.52	677.3	-253.6	765.7	753.0	12.66	60.470	
3,100.0	3,096.2	3,115.5	3,115.4	6.8	6.4	-124.09	678.2	-254.5	771.9	758.8	13.11	58.862	
3,200.0	3,195.8	3,213.7	3,213.6	7.1	6.6	-124.65	679.3	-255.6	778.4	764.9	13.57	57.373	
3,300.0	3,295.4	3,312.3	3,312.2	7.3	6.8	-125.21	680.5	-256.8	785.1	771.1	14.02	55.989	
3,400.0	3,395.0	3,411.8	3,411.7	7.6	7.0	-125.77	681.8	-258.0	792.0	777.5	14.48	54.688	
3,500.0	3,494.6	3,511.3	3,511.1	7.8	7.3	-126.32	683.0	-259.2	798.9	783.9	14.94	53.469	
3,600.0	3,594.2	3,610.8	3,610.6	8.1	7.5	-126.86	684.3	-260.4	805.9	790.5	15.40	52.325	
3,700.0	3,693.8	3,710.2	3,710.1	8.3	7.7	-127.39	685.5	-261.6	812.9	797.1	15.86	51.250	
3,800.0	3,793.4	3,810.4	3,810.2	8.6	7.9	-127.91	686.8	-262.8	820.0	803.7	16.30	50.300	
3,900.0	3,893.0	3,910.6	3,910.4	8.8	8.1	-128.42	687.9	-263.9	827.0	810.3	16.74	49.397	
4,000.0	3,992.6	4,010.8	4,010.6	9.1	8.3	-128.92	689.0	-265.0	834.1	816.9	17.18	48.539	
4,100.0	4,092.2	4,111.0	4,110.8	9.4	8.5	-129.42	690.1	-266.0	841.1	823.5	17.63	47.722	
4,200.0	4,191.9	4,211.2	4,211.0	9.6	8.7	-129.90	691.0	-266.9	848.1	830.0	18.07	46.942	
4,300.0	4,291.5	4,310.7	4,310.5	9.9	8.9	-130.37	692.0	-267.8	855.1	836.6	18.51	46.200	
4,400.0	4,391.1	4,410.2	4,410.0	10.1	9.1	-130.84	692.9	-268.7	862.2	843.2	18.95	45.495	
4,500.0	4,490.7	4,509.7	4,509.5	10.4	9.3	-131.29	693.8	-269.6	869.3	849.9	19.39	44.825	
4,600.0	4,590.3	4,609.2	4,609.0	10.7	9.6	-131.74	694.8	-270.5	876.4	856.6	19.83	44.188	
4,700.0	4,689.9	4,708.7	4,708.5	10.9	9.8	-132.18	695.7	-271.4	883.7	863.4	20.28	43.578	
4,800.0	4,789.5	4,808.3	4,808.0	11.2	10.0	-132.62	696.7	-272.3	890.9	870.2	20.74	42.960	
4,900.0	4,889.1	4,907.8	4,907.5	11.5	10.2	-133.05	697.6	-273.2	898.3	877.1	21.20	42.371	
5,000.0	4,988.7	5,007.3	5,007.0	11.7	10.4	-133.47	698.5	-274.1	905.6	884.0	21.66	41.809	

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



Anticollision Report

Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Reference Site: EK 30 WCD Federal Com
 Site Error: 0.0 usft
 Reference Well: EK 30 BS2 Federal Com 3H
 Well Error: 0.0 usft
 Reference Wellbore: Wellbore #1
 Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
 TVD Reference: WELL @ 3883.0usft (Original Well Elev)
 MD Reference: WELL @ 3883.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design EK 30 WCD Federal Com - McElvain #3 - Wellbore #1 - Wellbore #1											Offset Site Error		0.0 usft
Survey Program: 350-MWD											Offset Well Error		0.0 usft
Reference													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,088.3	5,106.8	5,106.5	12.0	10.6	-133.88	699.5	-275.0	913.1	890.9	22.12	41.274	
5,200.0	5,187.9	5,206.3	5,206.0	12.3	10.9	-134.29	700.4	-275.9	920.5	898.0	22.58	40.762	
5,300.0	5,287.5	5,305.8	5,305.5	12.5	11.1	-134.69	701.3	-276.9	928.1	905.0	23.04	40.273	
5,400.0	5,387.1	5,405.3	5,405.0	12.8	11.3	-135.08	702.3	-277.8	935.6	912.1	23.51	39.805	
5,500.0	5,486.7	5,504.8	5,504.5	13.1	11.5	-135.47	703.2	-278.7	943.2	919.3	23.97	39.357	
5,600.0	5,586.4	5,604.3	5,604.0	13.3	11.8	-135.85	704.2	-279.6	950.9	926.4	24.43	38.928	
5,700.0	5,686.0	5,703.7	5,703.3	13.6	12.0	-136.23	705.1	-280.5	958.6	933.7	24.89	38.517	
5,800.0	5,785.6	5,802.3	5,802.0	13.9	12.2	-136.59	706.1	-281.4	966.4	941.0	25.35	38.127	
5,900.0	5,885.2	5,901.0	5,900.6	14.1	12.4	-136.96	707.1	-282.4	974.3	948.5	25.80	37.756	
6,000.0	5,984.8	5,999.6	5,999.2	14.4	12.6	-137.31	708.2	-283.5	982.3	956.0	26.26	37.403	
6,100.0	6,084.4	6,098.2	6,097.8	14.7	12.9	-137.66	709.3	-284.6	990.5	963.8	26.72	37.067	
6,200.0	6,184.0	6,197.0	6,196.6	15.0	13.1	-138.01	710.6	-285.8	998.8	971.6	27.18	36.747	
6,300.0	6,283.6	6,296.5	6,296.1	15.2	13.3	-138.35	711.8	-287.0	1,007.1	979.5	27.64	36.437	
6,400.0	6,383.2	6,396.0	6,395.5	15.5	13.5	-138.69	713.1	-288.2	1,015.5	987.4	28.10	36.139	
6,500.0	6,482.8	6,495.4	6,495.0	15.8	13.8	-139.02	714.3	-289.4	1,023.9	995.4	28.56	35.852	
6,600.0	6,582.4	6,594.9	6,594.4	16.0	14.0	-139.35	715.6	-290.6	1,032.4	1,003.4	29.02	35.576	
6,700.0	6,682.0	6,694.4	6,693.9	16.3	14.2	-139.67	716.8	-291.8	1,040.9	1,011.4	29.48	35.309	
6,800.0	6,781.6	6,793.8	6,793.3	16.6	14.4	-139.98	718.1	-293.0	1,049.4	1,019.4	29.94	35.052	
6,900.0	6,881.2	6,893.3	6,892.8	16.8	14.7	-140.29	719.3	-294.2	1,057.9	1,027.5	30.40	34.804	
7,000.0	6,980.9	6,992.8	6,992.2	17.1	14.9	-140.60	720.6	-295.4	1,066.5	1,035.7	30.86	34.564	
7,100.0	7,080.5	7,092.2	7,091.7	17.4	15.1	-140.90	721.8	-296.6	1,075.1	1,043.8	31.32	34.332	
7,200.0	7,180.1	7,191.2	7,190.7	17.7	15.3	-141.19	723.1	-297.8	1,083.8	1,052.0	31.77	34.110	
7,300.0	7,279.7	7,290.0	7,289.4	17.9	15.6	-141.48	724.4	-299.1	1,092.5	1,060.3	32.23	33.897	
7,400.0	7,379.3	7,388.7	7,388.1	18.2	15.8	-141.77	725.7	-300.4	1,101.4	1,068.7	32.69	33.693	
7,500.0	7,478.9	7,487.4	7,486.8	18.5	16.0	-142.05	727.1	-301.7	1,110.3	1,077.2	33.14	33.498	
7,600.0	7,578.5	7,586.1	7,585.5	18.8	16.2	-142.32	728.5	-303.1	1,119.3	1,085.7	33.60	33.311	
7,700.0	7,678.1	7,684.8	7,684.2	19.0	16.4	-142.59	730.0	-304.5	1,128.4	1,094.4	34.06	33.132	
7,800.0	7,777.7	7,783.6	7,782.9	19.3	16.7	-142.86	731.5	-306.0	1,137.6	1,103.1	34.52	32.961	
7,900.0	7,877.3	7,883.0	7,882.3	19.6	16.9	-143.12	733.1	-307.5	1,146.9	1,111.9	34.97	32.793	
8,000.0	7,976.9	7,982.4	7,981.7	19.8	17.1	-143.38	734.7	-309.0	1,156.2	1,120.8	35.43	32.631	
8,100.0	8,076.5	8,081.9	8,081.1	20.1	17.3	-143.64	736.2	-310.5	1,165.5	1,129.6	35.89	32.474	
8,200.0	8,176.1	8,181.3	8,180.5	20.4	17.6	-143.89	737.8	-312.0	1,174.8	1,138.5	36.35	32.321	
8,300.0	8,275.7	8,280.7	8,279.9	20.7	17.8	-144.14	739.3	-313.5	1,184.2	1,147.4	36.81	32.173	
8,400.0	8,375.4	8,380.2	8,379.3	20.9	18.0	-144.38	740.9	-315.0	1,193.5	1,156.3	37.26	32.029	
8,500.0	8,475.0	8,479.6	8,478.8	21.2	18.2	-144.62	742.5	-316.6	1,202.9	1,165.2	37.72	31.889	
8,600.0	8,574.6	8,579.0	8,578.2	21.5	18.5	-144.86	744.0	-318.1	1,212.4	1,174.2	38.18	31.754	
8,700.0	8,674.2	8,678.5	8,677.6	21.8	18.7	-145.09	745.6	-319.6	1,221.8	1,183.1	38.64	31.622	
8,800.0	8,773.8	8,778.4	8,777.5	22.0	18.9	-145.32	747.1	-321.1	1,231.2	1,192.1	39.09	31.498	
8,900.0	8,873.4	8,879.5	8,878.6	22.3	19.1	-145.55	748.6	-322.5	1,240.6	1,201.1	39.53	31.386	
9,000.0	8,973.0	8,980.7	8,979.7	22.6	19.3	-145.78	750.1	-323.9	1,249.8	1,209.9	39.97	31.273	
9,100.0	9,072.6	9,081.9	9,080.9	22.8	19.5	-146.01	751.4	-325.2	1,259.0	1,218.6	40.40	31.160	
9,200.0	9,172.2	9,183.1	9,182.1	23.1	19.7	-146.23	752.6	-326.3	1,268.0	1,227.1	40.84	31.047	
9,300.0	9,271.8	9,284.3	9,283.3	23.4	19.9	-146.45	753.7	-327.4	1,276.9	1,235.6	41.28	30.933	
9,400.0	9,371.4	9,385.6	9,384.6	23.7	20.1	-146.66	754.7	-328.4	1,285.6	1,243.9	41.72	30.819	
9,500.0	9,471.0	9,485.2	9,484.2	23.9	20.3	-146.88	755.6	-329.3	1,294.0	1,251.8	42.18	30.675	
9,600.0	9,569.5	9,583.7	9,582.6	24.2	20.5	-147.10	756.6	-330.2	1,292.5	1,250.1	42.38	30.495	
9,700.0	9,662.9	9,677.3	9,676.3	24.4	20.7	-147.32	757.4	-331.0	1,277.9	1,235.7	42.17	30.305	
9,800.0	9,747.1	9,762.0	9,760.9	24.5	20.9	-147.54	758.2	-331.8	1,251.8	1,209.9	41.92	29.861	
9,900.0	9,818.5	9,834.0	9,833.0	24.7	21.1	-147.76	758.9	-332.4	1,216.9	1,174.9	42.05	28.938	
10,000.0	9,874.0	9,889.9	9,888.8	24.8	21.2	-147.98	759.4	-333.0	1,176.7	1,134.0	42.68	27.572	
10,100.0	9,911.1	9,926.8	9,925.8	25.1	21.3	-148.20	759.8	-333.3	1,134.9	1,091.4	43.53	26.070	

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



Anticollision Report

Company:	McElvain Energy, Inc.	Local Co-ordinate Reference:	Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Project:	Sec. 30 T18S R34E	TVD Reference:	WELL @ 3883.0usft (Original Well Elev)
Reference Site:	EK 30 WCD Federal Com	MD Reference:	WELL @ 3883.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	EK 30 BS2 Federal Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1 29Jul15 kjs	Offset TVD Reference:	Offset Datum

Offset Design: EK 30 WCD Federal Com - McElvain #3 - Wellbore #1 - Wellbore #1														Offset Site Error: 0.0 usft	
Survey Program: 350-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)	Minimum Separation (usft)	Separation Factor	Warning		
10,200.0	9,928.2	9,944.5	9,943.4	25.4	21.3	-87.71	760.0	-333.5	1,096.3	1,051.9	44.34	24.724			
10,300.0	9,927.6	9,944.9	9,943.8	25.9	21.3	-89.69	760.0	-333.5	1,064.6	1,019.6	45.00	23.659			
10,400.0	9,924.8	9,943.2	9,942.1	26.5	21.3	-89.59	760.0	-333.5	1,041.6	995.9	45.71	22.788			
10,500.0	9,922.0	9,941.5	9,940.4	27.2	21.3	-89.50	760.0	-333.5	1,027.9	981.4	46.53	22.090			
10,592.1	9,919.4	9,939.9	9,938.9	28.0	21.3	-89.41	759.9	-333.4	1,023.8	976.4	47.39	21.606			
10,600.0	9,919.2	9,939.8	9,938.7	28.1	21.3	-89.40	759.9	-333.4	1,023.8	976.4	47.46	21.573			
10,700.0	9,916.4	9,938.1	9,937.0	29.0	21.3	-89.31	759.9	-333.4	1,029.4	981.0	48.47	21.238			
10,800.0	9,913.6	9,936.3	9,935.3	30.0	21.3	-89.21	759.9	-333.4	1,044.7	995.1	49.57	21.076			
10,900.0	9,910.8	9,934.6	9,933.6	31.2	21.3	-89.11	759.9	-333.4	1,069.1	1,018.3	50.73	21.072 SF			
11,000.0	9,908.0	9,932.9	9,931.8	32.3	21.3	-89.02	759.9	-333.4	1,102.0	1,050.0	51.96	21.208			
11,100.0	9,905.3	9,931.2	9,930.1	33.6	21.3	-88.92	759.9	-333.4	1,142.8	1,089.5	53.25	21.462			
11,200.0	9,902.5	9,929.4	9,928.3	34.9	21.3	-88.82	759.8	-333.3	1,190.6	1,136.0	54.58	21.813			
11,300.0	9,899.7	9,927.7	9,926.6	36.2	21.3	-88.72	759.8	-333.3	1,244.6	1,188.6	55.96	22.241			
11,400.0	9,896.9	9,925.9	9,924.8	37.6	21.3	-88.62	759.8	-333.3	1,304.1	1,246.7	57.38	22.727			
11,500.0	9,894.1	9,924.1	9,923.1	39.0	21.3	-88.53	759.8	-333.3	1,368.2	1,309.4	58.83	23.258			
11,600.0	9,891.3	9,922.4	9,921.3	40.4	21.2	-88.43	759.8	-333.3	1,436.5	1,376.2	60.31	23.819			
11,700.0	9,888.5	9,920.6	9,919.5	41.9	21.2	-88.33	759.7	-333.2	1,508.3	1,446.5	61.82	24.399			

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



Anticollision Report

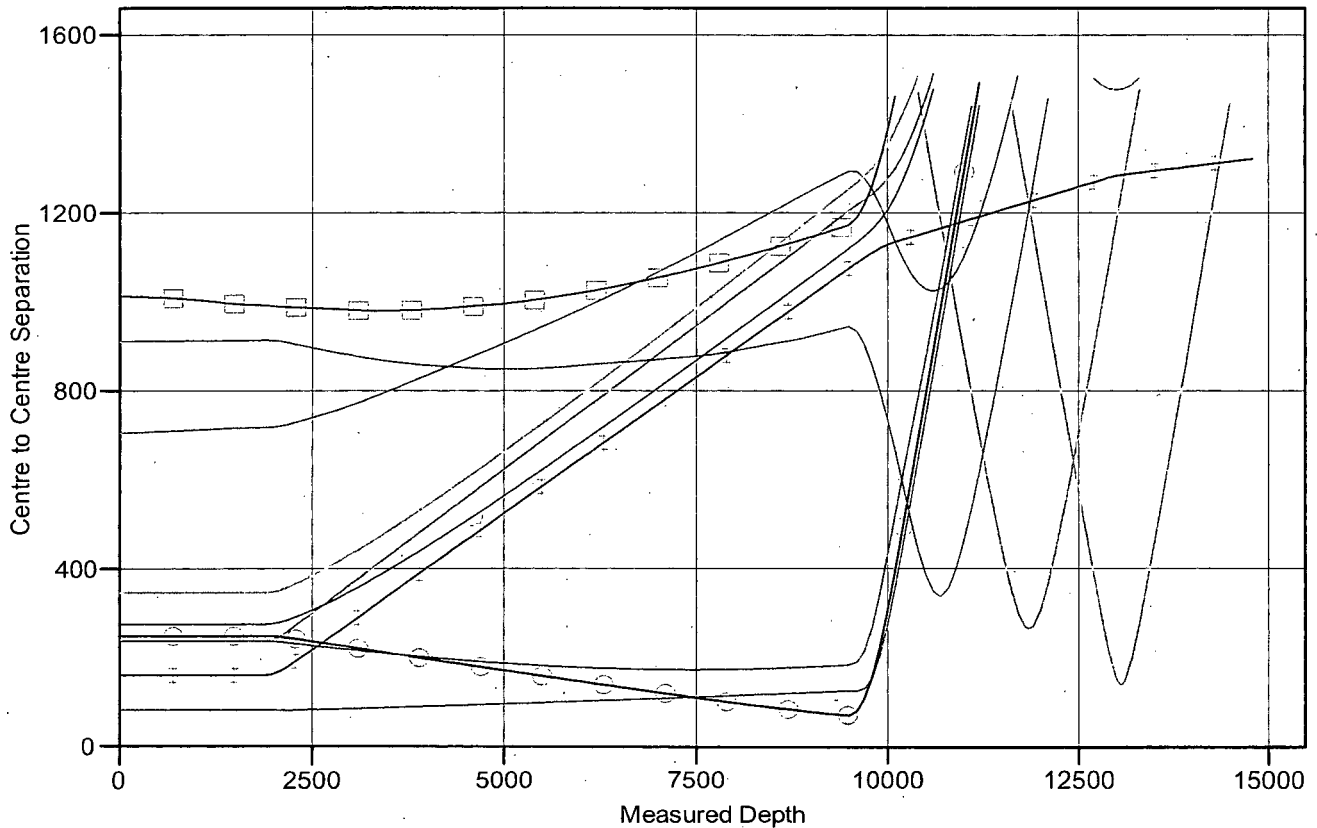
Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Reference Site: EK 30 WCD Federal Com
Site Error: 0.0 usft
Reference Well: EK 30 BS2 Federal Com 3H
Well Error: 0.0 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 29Jul15 kjs

Local Co-ordinate Reference: Well EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
TVD Reference: WELL @ 3883.0usft (Original Well Elev)
MD Reference: WELL @ 3883.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset-TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 3883.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.39°

Ladder Plot



LEGEND

• #1, Wellbore #1 V0	—△— EK 30 WCD Federal Com 3H, Wellbore #1, Plan #2 03Aug15 kjs V0	—○— EK 31 WCD Federal Com 4H, Wellbore #1, Plan #2 03Aug15 kjs V0
t #401, Wellbore #1, Wellbore #1 V0	—X— EK 30 WCD Federal Com 4H, Wellbore #1, Design #1 29Jul15 kjs V0	—◇— EK 31 BS2 Federal Com 3H, Wellbore #1, Design #1 29Jul15 kjs V0
• #1, Wellbore #1 V0	—○— EK 31 WCD Federal Com 3H, Wellbore #1, Plan #2 03Aug15 kjs V0	—X— EK 'B' 8701 JV-P #1, Wellbore #1, Wellbore #1 V0
om 4H, Wellbore #1, Design #1 29Jul15 kjs V0	—□— McElvain #11 Unit D, Wellbore #1, Wellbore #1 V0	
om 4H, Wellbore #1, Design #1 29Jul15 kjs V0	—◇— EK Penrose Sand Unit #402, Wellbore #1, Wellbore #1 V0	



Anticollision Report

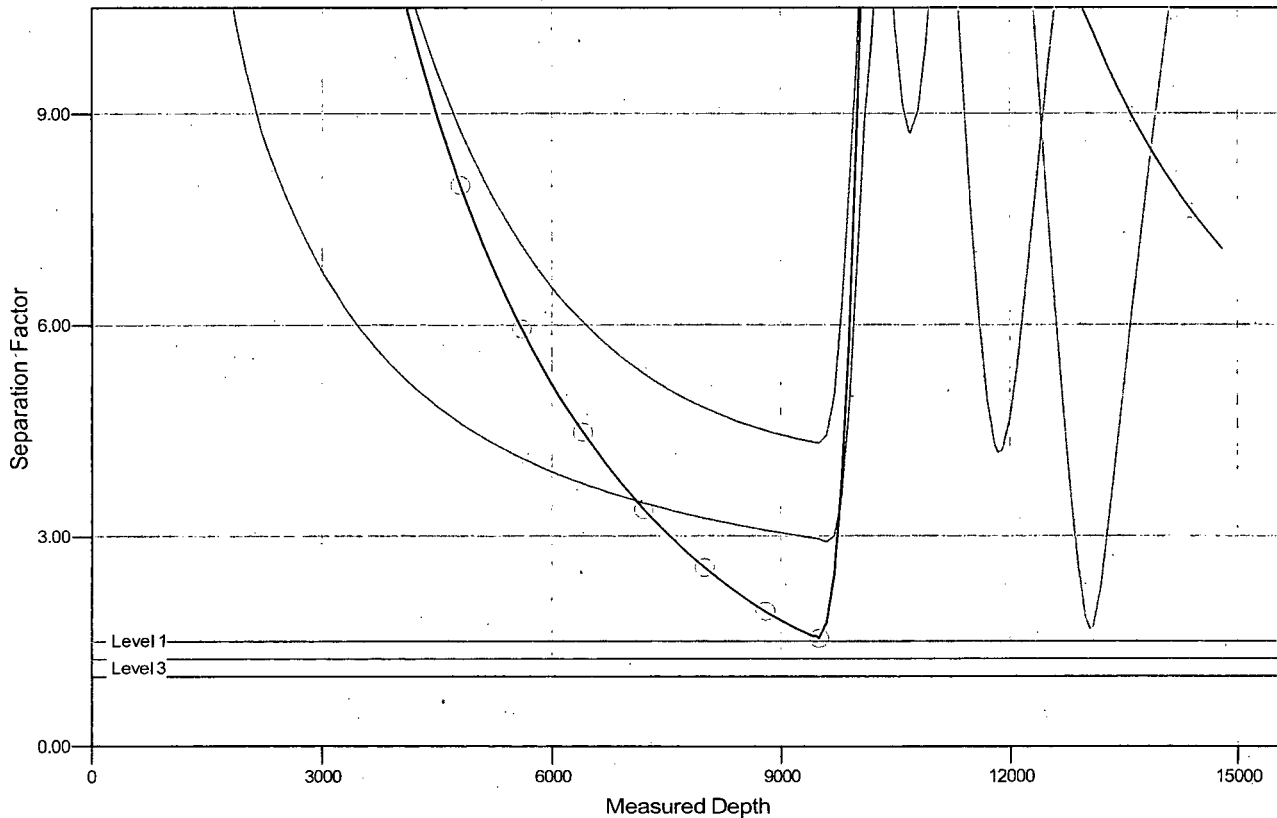
Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Reference Site: EK 30 WCD Federal Com
Site Error: 0.0 usft
Reference Well: EK 30 BS2 Federal Com 3H
Well Error: 0.0 usft
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Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 3883.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: EK 30 BS2 Federal Com 3H - Slot 30 BS2 3H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.39°

Separation Factor Plot



LEGEND

- Wellbore #1 V0
- Wellbore #1, Wellbore #1 V0
- Wellbore #1 V0
- Wellbore #1, Design #1 29Jul15 kjs V0
- Wellbore #1, Design #1 29Jul15 kjs V0
- EK 30 WCD Federal Com 3H, Wellbore #1, Plan #2 03Aug15 kjs V0
- EK 30 WCD Federal Com 4H, Wellbore #1, Design #1 29Jul15 kjs V0
- EK 31 WCD Federal Com 3H, Wellbore #1, Plan #2 03Aug15 kjs V0
- McElvain #11 Unit D, Wellbore #1, Wellbore #1 V0
- EK Penrose Sand Unit #402, Wellbore #1, Wellbore #1 V0
- EK 31 WCD Federal Com 4H, Wellbore #1, Design #1 29Jul15 kjs V0
- EK 31 BS2 Federal Com 3H, Wellbore #1, Design #1 29Jul15 kjs V0
- EK 'B' 8701 JV-P #1, Wellbore #1, Wellbore #1 V0



Surface Location: EK 30 WCD Federal Com
North American Datum 1983 , US State Plane 1983 New Mexico Eastern Zone
Ground Elevation: 3864.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	623207.90	765540.60	32° 42' 40.035 N	103° 36' 15.825 W	30 BS2 3H

WELL @ 3884.0usft (Original Well Elev)

