



HOBBS CCD

APR 21 2016

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COG Operating LLC

Lea County, NM

Haas 6 Federal Com

#2H

OH

Plan #1

Anticollision Report

19 May, 2015



APR 22 2016



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date 5/19/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	13,782.1	Plan #1 (OH)	MWD	MWD - Standard

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						
Haas 6 Federal Com						
#4H - OH - Plan #1	7,800.0	7,801.1	140.0	105.2	4.023	CC, ES, SF
USA Continental A						
A-1 - OH - OH	10,390.1	9,213.6	438.9	379.9	7.437	CC
A-1 - OH - OH	10,400.0	9,213.3	439.0	379.8	7.413	ES
A-1 - OH - OH	10,500.0	9,210.8	448.3	387.1	7.315	SF
USA Continental B						
B-1 - OH - OH	12,126.5	9,227.5	255.3	161.5	2.722	CC, ES, SF

Offset Design													Haas 6 Federal Com - #4H - OH - Plan #1		Offset Site Error:		0.0 usft	
Survey Program: D-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						
0.0	0.0	1.1	1.1	0.0	0.0	-90.16	-0.4	-140.0	140.0									
100.0	100.0	101.1	101.1	0.1	0.1	-90.16	-0.4	-140.0	140.0	139.8	0.19	749.545						
200.0	200.0	201.1	201.1	0.3	0.3	-90.16	-0.4	-140.0	140.0	139.4	0.64	220.018						
300.0	300.0	301.1	301.1	0.5	0.5	-90.16	-0.4	-140.0	140.0	138.9	1.09	128.932						
400.0	400.0	401.1	401.1	0.8	0.8	-90.16	-0.4	-140.0	140.0	138.5	1.54	91.183						
500.0	500.0	501.1	501.1	1.0	1.0	-90.16	-0.4	-140.0	140.0	138.0	1.98	70.532						
600.0	600.0	601.1	601.1	1.2	1.2	-90.16	-0.4	-140.0	140.0	137.6	2.43	57.508						
700.0	700.0	701.1	701.1	1.4	1.4	-90.16	-0.4	-140.0	140.0	137.1	2.88	48.544						
800.0	800.0	801.1	801.1	1.7	1.7	-90.16	-0.4	-140.0	140.0	136.7	3.33	41.998						
900.0	900.0	901.1	901.1	1.9	1.9	-90.16	-0.4	-140.0	140.0	136.2	3.78	37.007						
1,000.0	1,000.0	1,001.1	1,001.1	2.1	2.1	-90.16	-0.4	-140.0	140.0	135.8	4.23	33.077						
1,100.0	1,100.0	1,101.1	1,101.1	2.3	2.3	-90.16	-0.4	-140.0	140.0	135.3	4.68	29.901						
1,200.0	1,200.0	1,201.1	1,201.1	2.6	2.6	-90.16	-0.4	-140.0	140.0	134.9	5.13	27.282						
1,300.0	1,300.0	1,301.1	1,301.1	2.8	2.8	-90.16	-0.4	-140.0	140.0	134.4	5.58	25.084						
1,400.0	1,400.0	1,401.1	1,401.1	3.0	3.0	-90.16	-0.4	-140.0	140.0	134.0	6.03	23.215						
1,500.0	1,500.0	1,501.1	1,501.1	3.2	3.2	-90.16	-0.4	-140.0	140.0	133.5	6.48	21.604						
1,600.0	1,600.0	1,601.1	1,601.1	3.5	3.5	-90.16	-0.4	-140.0	140.0	133.1	6.93	20.203						
1,700.0	1,700.0	1,701.1	1,701.1	3.7	3.7	-90.16	-0.4	-140.0	140.0	132.6	7.38	18.972						
1,800.0	1,800.0	1,801.1	1,801.1	3.9	3.9	-90.16	-0.4	-140.0	140.0	132.2	7.83	17.883						

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



TDS
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Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 0-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)				
1,900.0	1,900.0	1,901.1	1,901.1	4.1	4.1	-90.16	-0.4	-140.0	140.0	131.7	8.28	16.912		
2,000.0	2,000.0	2,001.1	2,001.1	4.4	4.4	-90.16	-0.4	-140.0	140.0	131.3	8.73	16.041		
2,100.0	2,100.0	2,101.1	2,101.1	4.6	4.6	-90.16	-0.4	-140.0	140.0	130.8	9.18	15.255		
2,200.0	2,200.0	2,201.1	2,201.1	4.8	4.8	-90.16	-0.4	-140.0	140.0	130.4	9.63	14.543		
2,300.0	2,300.0	2,301.1	2,301.1	5.0	5.0	-90.16	-0.4	-140.0	140.0	129.9	10.08	13.894		
2,400.0	2,400.0	2,401.1	2,401.1	5.3	5.3	-90.16	-0.4	-140.0	140.0	129.5	10.53	13.300		
2,500.0	2,500.0	2,501.1	2,501.1	5.5	5.5	-90.16	-0.4	-140.0	140.0	129.0	10.98	12.756		
2,600.0	2,600.0	2,601.1	2,601.1	5.7	5.7	-90.16	-0.4	-140.0	140.0	128.6	11.43	12.254		
2,700.0	2,700.0	2,701.1	2,701.1	5.9	5.9	-90.16	-0.4	-140.0	140.0	128.1	11.87	11.790		
2,800.0	2,800.0	2,801.1	2,801.1	6.2	6.2	-90.16	-0.4	-140.0	140.0	127.7	12.32	11.360		
2,900.0	2,900.0	2,901.1	2,901.1	6.4	6.4	-90.16	-0.4	-140.0	140.0	127.2	12.77	10.960		
3,000.0	3,000.0	3,001.1	3,001.1	6.6	6.6	-90.16	-0.4	-140.0	140.0	126.8	13.22	10.587		
3,100.0	3,100.0	3,101.1	3,101.1	6.8	6.8	-90.16	-0.4	-140.0	140.0	126.3	13.67	10.239		
3,200.0	3,200.0	3,201.1	3,201.1	7.1	7.1	-90.16	-0.4	-140.0	140.0	125.9	14.12	9.913		
3,300.0	3,300.0	3,301.1	3,301.1	7.3	7.3	-90.16	-0.4	-140.0	140.0	125.4	14.57	9.608		
3,400.0	3,400.0	3,401.1	3,401.1	7.5	7.5	-90.16	-0.4	-140.0	140.0	125.0	15.02	9.320		
3,500.0	3,500.0	3,501.1	3,501.1	7.7	7.7	-90.16	-0.4	-140.0	140.0	124.5	15.47	9.049		
3,600.0	3,600.0	3,601.1	3,601.1	8.0	8.0	-90.16	-0.4	-140.0	140.0	124.1	15.92	8.794		
3,700.0	3,700.0	3,701.1	3,701.1	8.2	8.2	-90.16	-0.4	-140.0	140.0	123.6	16.37	8.552		
3,800.0	3,800.0	3,801.1	3,801.1	8.4	8.4	-90.16	-0.4	-140.0	140.0	123.2	16.82	8.324		
3,900.0	3,900.0	3,901.1	3,901.1	8.6	8.6	-90.16	-0.4	-140.0	140.0	122.7	17.27	8.107		
4,000.0	4,000.0	4,001.1	4,001.1	8.9	8.9	-90.16	-0.4	-140.0	140.0	122.3	17.72	7.901		
4,100.0	4,100.0	4,101.1	4,101.1	9.1	9.1	-90.16	-0.4	-140.0	140.0	121.8	18.17	7.706		
4,200.0	4,200.0	4,201.1	4,201.1	9.3	9.3	-90.16	-0.4	-140.0	140.0	121.4	18.62	7.520		
4,300.0	4,300.0	4,301.1	4,301.1	9.5	9.5	-90.16	-0.4	-140.0	140.0	120.9	19.07	7.343		
4,400.0	4,400.0	4,401.1	4,401.1	9.8	9.8	-90.16	-0.4	-140.0	140.0	120.5	19.52	7.173		
4,500.0	4,500.0	4,501.1	4,501.1	10.0	10.0	-90.16	-0.4	-140.0	140.0	120.0	19.97	7.012		
4,600.0	4,600.0	4,601.1	4,601.1	10.2	10.2	-90.16	-0.4	-140.0	140.0	119.6	20.42	6.857		
4,700.0	4,700.0	4,701.1	4,701.1	10.4	10.4	-90.16	-0.4	-140.0	140.0	119.1	20.87	6.710		
4,800.0	4,800.0	4,801.1	4,801.1	10.7	10.7	-90.16	-0.4	-140.0	140.0	118.7	21.31	6.568		
4,900.0	4,900.0	4,901.1	4,901.1	10.9	10.9	-90.16	-0.4	-140.0	140.0	118.2	21.76	6.433		
5,000.0	5,000.0	5,001.1	5,001.1	11.1	11.1	-90.16	-0.4	-140.0	140.0	117.8	22.21	6.302		
5,100.0	5,100.0	5,101.1	5,101.1	11.3	11.3	-90.16	-0.4	-140.0	140.0	117.3	22.66	6.177		
5,200.0	5,200.0	5,201.1	5,201.1	11.6	11.6	-90.16	-0.4	-140.0	140.0	116.9	23.11	6.057		
5,300.0	5,300.0	5,301.1	5,301.1	11.8	11.8	-90.16	-0.4	-140.0	140.0	116.4	23.56	5.942		
5,400.0	5,400.0	5,401.1	5,401.1	12.0	12.0	-90.16	-0.4	-140.0	140.0	116.0	24.01	5.830		
5,500.0	5,500.0	5,501.1	5,501.1	12.2	12.2	-90.16	-0.4	-140.0	140.0	115.5	24.46	5.723		
5,600.0	5,600.0	5,601.1	5,601.1	12.5	12.5	-90.16	-0.4	-140.0	140.0	115.1	24.91	5.620		
5,700.0	5,700.0	5,701.1	5,701.1	12.7	12.7	-90.16	-0.4	-140.0	140.0	114.6	25.36	5.520		
5,800.0	5,800.0	5,801.1	5,801.1	12.9	12.9	-90.16	-0.4	-140.0	140.0	114.2	25.81	5.424		
5,900.0	5,900.0	5,901.1	5,901.1	13.1	13.1	-90.16	-0.4	-140.0	140.0	113.7	26.26	5.331		
6,000.0	6,000.0	6,001.1	6,001.1	13.4	13.4	-90.16	-0.4	-140.0	140.0	113.3	26.71	5.242		
6,100.0	6,100.0	6,101.1	6,101.1	13.6	13.6	-90.16	-0.4	-140.0	140.0	112.8	27.16	5.155		
6,200.0	6,200.0	6,201.1	6,201.1	13.8	13.8	-90.16	-0.4	-140.0	140.0	112.4	27.61	5.071		
6,300.0	6,300.0	6,301.1	6,301.1	14.0	14.0	-90.16	-0.4	-140.0	140.0	111.9	28.06	4.990		
6,400.0	6,400.0	6,401.1	6,401.1	14.3	14.3	-90.16	-0.4	-140.0	140.0	111.5	28.51	4.911		
6,500.0	6,500.0	6,501.1	6,501.1	14.5	14.5	-90.16	-0.4	-140.0	140.0	111.0	28.96	4.835		
6,600.0	6,600.0	6,601.1	6,601.1	14.7	14.7	-90.16	-0.4	-140.0	140.0	110.6	29.41	4.761		
6,700.0	6,700.0	6,701.1	6,701.1	14.9	14.9	-90.16	-0.4	-140.0	140.0	110.1	29.86	4.689		
6,800.0	6,800.0	6,801.1	6,801.1	15.2	15.2	-90.16	-0.4	-140.0	140.0	109.7	30.31	4.620		
6,900.0	6,900.0	6,901.1	6,901.1	15.4	15.4	-90.16	-0.4	-140.0	140.0	109.2	30.75	4.552		
7,000.0	7,000.0	7,001.1	7,001.1	15.6	15.6	-90.16	-0.4	-140.0	140.0	108.8	31.20	4.487		

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



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Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Haas 6 Federal Com - #4H - OH - Plan #1														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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
7,100.0	7,100.0	7,101.1	7,101.1	15.8	15.8	-90.16	-0.4	-140.0	140.0	108.3	31.65	4.423			
7,200.0	7,200.0	7,201.1	7,201.1	16.1	16.1	-90.16	-0.4	-140.0	140.0	107.9	32.10	4.361			
7,300.0	7,300.0	7,301.1	7,301.1	16.3	16.3	-90.16	-0.4	-140.0	140.0	107.4	32.55	4.301			
7,400.0	7,400.0	7,401.1	7,401.1	16.5	16.5	-90.16	-0.4	-140.0	140.0	107.0	33.00	4.242			
7,500.0	7,500.0	7,501.1	7,501.1	16.7	16.7	-90.16	-0.4	-140.0	140.0	106.5	33.45	4.185			
7,600.0	7,600.0	7,601.1	7,601.1	16.9	17.0	-90.16	-0.4	-140.0	140.0	106.1	33.90	4.130			
7,700.0	7,700.0	7,701.1	7,701.1	17.2	17.2	-90.16	-0.4	-140.0	140.0	105.6	34.35	4.076			
7,800.0	7,800.0	7,801.1	7,801.1	17.4	17.4	-90.16	-0.4	-140.0	140.0	105.2	34.80	4.023 CC, ES, SF			
7,900.0	7,900.0	7,881.0	7,880.8	17.6	17.6	-90.62	-1.6	-144.8	146.2	111.0	35.18	4.155			
8,000.0	8,000.0	7,954.9	7,952.8	17.8	17.7	-91.94	-5.4	-160.4	167.6	132.1	35.56	4.715			
8,100.0	8,100.0	8,025.0	8,018.1	18.1	17.9	-93.55	-11.5	-185.1	203.2	167.3	35.93	5.655			
8,200.0	8,200.0	8,082.1	8,068.0	18.3	18.0	-94.87	-18.1	-211.9	250.9	214.6	36.30	6.912			
8,300.0	8,300.0	8,133.7	8,110.0	18.5	18.2	-95.97	-25.2	-240.9	308.5	271.9	36.67	8.414			
8,400.0	8,400.0	8,175.0	8,141.2	18.7	18.3	-96.76	-31.7	-267.3	374.2	337.1	37.04	10.102			
8,500.0	8,500.0	8,215.1	8,169.1	19.0	18.5	-97.43	-38.5	-295.2	446.0	408.5	37.43	11.916			
8,600.0	8,600.0	8,250.0	8,191.3	19.2	18.6	-97.96	-44.9	-321.3	522.7	484.9	37.81	13.822			
8,700.0	8,700.0	8,275.0	8,206.0	19.4	18.8	-98.30	-49.8	-341.0	603.2	565.0	38.17	15.801			
8,802.6	8,802.6	8,300.0	8,219.7	19.7	18.9	-98.62	-54.8	-361.3	689.0	650.4	38.55	17.871			
8,825.0	8,825.0	8,300.0	8,219.7	19.7	18.9	3.43	-54.8	-361.3	707.8	669.9	37.92	18.665			
8,850.0	8,849.9	8,308.6	8,224.1	19.7	19.0	3.11	-56.5	-368.5	728.2	690.4	37.86	19.237			
8,875.0	8,874.7	8,314.6	8,227.1	19.8	19.0	2.85	-57.8	-373.5	748.1	710.4	37.70	19.844			
8,900.0	8,899.3	8,325.0	8,232.2	19.8	19.1	2.61	-59.9	-382.3	767.3	729.9	37.45	20.488			
8,925.0	8,923.7	8,325.0	8,232.2	19.9	19.1	2.46	-59.9	-382.3	785.9	748.8	37.10	21.181			
8,950.0	8,947.7	8,333.6	8,236.2	19.9	19.2	2.29	-61.7	-389.7	803.9	767.2	36.68	21.917			
8,975.0	8,971.3	8,340.3	8,239.2	20.0	19.2	2.14	-63.2	-395.5	821.1	785.0	36.16	22.707			
9,000.0	8,994.4	8,350.0	8,243.5	20.1	19.3	2.01	-65.2	-404.0	837.7	802.1	35.56	23.554			
9,025.0	9,017.0	8,350.0	8,243.5	20.1	19.3	1.92	-65.2	-404.0	853.5	818.7	34.87	24.477			
9,050.0	9,039.1	8,361.2	8,248.2	20.2	19.4	1.81	-67.7	-413.8	868.6	834.5	34.11	25.463			
9,075.0	9,060.5	8,375.0	8,253.7	20.2	19.5	1.70	-70.7	-426.1	883.0	849.7	33.28	26.531			
9,100.0	9,081.1	8,375.0	8,253.7	20.3	19.5	1.64	-70.7	-426.1	896.5	864.2	32.36	27.706			
9,125.0	9,101.1	8,375.0	8,253.7	20.4	19.5	1.59	-70.7	-426.1	909.4	878.1	31.37	28.994			
9,150.0	9,120.1	8,390.7	8,259.4	20.5	19.7	1.50	-74.2	-440.3	921.3	891.0	30.34	30.371			
9,175.0	9,138.4	8,400.0	8,262.6	20.5	19.7	1.44	-76.3	-448.8	932.5	903.3	29.24	31.894			
9,200.0	9,155.7	8,400.0	8,262.6	20.6	19.7	1.41	-76.3	-448.8	942.9	914.9	28.07	33.589			
9,225.0	9,172.0	8,413.7	8,267.0	20.8	19.9	1.35	-79.3	-461.4	952.4	925.5	26.89	35.422			
9,250.0	9,187.3	8,425.0	8,270.4	20.9	20.0	1.30	-81.9	-471.9	961.2	935.5	25.66	37.452			
9,275.0	9,201.6	8,425.0	8,270.4	21.0	20.0	1.28	-81.9	-471.9	969.0	944.6	24.39	39.726			
9,300.0	9,214.8	8,437.2	8,273.7	21.2	20.1	1.23	-84.7	-483.3	976.0	952.9	23.13	42.195			
9,325.0	9,226.8	8,450.0	8,276.8	21.3	20.3	1.19	-87.7	-495.3	982.2	960.3	21.87	44.912			
9,350.0	9,237.7	8,450.0	8,276.8	21.5	20.3	1.18	-87.7	-495.3	987.4	966.8	20.59	47.947			
9,375.0	9,247.4	8,461.2	8,279.3	21.7	20.4	1.15	-90.3	-505.9	991.8	972.4	19.38	51.184			
9,400.0	9,255.9	8,475.0	8,282.1	21.9	20.5	1.12	-93.5	-519.1	995.4	977.1	18.22	54.825			
9,425.0	9,263.1	8,475.0	8,282.1	22.2	20.5	1.11	-93.5	-519.1	997.9	980.8	17.11	58.314			
9,450.0	9,269.1	8,485.3	8,283.8	22.4	20.7	1.09	-95.9	-529.0	999.7	983.5	16.14	61.928			
9,475.0	9,273.8	8,500.0	8,286.0	22.7	20.8	1.07	-99.4	-543.1	1,000.6	985.3	15.33	65.274			
9,500.0	9,277.2	8,500.0	8,286.0	23.0	20.8	1.07	-99.4	-543.1	1,000.5	985.9	14.66	68.265			
9,525.0	9,279.3	8,509.5	8,287.1	23.3	21.0	1.06	-101.7	-552.3	999.6	985.4	14.23	70.266			
9,550.0	9,280.1	8,525.0	8,288.6	23.6	21.2	1.04	-105.3	-567.2	997.9	983.9	14.05	71.011			
9,561.6	9,280.0	8,525.0	8,288.6	23.7	21.2	1.04	-105.3	-567.2	996.7	982.7	14.04	70.998			
9,600.0	9,279.3	8,533.7	8,289.2	24.2	21.3	1.03	-107.4	-575.7	993.2	979.0	14.17	70.100			
9,700.0	9,277.4	8,570.3	8,290.0	25.7	21.8	0.98	-116.1	-611.1	988.6	974.0	14.59	67.775			
9,800.0	9,275.5	8,657.8	8,288.6	27.4	23.1	0.84	-137.0	-696.1	988.2	972.9	15.26	64.760			

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



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Haas 6 Federal Com - #4H - OH - Plan #1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD													Offset Well Error: 0.0 usft
Reference	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Toolface (°)	+N/S (usft)	+E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
9,900.0	9,273.6	8,757.8	8,287.0	29.2	24.8	0.69	-160.8	-793.2	987.9	971.8	16.07	61.481	
10,000.0	9,271.7	8,857.7	8,285.4	31.1	26.6	0.54	-184.7	-890.3	987.6	970.6	16.97	58.208	
10,100.0	9,269.8	8,957.7	8,283.8	33.2	28.6	0.39	-208.5	-987.3	987.2	969.3	17.94	55.029	
10,200.0	9,267.9	9,057.7	8,282.2	35.3	30.6	0.24	-232.4	-1,084.4	986.9	968.0	18.98	52.002	
10,261.6	9,266.7	9,119.3	8,281.2	36.7	32.0	0.15	-247.1	-1,144.2	986.8	967.1	19.64	50.233	
10,300.0	9,266.0	9,157.6	8,280.6	37.5	32.8	0.11	-255.7	-1,181.5	986.6	966.6	20.07	49.160	
10,400.0	9,264.1	9,257.5	8,279.0	39.8	35.0	0.02	-273.6	-1,279.8	986.3	965.1	21.21	46.503	
10,500.0	9,262.2	9,357.6	8,277.4	42.1	37.4	-0.07	-284.6	-1,379.2	986.0	963.7	22.39	44.038	
10,543.3	9,261.4	9,401.0	8,276.7	43.2	38.4	-0.11	-287.2	-1,422.5	985.9	963.0	22.91	43.031	
10,600.0	9,260.3	9,457.8	8,275.8	44.5	39.7	-0.14	-288.7	-1,479.3	985.7	962.1	23.60	41.761	
10,700.0	9,258.4	9,557.8	8,274.2	46.9	42.2	-0.13	-290.5	-1,579.3	985.4	960.6	24.84	39.665	
10,800.0	9,256.5	9,657.8	8,272.6	49.4	44.6	-0.13	-292.2	-1,679.3	985.1	959.0	26.11	37.736	
10,900.0	9,254.6	9,757.8	8,271.0	51.9	47.1	-0.12	-294.0	-1,779.3	984.8	957.4	27.39	35.958	
11,000.0	9,252.7	9,857.8	8,269.4	54.4	49.6	-0.12	-295.7	-1,879.2	984.5	955.8	28.69	34.318	
11,100.0	9,250.8	9,957.8	8,267.8	56.9	52.1	-0.12	-297.4	-1,979.2	984.2	954.2	30.00	32.804	
11,200.0	9,248.9	10,057.8	8,266.2	59.5	54.7	-0.11	-299.2	-2,079.2	983.9	952.6	31.33	31.403	
11,300.0	9,247.0	10,157.8	8,264.7	62.0	57.2	-0.11	-300.9	-2,179.1	983.6	950.9	32.67	30.106	
11,400.0	9,245.1	10,257.8	8,263.1	64.6	59.8	-0.10	-302.7	-2,279.1	983.3	949.3	34.02	28.902	
11,500.0	9,243.2	10,357.8	8,261.5	67.2	62.4	-0.10	-304.4	-2,379.1	983.0	947.6	35.38	27.782	
11,600.0	9,241.3	10,457.8	8,259.9	69.8	65.1	-0.09	-306.2	-2,479.1	982.7	945.9	36.75	26.740	
11,700.0	9,239.4	10,557.8	8,258.3	72.4	67.7	-0.09	-307.9	-2,579.0	982.4	944.2	38.12	25.768	
11,800.0	9,237.5	10,657.8	8,256.7	75.1	70.3	-0.09	-309.7	-2,679.0	982.1	942.6	39.51	24.859	
11,900.0	9,235.7	10,757.8	8,255.1	77.7	73.0	-0.08	-311.4	-2,779.0	981.8	940.9	40.89	24.008	
12,000.0	9,233.8	10,857.8	8,253.5	80.3	75.6	-0.08	-313.1	-2,878.9	981.4	939.2	42.29	23.210	
12,100.0	9,231.9	10,957.8	8,252.0	83.0	78.3	-0.07	-314.9	-2,978.9	981.1	937.5	43.68	22.460	
12,200.0	9,230.0	11,057.8	8,250.4	85.7	81.0	-0.07	-316.6	-3,078.9	980.8	935.7	45.09	21.755	
12,300.0	9,228.1	11,157.8	8,248.8	88.3	83.6	-0.06	-318.4	-3,178.9	980.5	934.0	46.49	21.090	
12,400.0	9,226.2	11,257.8	8,247.2	91.0	86.3	-0.06	-320.1	-3,278.8	980.2	932.3	47.90	20.463	
12,500.0	9,224.3	11,357.8	8,245.6	93.7	89.0	-0.06	-321.9	-3,378.8	979.9	930.6	49.31	19.871	
12,600.0	9,222.4	11,457.8	8,244.0	96.3	91.7	-0.05	-323.6	-3,478.8	979.6	928.9	50.73	19.310	
12,700.0	9,220.5	11,557.8	8,242.4	99.0	94.4	-0.05	-325.4	-3,578.7	979.3	927.2	52.15	18.779	
12,800.0	9,218.6	11,657.8	8,240.8	101.7	97.1	-0.04	-327.1	-3,678.7	979.0	925.4	53.57	18.275	
12,900.0	9,216.7	11,757.8	8,239.2	104.4	99.8	-0.04	-328.8	-3,778.7	978.7	923.7	54.99	17.796	
13,000.0	9,214.8	11,857.8	8,237.7	107.1	102.5	-0.03	-330.6	-3,878.7	978.4	922.0	56.42	17.341	
13,100.0	9,212.9	11,957.8	8,236.1	109.8	105.2	-0.03	-332.3	-3,978.6	978.1	920.2	57.85	16.908	
13,200.0	9,211.0	12,057.8	8,234.5	112.5	107.9	-0.03	-334.1	-4,078.6	977.8	918.5	59.28	16.495	
13,300.0	9,209.1	12,157.8	8,232.9	115.2	110.6	-0.02	-335.8	-4,178.6	977.5	916.7	60.71	16.101	
13,400.0	9,207.2	12,257.8	8,231.3	117.9	113.3	-0.02	-337.6	-4,278.6	977.1	915.0	62.14	15.725	
13,500.0	9,205.3	12,357.8	8,229.7	120.6	116.0	-0.01	-339.3	-4,378.5	976.8	913.3	63.58	15.365	
13,600.0	9,203.4	12,457.8	8,228.1	123.3	118.7	-0.01	-341.1	-4,478.5	976.5	911.5	65.01	15.021	
13,700.0	9,201.6	12,557.8	8,226.5	126.0	121.4	0.00	-342.8	-4,578.5	976.2	909.8	66.45	14.691	
13,782.1	9,200.0	12,639.9	8,225.2	128.3	123.7	0.00	-344.2	-4,660.5	976.0	908.3	67.63	14.431	



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Corn	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
USA Continental A - A-1 - OH - OH													0.0 usft
Survey Program: 107-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	
0.0	0.0	0.0	0.0	0.0	0.0	-92.32	-54.3	-1,339.8	1,341.2				
100.0	100.0	71.4	71.4	0.1	0.1	-92.31	-54.1	-1,339.8	1,340.9	1,340.7	0.16	8,332.752	
200.0	200.0	171.4	171.4	0.3	0.2	-92.28	-53.3	-1,339.8	1,340.9	1,340.3	0.55	2,434.074	
300.0	300.0	271.4	271.4	0.5	0.4	-92.26	-52.8	-1,339.8	1,340.9	1,339.9	0.98	1,366.020	
400.0	400.0	371.6	371.6	0.8	0.7	-92.22	-52.0	-1,339.8	1,340.8	1,339.4	1.42	945.194	
500.0	500.0	471.6	471.5	1.0	0.9	-92.19	-51.1	-1,339.8	1,340.8	1,338.9	1.86	720.257	
600.0	600.0	571.6	571.5	1.2	1.1	-92.15	-50.3	-1,339.8	1,340.8	1,338.4	2.31	580.996	
700.0	700.0	671.5	671.5	1.4	1.3	-92.11	-49.4	-1,339.8	1,340.7	1,338.0	2.74	488.482	
800.0	800.0	771.4	771.4	1.7	1.5	-92.08	-48.7	-1,339.8	1,340.7	1,337.5	3.18	422.242	
900.0	900.0	871.3	871.3	1.9	1.7	-92.06	-48.2	-1,339.8	1,340.7	1,337.1	3.61	371.821	
1,000.0	1,000.0	971.5	971.4	2.1	1.9	-92.04	-47.6	-1,339.8	1,340.7	1,336.6	4.04	332.008	
1,100.0	1,100.0	1,071.6	1,071.6	2.3	2.1	-92.00	-46.7	-1,339.8	1,340.6	1,336.2	4.47	299.860	
1,200.0	1,200.0	1,171.7	1,171.6	2.6	2.3	-91.95	-45.5	-1,339.8	1,340.6	1,335.7	4.90	273.387	
1,300.0	1,300.0	1,271.5	1,271.5	2.8	2.6	-91.90	-44.5	-1,339.8	1,340.5	1,335.2	5.34	251.211	
1,400.0	1,400.0	1,371.3	1,371.3	3.0	2.8	-91.88	-43.9	-1,339.8	1,340.5	1,334.8	5.77	232.361	
1,500.0	1,500.0	1,471.4	1,471.3	3.2	3.0	-91.86	-43.4	-1,339.8	1,340.5	1,334.3	6.20	216.116	
1,600.0	1,600.0	1,571.4	1,571.4	3.5	3.2	-91.83	-42.8	-1,339.8	1,340.5	1,333.9	6.64	201.992	
1,700.0	1,700.0	1,671.5	1,671.4	3.7	3.4	-91.80	-42.1	-1,339.8	1,340.5	1,333.4	7.07	189.601	
1,800.0	1,800.0	1,771.5	1,771.4	3.9	3.6	-91.77	-41.4	-1,339.8	1,340.4	1,332.9	7.50	178.641	
1,900.0	1,900.0	1,871.5	1,871.5	4.1	3.8	-91.73	-40.5	-1,339.8	1,340.4	1,332.5	7.94	168.768	
2,000.0	2,000.0	1,971.5	1,971.4	4.4	4.0	-91.69	-39.6	-1,339.8	1,340.4	1,332.0	8.38	159.883	
2,100.0	2,100.0	2,071.5	2,071.4	4.6	4.2	-91.66	-38.7	-1,339.8	1,340.4	1,331.5	8.82	151.886	
2,200.0	2,200.0	2,171.5	2,171.4	4.8	4.5	-91.62	-37.9	-1,339.8	1,340.3	1,331.1	9.26	144.726	
2,300.0	2,300.0	2,271.4	2,271.3	5.0	4.7	-91.59	-37.2	-1,339.8	1,340.3	1,330.6	9.69	138.263	
2,400.0	2,400.0	2,371.3	2,371.3	5.3	4.9	-91.57	-36.7	-1,339.8	1,340.3	1,330.2	10.13	132.352	
2,500.0	2,500.0	2,471.5	2,471.5	5.5	5.1	-91.54	-36.0	-1,339.8	1,340.3	1,329.7	10.56	126.915	
2,600.0	2,600.0	2,571.7	2,571.6	5.7	5.3	-91.48	-34.7	-1,339.8	1,340.3	1,329.3	10.99	121.906	
2,700.0	2,700.0	2,671.7	2,671.6	5.9	5.5	-91.41	-33.1	-1,339.8	1,340.2	1,328.8	11.43	117.279	
2,800.0	2,800.0	2,771.6	2,771.5	6.2	5.7	-91.35	-31.6	-1,339.8	1,340.2	1,328.3	11.86	112.991	
2,900.0	2,900.0	2,871.6	2,871.4	6.4	5.9	-91.30	-30.4	-1,339.8	1,340.2	1,327.9	12.29	109.053	
3,000.0	3,000.0	2,971.5	2,971.4	6.6	6.1	-91.25	-29.3	-1,339.8	1,340.1	1,327.4	12.72	105.381	
3,100.0	3,100.0	3,071.5	3,071.3	6.8	6.3	-91.22	-28.5	-1,339.8	1,340.1	1,327.0	13.15	101.926	
3,200.0	3,200.0	3,171.5	3,171.3	7.1	6.5	-91.18	-27.6	-1,339.8	1,340.1	1,326.5	13.58	98.668	
3,300.0	3,300.0	3,271.5	3,271.3	7.3	6.7	-91.14	-26.7	-1,339.8	1,340.1	1,326.1	14.02	95.611	
3,400.0	3,400.0	3,371.6	3,371.4	7.5	7.0	-91.10	-25.6	-1,339.8	1,340.1	1,325.6	14.45	92.711	
3,500.0	3,500.0	3,471.4	3,471.3	7.7	7.2	-91.06	-24.9	-1,339.8	1,340.0	1,325.2	14.89	90.009	
3,600.0	3,600.0	3,571.4	3,571.3	8.0	7.4	-91.03	-24.1	-1,339.8	1,340.0	1,324.7	15.32	87.459	
3,700.0	3,700.0	3,671.4	3,671.3	8.2	7.6	-91.00	-23.4	-1,339.8	1,340.0	1,324.3	15.76	85.049	
3,800.0	3,800.0	3,771.4	3,771.2	8.4	7.8	-90.97	-22.8	-1,339.8	1,340.0	1,323.8	16.19	82.769	
3,900.0	3,900.0	3,871.4	3,871.2	8.6	8.0	-90.95	-22.3	-1,339.8	1,340.0	1,323.4	16.62	80.608	
4,000.0	4,000.0	3,971.4	3,971.2	8.9	8.2	-90.93	-21.7	-1,339.8	1,340.0	1,322.9	17.06	78.556	
4,100.0	4,100.0	4,071.4	4,071.3	9.1	8.4	-90.90	-21.0	-1,339.8	1,340.0	1,322.5	17.49	76.606	
4,200.0	4,200.0	4,171.4	4,171.3	9.3	8.6	-90.86	-20.1	-1,339.8	1,340.0	1,322.0	17.93	74.735	
4,300.0	4,300.0	4,271.4	4,271.3	9.5	8.9	-90.82	-19.2	-1,339.8	1,339.9	1,321.6	18.37	72.948	
4,400.0	4,400.0	4,371.4	4,371.3	9.8	9.1	-90.79	-18.4	-1,339.8	1,339.9	1,321.1	18.81	71.245	
4,500.0	4,500.0	4,471.4	4,471.3	10.0	9.3	-90.75	-17.5	-1,339.8	1,339.9	1,320.7	19.25	69.619	
4,600.0	4,600.0	4,571.4	4,571.2	10.2	9.5	-90.71	-16.6	-1,339.8	1,339.9	1,320.2	19.69	68.063	
4,700.0	4,700.0	4,671.4	4,671.3	10.4	9.7	-90.67	-15.6	-1,339.8	1,339.9	1,319.8	20.13	66.572	
4,800.0	4,800.0	4,771.5	4,771.3	10.7	9.9	-90.62	-14.5	-1,339.8	1,339.9	1,319.3	20.57	65.144	
4,900.0	4,900.0	4,871.5	4,871.3	10.9	10.1	-90.57	-13.2	-1,339.8	1,339.9	1,318.9	21.01	63.775	
5,000.0	5,000.0	4,971.5	4,971.3	11.1	10.4	-90.51	-11.9	-1,339.8	1,339.9	1,318.4	21.45	62.461	
5,100.0	5,100.0	5,071.5	5,071.3	11.3	10.6	-90.45	-10.5	-1,339.8	1,339.9	1,318.0	21.89	61.199	

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



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design USA Continental A - A-1 - OH - OH														Offset Site Error:	0.0 usft
Survey Program: 107-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)					
5,200.0	5,200.0	5,171.5	5,171.3	11.6	10.8	-90.38	-8.9	-1,339.8	1,339.8	1,317.5	22.34	59.986			
5,300.0	5,300.0	5,271.5	5,271.2	11.8	11.0	-90.30	-7.1	-1,339.8	1,339.8	1,317.1	22.78	58.819			
5,400.0	5,400.0	5,371.5	5,371.2	12.0	11.2	-90.22	-5.2	-1,339.8	1,339.8	1,316.6	23.22	57.696			
5,500.0	5,500.0	5,471.4	5,471.2	12.2	11.5	-90.13	-3.1	-1,339.8	1,339.8	1,316.1	23.67	56.616			
5,600.0	5,600.0	5,571.4	5,571.1	12.5	11.7	-90.04	-0.9	-1,339.8	1,339.8	1,315.7	24.11	55.574			
5,640.3	5,640.3	5,611.7	5,611.4	12.5	11.8	-90.00	0.0	-1,339.8	1,339.8	1,315.5	24.29	55.164			
5,700.0	5,700.0	5,671.4	5,671.1	12.7	11.9	-89.94	1.4	-1,339.8	1,339.8	1,315.3	24.55	54.569			
5,800.0	5,800.0	5,771.4	5,771.0	12.9	12.1	-89.83	3.9	-1,339.8	1,339.8	1,314.8	25.00	53.599			
5,900.0	5,900.0	5,871.3	5,870.9	13.1	12.3	-89.72	6.5	-1,339.8	1,339.8	1,314.4	25.44	52.663			
6,000.0	6,000.0	5,971.3	5,970.9	13.4	12.6	-89.61	9.1	-1,339.8	1,339.8	1,314.0	25.89	51.759			
6,100.0	6,100.0	6,071.3	6,070.8	13.6	12.8	-89.50	11.8	-1,339.8	1,339.9	1,313.5	26.33	50.886			
6,200.0	6,200.0	6,171.2	6,170.7	13.8	13.0	-89.38	14.4	-1,339.8	1,339.9	1,313.1	26.78	50.041			
6,300.0	6,300.0	6,271.1	6,270.6	14.0	13.2	-89.26	17.3	-1,339.8	1,339.9	1,312.7	27.22	49.223			
6,400.0	6,400.0	6,371.0	6,370.4	14.3	13.5	-89.13	20.4	-1,339.8	1,340.0	1,312.3	27.67	48.433			
6,500.0	6,500.0	6,470.9	6,470.3	14.5	13.7	-88.99	23.7	-1,339.8	1,340.0	1,311.9	28.11	47.667			
6,600.0	6,600.0	6,570.9	6,570.2	14.7	13.9	-88.84	27.2	-1,339.8	1,340.1	1,311.5	28.56	46.925			
6,700.0	6,700.0	6,670.8	6,670.0	14.9	14.1	-88.69	30.7	-1,339.8	1,340.2	1,311.2	29.00	46.206			
6,800.0	6,800.0	6,770.7	6,769.9	15.2	14.3	-88.54	34.2	-1,339.8	1,340.2	1,310.8	29.45	45.509			
6,900.0	6,900.0	6,870.7	6,869.8	15.4	14.6	-88.39	37.7	-1,339.8	1,340.3	1,310.4	29.90	44.832			
7,000.0	7,000.0	6,970.6	6,969.7	15.6	14.8	-88.24	41.1	-1,339.8	1,340.4	1,310.1	30.34	44.176			
7,100.0	7,100.0	7,070.5	7,069.5	15.8	15.0	-88.09	44.6	-1,339.8	1,340.6	1,309.8	30.79	43.538			
7,200.0	7,200.0	7,170.5	7,169.4	16.1	15.3	-87.94	48.1	-1,339.8	1,340.7	1,309.4	31.24	42.919			
7,300.0	7,300.0	7,270.4	7,269.3	16.3	15.5	-87.79	51.6	-1,339.8	1,340.8	1,309.1	31.68	42.318			
7,400.0	7,400.0	7,370.4	7,369.2	16.5	15.7	-87.65	55.1	-1,339.8	1,340.9	1,308.8	32.13	41.733			
7,500.0	7,500.0	7,470.5	7,469.3	16.7	15.9	-87.50	58.5	-1,339.8	1,341.1	1,308.5	32.57	41.173			
7,600.0	7,600.0	7,570.5	7,569.3	16.9	16.1	-87.38	61.4	-1,339.8	1,341.2	1,308.2	33.00	40.638			
7,700.0	7,700.0	7,670.0	7,668.6	17.2	16.3	-87.23	64.8	-1,339.8	1,341.4	1,307.9	33.43	40.119			
7,800.0	7,800.0	7,769.3	7,767.9	17.4	16.6	-87.05	69.0	-1,339.8	1,341.6	1,307.7	33.87	39.616			
7,900.0	7,900.0	7,868.8	7,867.2	17.6	16.8	-86.84	74.0	-1,339.8	1,341.9	1,307.6	34.30	39.120			
8,000.0	8,000.0	7,968.6	7,966.9	17.8	17.0	-86.62	79.2	-1,339.8	1,342.2	1,307.4	34.75	38.625			
8,100.0	8,100.0	8,068.2	8,066.3	18.1	17.2	-86.39	84.5	-1,339.8	1,342.5	1,307.3	35.20	38.143			
8,200.0	8,200.0	8,167.6	8,165.6	18.3	17.5	-86.14	90.4	-1,339.8	1,342.9	1,307.2	35.64	37.675			
8,300.0	8,300.0	8,267.4	8,265.2	18.5	17.7	-85.88	96.5	-1,339.8	1,343.3	1,307.2	36.09	37.219			
8,400.0	8,400.0	8,367.2	8,364.8	18.7	17.9	-85.62	102.6	-1,339.8	1,343.7	1,307.2	36.54	36.774			
8,500.0	8,500.0	8,466.9	8,464.3	19.0	18.2	-85.36	108.7	-1,339.8	1,344.2	1,307.2	36.99	36.341			
8,600.0	8,600.0	8,565.9	8,563.2	19.2	18.4	-85.09	115.1	-1,339.8	1,344.8	1,307.3	37.44	35.920			
8,700.0	8,700.0	8,665.2	8,662.1	19.4	18.6	-84.78	122.3	-1,339.8	1,345.4	1,307.5	37.88	35.514			
8,802.6	8,802.6	8,767.9	8,764.6	19.7	18.9	-84.48	129.6	-1,339.8	1,346.1	1,307.8	38.33	35.118			
8,825.0	8,825.0	8,790.3	8,786.9	19.7	18.9	17.92	131.1	-1,339.8	1,345.7	1,307.2	38.57	34.889			
8,850.0	8,849.9	8,815.1	8,811.7	19.7	19.0	18.07	132.9	-1,339.8	1,344.2	1,305.6	38.56	34.857			
8,875.0	8,874.7	8,840.0	8,836.5	19.8	19.0	18.30	134.6	-1,339.8	1,341.4	1,302.9	38.47	34.869			
8,900.0	8,899.3	8,865.0	8,861.4	19.8	19.1	18.58	136.2	-1,339.8	1,337.3	1,299.1	38.29	34.925			
8,925.0	8,923.7	8,889.7	8,886.1	19.9	19.1	18.94	137.8	-1,339.8	1,332.1	1,294.1	38.04	35.022			
8,950.0	8,947.7	8,912.7	8,909.1	19.9	19.2	19.36	139.3	-1,339.8	1,325.6	1,287.9	37.70	35.162			
8,975.0	8,971.3	8,935.6	8,931.9	20.0	19.2	19.87	140.9	-1,339.8	1,318.0	1,280.7	37.30	35.337			
9,000.0	8,994.4	8,958.3	8,954.6	20.1	19.3	20.46	142.5	-1,339.8	1,309.3	1,272.5	36.84	35.545			
9,025.0	9,017.0	8,980.5	8,976.7	20.1	19.3	21.16	144.1	-1,339.8	1,299.4	1,263.1	36.31	35.783			
9,050.0	9,039.1	9,002.4	8,998.5	20.2	19.4	21.96	145.7	-1,339.8	1,288.5	1,252.7	35.75	36.046			
9,075.0	9,060.5	9,023.8	9,019.9	20.2	19.4	22.88	147.3	-1,339.8	1,276.5	1,241.3	35.14	36.322			
9,100.0	9,081.1	9,044.4	9,040.4	20.3	19.5	23.92	148.7	-1,339.8	1,263.5	1,228.9	34.52	36.598			
9,125.0	9,101.1	9,064.1	9,060.1	20.4	19.5	25.11	150.1	-1,339.8	1,249.5	1,215.6	33.90	36.856			
9,150.0	9,120.1	9,082.9	9,078.9	20.5	19.6	26.45	151.4	-1,339.8	1,234.5	1,201.2	33.30	37.069			

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



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design USA Continental A - A-1 - OH - OH												Offset Site Error: 0.0 usft	
Survey Program: 107-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 Footface (")	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
9,175.0	9,138.4	9,100.8	9,096.7	20.5	19.6	27.98	152.7	-1,339.8	1,218.7	1,186.0	32.76	37.204	
9,200.0	9,155.7	9,117.9	9,113.8	20.6	19.7	29.72	153.8	-1,339.8	1,202.1	1,169.8	32.30	37.220	
9,225.0	9,172.0	9,134.2	9,130.0	20.8	19.7	31.70	155.0	-1,339.8	1,184.6	1,152.7	31.96	37.067	
9,250.0	9,187.3	9,149.4	9,145.2	20.9	19.7	33.94	156.0	-1,339.8	1,166.5	1,134.7	31.79	36.697	
9,275.0	9,201.6	9,163.5	9,159.3	21.0	19.8	36.49	156.9	-1,339.8	1,147.7	1,115.8	31.82	36.065	
9,300.0	9,214.8	9,176.6	9,172.3	21.2	19.8	39.37	157.8	-1,339.8	1,128.2	1,096.1	32.11	35.141	
9,325.0	9,226.8	9,188.7	9,184.4	21.3	19.8	42.63	158.6	-1,339.8	1,108.2	1,075.6	32.67	33.925	
9,350.0	9,237.7	9,199.6	9,195.2	21.5	19.8	46.30	159.2	-1,339.8	1,087.8	1,054.2	33.52	32.451	
9,375.0	9,247.4	9,209.2	9,204.9	21.7	19.8	50.39	159.8	-1,339.8	1,066.9	1,032.2	34.65	30.792	
9,400.0	9,255.9	9,217.7	9,213.3	21.9	19.9	54.92	160.3	-1,339.8	1,045.6	1,009.6	36.00	29.044	
9,425.0	9,263.1	9,224.8	9,220.4	22.2	19.9	59.85	160.8	-1,339.8	1,024.1	986.6	37.50	27.309	
9,450.0	9,269.1	9,230.7	9,226.3	22.4	19.9	65.14	161.1	-1,339.8	1,002.3	963.3	39.03	25.680	
9,475.0	9,273.8	9,235.2	9,230.8	22.7	19.9	70.69	161.4	-1,339.8	980.5	940.0	40.47	24.227	
9,500.0	9,277.2	9,238.3	9,234.0	23.0	19.9	76.36	161.5	-1,339.8	958.5	916.8	41.69	22.988	
9,525.0	9,279.3	9,240.1	9,235.7	23.3	19.9	82.01	161.6	-1,339.8	936.5	893.9	42.62	21.971	
9,550.0	9,280.1	9,240.6	9,236.2	23.6	19.9	87.51	161.7	-1,339.8	914.6	871.4	43.22	21.161	
9,561.6	9,280.0	9,240.4	9,236.0	23.7	19.9	89.98	161.7	-1,339.8	904.4	861.0	43.39	20.846	
9,600.0	9,279.3	9,239.2	9,234.8	24.2	19.9	89.83	161.6	-1,339.8	871.2	827.3	43.90	19.847	
9,700.0	9,277.4	9,236.1	9,231.7	25.7	19.9	89.42	161.4	-1,339.8	786.8	741.4	45.37	17.341	
9,800.0	9,275.5	9,232.8	9,228.4	27.4	19.9	89.01	161.2	-1,339.8	706.4	659.4	47.03	15.021	
9,900.0	9,273.6	9,229.6	9,225.2	29.2	19.9	88.58	161.0	-1,339.8	631.7	582.8	48.83	12.935	
10,000.0	9,271.7	9,226.3	9,221.9	31.1	19.9	88.16*	160.8	-1,339.8	564.8	514.0	50.76	11.125	
10,100.0	9,269.8	9,223.0	9,218.6	33.2	19.9	87.73	160.7	-1,339.8	508.8	456.0	52.79	9.638	
10,200.0	9,267.9	9,219.6	9,215.3	35.3	19.9	87.30	160.5	-1,339.8	467.8	412.9	54.91	8.520	
10,261.6	9,266.7	9,217.6	9,213.2	36.7	19.9	87.04	160.3	-1,339.8	451.7	395.5	56.24	8.032	
10,300.0	9,266.0	9,216.3	9,212.0	37.5	19.9	86.89	160.3	-1,339.8	445.3	388.2	57.08	7.801	
10,390.1	9,264.3	9,213.6	9,209.3	39.6	19.9	86.59	160.1	-1,339.8	438.9	379.9	59.01	7.437 CC	
10,400.0	9,264.1	9,213.3	9,209.0	39.8	19.9	86.56	160.1	-1,339.8	439.0	379.8	59.22	7.413 ES	
10,500.0	9,262.2	9,210.8	9,206.4	42.1	19.9	86.33	159.9	-1,339.8	448.3	387.1	61.29	7.315 SF	
10,543.3	9,261.4	9,209.8	9,205.5	43.2	19.9	86.26	159.9	-1,339.8	457.1	394.9	62.16	7.354	
10,600.0	9,260.3	9,208.6	9,204.3	44.5	19.8	86.10	159.8	-1,339.8	473.4	409.9	63.51	7.455	
10,700.0	9,258.4	9,206.5	9,202.1	46.9	19.8	85.83	159.7	-1,339.8	516.4	450.5	65.92	7.834	
10,800.0	9,256.5	9,204.3	9,200.0	49.4	19.8	85.55	159.5	-1,339.8	573.8	505.4	68.36	8.393	
10,900.0	9,254.6	9,202.2	9,197.9	51.9	19.8	85.28	159.4	-1,339.8	641.7	570.9	70.83	9.059	
11,000.0	9,252.7	9,200.1	9,195.7	54.4	19.8	85.00	159.3	-1,339.8	717.1	643.8	73.32	9.781	
11,100.0	9,250.8	9,197.9	9,193.6	56.9	19.8	84.73	159.1	-1,339.8	798.0	722.2	75.83	10.524	
11,200.0	9,248.9	9,195.8	9,191.5	59.5	19.8	84.45	159.0	-1,339.8	882.8	804.4	78.35	11.267	
11,300.0	9,247.0	9,193.7	9,189.3	62.0	19.8	84.18	158.9	-1,339.8	970.5	889.6	80.88	11.998	
11,400.0	9,245.1	9,191.5	9,187.2	64.6	19.8	83.90	158.7	-1,339.8	1,060.3	976.9	83.43	12.710	
11,500.0	9,243.2	9,189.4	9,185.1	67.2	19.8	83.63	158.6	-1,339.8	1,151.9	1,065.9	85.98	13.397	
11,600.0	9,241.3	9,187.2	9,182.9	69.8	19.8	83.35	158.5	-1,339.8	1,244.7	1,156.2	88.54	14.058	
11,700.0	9,239.4	9,185.1	9,180.8	72.4	19.8	83.08	158.3	-1,339.8	1,338.6	1,247.5	91.10	14.893	
11,800.0	9,237.5	9,182.9	9,178.6	75.1	19.8	82.80	158.2	-1,339.8	1,433.2	1,339.6	93.67	15.301	
11,900.0	9,235.7	9,180.8	9,176.5	77.7	19.8	82.53	158.1	-1,339.8	1,528.6	1,432.4	96.24	15.883	
12,000.0	9,233.8	9,178.6	9,174.4	80.3	19.8	82.25	157.9	-1,339.8	1,624.5	1,525.7	98.82	16.440	
12,100.0	9,231.9	9,176.5	9,172.2	83.0	19.8	81.97	157.8	-1,339.8	1,720.9	1,619.5	101.39	16.973	
12,200.0	9,230.0	9,174.3	9,170.1	85.7	19.8	81.70	157.6	-1,339.8	1,817.7	1,713.7	103.97	17.483	
12,300.0	9,228.1	9,172.3	9,168.0	88.3	19.8	81.43	157.5	-1,339.8	1,914.8	1,808.2	106.54	17.972	
12,400.0	9,226.2	9,170.2	9,165.9	91.0	19.8	81.17	157.4	-1,339.8	2,012.1	1,903.0	109.12	18.440	
12,500.0	9,224.3	9,168.1	9,163.8	93.7	19.8	80.90	157.2	-1,339.8	2,109.8	1,998.1	111.70	18.889	
12,600.0	9,222.4	9,166.0	9,161.8	96.3	19.8	80.64	157.1	-1,339.8	2,207.6	2,093.3	114.27	19.319	
12,700.0	9,220.5	9,163.9	9,159.7	99.0	19.8	80.37	157.0	-1,339.8	2,305.6	2,188.8	116.84	19.733	

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



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset-TVD Reference:	Offset Datum

Offset Design		USA Continental A - A-1 - OH - OH										Offset Site Error:	0.0 usft
Survey Program:		107-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)			
12,800.0	9,218.6	9,161.9	9,157.6	101.7	19.7	80.10	156.8	-1,339.8	2,403.8	2,284.4	119.41	20.131	
12,900.0	9,216.7	9,159.8	9,155.5	104.4	19.7	79.84	156.7	-1,339.8	2,502.1	2,380.2	121.98	20.513	
13,000.0	9,214.8	9,157.7	9,153.5	107.1	19.7	79.58	156.5	-1,339.8	2,600.6	2,476.0	124.54	20.882	
13,100.0	9,212.9	9,155.6	9,151.4	109.8	19.7	79.31	156.4	-1,339.8	2,699.1	2,572.0	127.10	21.237	
13,200.0	9,211.0	9,153.5	9,149.3	112.5	19.7	79.05	156.3	-1,339.8	2,797.8	2,668.1	129.65	21.580	
13,300.0	9,209.1	9,151.4	9,147.2	115.2	19.7	78.78	156.1	-1,339.8	2,896.5	2,764.3	132.20	21.910	
13,400.0	9,207.2	9,149.4	9,145.1	117.9	19.7	78.52	156.0	-1,339.8	2,995.4	2,860.6	134.75	22.230	
13,500.0	9,205.3	9,147.3	9,143.1	120.6	19.7	78.26	155.8	-1,339.8	3,094.3	2,957.0	137.29	22.539	
13,600.0	9,203.4	9,145.2	9,141.0	123.3	19.7	77.99	155.7	-1,339.8	3,193.3	3,053.4	139.82	22.838	
13,700.0	9,201.6	9,143.1	9,138.9	126.0	19.7	77.73	155.6	-1,339.8	3,292.3	3,149.9	142.35	23.128	
13,782.1	9,200.0	9,141.4	9,137.2	128.3	19.7	77.51	155.4	-1,339.8	3,373.6	3,229.2	144.42	23.360	



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design USA Continental B - B-1 - OH - OH														Offset Site Error:	0.0 usft
Survey Program: 10000-MWD														Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)							
0.0	0.0	0.0	0.0	0.0	0.0	-91.12	-59.1	-3,025.6	3,026.2						
100.0	100.0	96.1	96.1	0.1	0.1	-91.12	-59.1	-3,025.6	3,026.2	3,026.0	0.20	N/A			
200.0	200.0	196.1	196.1	0.3	0.2	-91.12	-59.1	-3,025.6	3,026.2	3,025.7	0.54	5,636.338			
300.0	300.0	296.1	296.1	0.5	0.3	-91.12	-59.1	-3,025.6	3,026.2	3,025.3	0.87	3,463.038			
400.0	400.0	396.1	396.1	0.8	0.4	-91.12	-59.1	-3,025.6	3,026.2	3,025.0	1.21	2,499.329			
500.0	500.0	496.1	496.1	1.0	0.6	-91.12	-59.1	-3,025.6	3,026.2	3,024.6	1.55	1,955.221			
600.0	600.0	596.1	596.1	1.2	0.7	-91.12	-59.1	-3,025.6	3,026.2	3,024.3	1.88	1,605.665			
700.0	700.0	696.1	696.1	1.4	0.8	-91.12	-59.1	-3,025.6	3,026.2	3,024.0	2.22	1,362.141			
800.0	800.0	796.1	796.1	1.7	0.9	-91.12	-59.1	-3,025.6	3,026.2	3,023.6	2.56	1,182.757			
900.0	900.0	896.1	896.1	1.9	1.0	-91.12	-59.1	-3,025.6	3,026.2	3,023.3	2.90	1,045.122			
1,000.0	1,000.0	996.1	996.1	2.1	1.1	-91.12	-59.1	-3,025.6	3,026.2	3,023.0	3.23	936.181			
1,100.0	1,100.0	1,096.1	1,096.1	2.3	1.2	-91.12	-59.1	-3,025.6	3,026.2	3,022.6	3.57	847.807			
1,200.0	1,200.0	1,196.1	1,196.1	2.6	1.3	-91.12	-59.1	-3,025.6	3,026.2	3,022.3	3.91	774.679			
1,300.0	1,300.0	1,296.1	1,296.1	2.8	1.5	-91.12	-59.1	-3,025.6	3,026.2	3,021.9	4.24	713.165			
1,400.0	1,400.0	1,396.1	1,396.1	3.0	1.6	-91.12	-59.1	-3,025.6	3,026.2	3,021.6	4.58	660.701			
1,500.0	1,500.0	1,496.1	1,496.1	3.2	1.7	-91.12	-59.1	-3,025.6	3,026.2	3,021.3	4.92	615.427			
1,600.0	1,600.0	1,596.1	1,596.1	3.5	1.8	-91.12	-59.1	-3,025.6	3,026.2	3,020.9	5.25	575.960			
1,700.0	1,700.0	1,696.1	1,696.1	3.7	1.9	-91.12	-59.1	-3,025.6	3,026.2	3,020.6	5.59	541.250			
1,800.0	1,800.0	1,796.1	1,796.1	3.9	2.0	-91.12	-59.1	-3,025.6	3,026.2	3,020.3	5.93	510.486			
1,900.0	1,900.0	1,896.1	1,896.1	4.1	2.1	-91.12	-59.1	-3,025.6	3,026.2	3,019.9	6.27	483.031			
2,000.0	2,000.0	1,996.1	1,996.1	4.4	2.2	-91.12	-59.1	-3,025.6	3,026.2	3,019.6	6.60	458.378			
2,100.0	2,100.0	2,096.1	2,096.1	4.6	2.4	-91.12	-59.1	-3,025.6	3,026.2	3,019.2	6.94	436.119			
2,200.0	2,200.0	2,196.1	2,196.1	4.8	2.5	-91.12	-59.1	-3,025.6	3,026.2	3,018.9	7.28	415.923			
2,300.0	2,300.0	2,296.1	2,296.1	5.0	2.6	-91.12	-59.1	-3,025.6	3,026.2	3,018.6	7.61	397.514			
2,400.0	2,400.0	2,396.1	2,396.1	5.3	2.7	-91.12	-59.1	-3,025.6	3,026.2	3,018.2	7.95	380.665			
2,500.0	2,500.0	2,496.1	2,496.1	5.5	2.8	-91.12	-59.1	-3,025.6	3,026.2	3,017.9	8.29	365.187			
2,600.0	2,600.0	2,596.1	2,596.1	5.7	2.9	-91.12	-59.1	-3,025.6	3,026.2	3,017.6	8.62	350.918			
2,700.0	2,700.0	2,696.1	2,696.1	5.9	3.0	-91.12	-59.1	-3,025.6	3,026.2	3,017.2	8.96	337.722			
2,800.0	2,800.0	2,796.1	2,796.1	6.2	3.1	-91.12	-59.1	-3,025.6	3,026.2	3,016.9	9.30	325.483			
2,900.0	2,900.0	2,896.1	2,896.1	6.4	3.2	-91.12	-59.1	-3,025.6	3,026.2	3,016.6	9.63	314.100			
3,000.0	3,000.0	2,996.1	2,996.1	6.6	3.4	-91.12	-59.1	-3,025.6	3,026.2	3,016.2	9.97	303.486			
3,100.0	3,100.0	3,096.1	3,096.1	6.8	3.5	-91.12	-59.1	-3,025.6	3,026.2	3,015.9	10.31	293.566			
3,200.0	3,200.0	3,196.1	3,196.1	7.1	3.6	-91.12	-59.1	-3,025.6	3,026.2	3,015.5	10.65	284.274			
3,300.0	3,300.0	3,296.1	3,296.1	7.3	3.7	-91.12	-59.1	-3,025.6	3,026.2	3,015.2	10.98	275.552			
3,400.0	3,400.0	3,396.1	3,396.1	7.5	3.8	-91.12	-59.1	-3,025.6	3,026.2	3,014.9	11.32	267.350			
3,500.0	3,500.0	3,496.1	3,496.1	7.7	3.9	-91.12	-59.1	-3,025.6	3,026.2	3,014.5	11.66	259.622			
3,600.0	3,600.0	3,596.1	3,596.1	8.0	4.0	-91.12	-59.1	-3,025.6	3,026.2	3,014.2	11.99	252.327			
3,700.0	3,700.0	3,696.1	3,696.1	8.2	4.1	-91.12	-59.1	-3,025.6	3,026.2	3,013.9	12.33	245.432			
3,800.0	3,800.0	3,796.1	3,796.1	8.4	4.3	-91.12	-59.1	-3,025.6	3,026.2	3,013.5	12.67	238.903			
3,900.0	3,900.0	3,896.1	3,896.1	8.6	4.4	-91.12	-59.1	-3,025.6	3,026.2	3,013.2	13.00	232.713			
4,000.0	4,000.0	3,996.1	3,996.1	8.9	4.5	-91.12	-59.1	-3,025.6	3,026.2	3,012.8	13.34	226.836			
4,100.0	4,100.0	4,096.1	4,096.1	9.1	4.6	-91.12	-59.1	-3,025.6	3,026.2	3,012.5	13.68	221.248			
4,200.0	4,200.0	4,196.1	4,196.1	9.3	4.7	-91.12	-59.1	-3,025.6	3,026.2	3,012.2	14.01	215.928			
4,300.0	4,300.0	4,296.1	4,296.1	9.5	4.8	-91.12	-59.1	-3,025.6	3,026.2	3,011.8	14.35	210.859			
4,400.0	4,400.0	4,396.1	4,396.1	9.8	4.9	-91.12	-59.1	-3,025.6	3,026.2	3,011.5	14.69	206.022			
4,500.0	4,500.0	4,496.1	4,496.1	10.0	5.0	-91.12	-59.1	-3,025.6	3,026.2	3,011.2	15.03	201.402			
4,600.0	4,600.0	4,596.1	4,596.1	10.2	5.2	-91.12	-59.1	-3,025.6	3,026.2	3,010.8	15.36	196.985			
4,700.0	4,700.0	4,696.1	4,696.1	10.4	5.3	-91.12	-59.1	-3,025.6	3,026.2	3,010.5	15.70	192.757			
4,800.0	4,800.0	4,796.1	4,796.1	10.7	5.4	-91.12	-59.1	-3,025.6	3,026.2	3,010.2	16.04	188.707			
4,900.0	4,900.0	4,896.1	4,896.1	10.9	5.5	-91.12	-59.1	-3,025.6	3,026.2	3,009.8	16.37	184.823			
5,000.0	5,000.0	4,996.1	4,996.1	11.1	5.6	-91.12	-59.1	-3,025.6	3,026.2	3,009.5	16.71	181.097			
5,100.0	5,100.0	5,096.1	5,096.1	11.3	5.7	-91.12	-59.1	-3,025.6	3,026.2	3,009.1	17.05	177.517			

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



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
Survey Program: 10000-MWD													0.0 usft
Reference													Offset Well Error:
Offset													0.0 usft
Semi Major Axis													
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
5,200.0	5,200.0	5,196.1	5,196.1	11.6	5.8	-91.12	-59.1	-3,025.6	3,026.2	3,008.8	17.38	174.076	
5,300.0	5,300.0	5,296.1	5,296.1	11.8	5.9	-91.12	-59.1	-3,025.6	3,026.2	3,008.5	17.72	170.767	
5,400.0	5,400.0	5,396.1	5,396.1	12.0	6.1	-91.12	-59.1	-3,025.6	3,026.2	3,008.1	18.06	167.580	
5,500.0	5,500.0	5,496.1	5,496.1	12.2	6.2	-91.12	-59.1	-3,025.6	3,026.2	3,007.8	18.40	164.511	
5,600.0	5,600.0	5,596.1	5,596.1	12.5	6.3	-91.12	-59.1	-3,025.6	3,026.2	3,007.5	18.73	161.551	
5,700.0	5,700.0	5,696.1	5,696.1	12.7	6.4	-91.12	-59.1	-3,025.6	3,026.2	3,007.1	19.07	158.697	
5,800.0	5,800.0	5,796.1	5,796.1	12.9	6.5	-91.12	-59.1	-3,025.6	3,026.2	3,006.8	19.41	155.941	
5,900.0	5,900.0	5,896.1	5,896.1	13.1	6.6	-91.12	-59.1	-3,025.6	3,026.2	3,006.4	19.74	153.280	
6,000.0	6,000.0	5,996.1	5,996.1	13.4	6.7	-91.12	-59.1	-3,025.6	3,026.2	3,006.1	20.08	150.708	
6,100.0	6,100.0	6,096.1	6,096.1	13.6	6.8	-91.12	-59.1	-3,025.6	3,026.2	3,005.8	20.42	148.221	
6,200.0	6,200.0	6,196.1	6,196.1	13.8	7.0	-91.12	-59.1	-3,025.6	3,026.2	3,005.4	20.75	145.814	
6,300.0	6,300.0	6,296.1	6,296.1	14.0	7.1	-91.12	-59.1	-3,025.6	3,026.2	3,005.1	21.09	143.485	
6,400.0	6,400.0	6,396.1	6,396.1	14.3	7.2	-91.12	-59.1	-3,025.6	3,026.2	3,004.8	21.43	141.228	
6,500.0	6,500.0	6,496.1	6,496.1	14.5	7.3	-91.12	-59.1	-3,025.6	3,026.2	3,004.4	21.76	139.042	
6,600.0	6,600.0	6,596.1	6,596.1	14.7	7.4	-91.12	-59.1	-3,025.6	3,026.2	3,004.1	22.10	136.922	
6,700.0	6,700.0	6,696.1	6,696.1	14.9	7.5	-91.12	-59.1	-3,025.6	3,026.2	3,003.7	22.44	134.866	
6,800.0	6,800.0	6,796.1	6,796.1	15.2	7.6	-91.12	-59.1	-3,025.6	3,026.2	3,003.4	22.78	132.871	
6,900.0	6,900.0	6,896.1	6,896.1	15.4	7.7	-91.12	-59.1	-3,025.6	3,026.2	3,003.1	23.11	130.934	
7,000.0	7,000.0	6,996.1	6,996.1	15.6	7.8	-91.12	-59.1	-3,025.6	3,026.2	3,002.7	23.45	129.052	
7,100.0	7,100.0	7,096.1	7,096.1	15.8	8.0	-91.12	-59.1	-3,025.6	3,026.2	3,002.4	23.79	127.224	
7,200.0	7,200.0	7,196.1	7,196.1	16.1	8.1	-91.12	-59.1	-3,025.6	3,026.2	3,002.1	24.12	125.447	
7,300.0	7,300.0	7,296.1	7,296.1	16.3	8.2	-91.12	-59.1	-3,025.6	3,026.2	3,001.7	24.46	123.719	
7,400.0	7,400.0	7,396.1	7,396.1	16.5	8.3	-91.12	-59.1	-3,025.6	3,026.2	3,001.4	24.80	122.038	
7,500.0	7,500.0	7,496.1	7,496.1	16.7	8.4	-91.12	-59.1	-3,025.6	3,026.2	3,001.1	25.13	120.402	
7,600.0	7,600.0	7,596.1	7,596.1	16.9	8.5	-91.12	-59.1	-3,025.6	3,026.2	3,000.7	25.47	118.809	
7,700.0	7,700.0	7,696.1	7,696.1	17.2	8.6	-91.12	-59.1	-3,025.6	3,026.2	3,000.4	25.81	117.258	
7,800.0	7,800.0	7,796.1	7,796.1	17.4	8.7	-91.12	-59.1	-3,025.6	3,026.2	3,000.0	26.14	115.747	
7,900.0	7,900.0	7,896.1	7,896.1	17.6	8.9	-91.12	-59.1	-3,025.6	3,026.2	2,999.7	26.48	114.274	
8,000.0	8,000.0	7,996.1	7,996.1	17.8	9.0	-91.12	-59.1	-3,025.6	3,026.2	2,999.4	26.82	112.838	
8,100.0	8,100.0	8,096.1	8,096.1	18.1	9.1	-91.12	-59.1	-3,025.6	3,026.2	2,999.0	27.16	111.438	
8,200.0	8,200.0	8,196.1	8,196.1	18.3	9.2	-91.12	-59.1	-3,025.6	3,026.2	2,998.7	27.49	110.073	
8,300.0	8,300.0	8,296.1	8,296.1	18.5	9.3	-91.12	-59.1	-3,025.6	3,026.2	2,998.4	27.83	108.740	
8,400.0	8,400.0	8,396.1	8,396.1	18.7	9.4	-91.12	-59.1	-3,025.6	3,026.2	2,998.0	28.17	107.439	
8,500.0	8,500.0	8,496.1	8,496.1	19.0	9.5	-91.12	-59.1	-3,025.6	3,026.2	2,997.7	28.50	106.169	
8,600.0	8,600.0	8,596.1	8,596.1	19.2	9.6	-91.12	-59.1	-3,025.6	3,026.2	2,997.3	28.84	104.929	
8,700.0	8,700.0	8,696.1	8,696.1	19.4	9.8	-91.12	-59.1	-3,025.6	3,026.2	2,997.0	29.18	103.717	
8,802.6	8,802.6	8,798.7	8,798.7	19.7	9.9	-91.12	-59.1	-3,025.6	3,026.2	2,996.7	29.52	102.502	
8,825.0	8,825.0	8,821.1	8,821.1	19.7	9.9	11.20	-59.1	-3,025.6	3,025.7	2,996.1	29.57	102.313	
8,850.0	8,849.9	8,846.0	8,846.0	19.7	9.9	11.25	-59.1	-3,025.6	3,023.9	2,994.3	29.57	102.254	
8,875.0	8,874.7	8,870.8	8,870.8	19.8	10.0	11.34	-59.1	-3,025.6	3,020.8	2,991.3	29.52	102.339	
8,900.0	8,899.3	8,895.4	8,895.4	19.8	10.0	11.46	-59.1	-3,025.6	3,016.5	2,987.1	29.41	102.569	
8,925.0	8,923.7	8,919.8	8,919.8	19.9	10.0	11.62	-59.1	-3,025.6	3,010.9	2,981.6	29.25	102.943	
8,950.0	8,947.7	8,943.8	8,943.8	19.9	10.0	11.82	-59.1	-3,025.6	3,004.0	2,975.0	29.04	103.462	
8,975.0	8,971.3	8,967.4	8,967.4	20.0	10.1	12.06	-59.1	-3,025.6	2,996.0	2,967.2	28.77	104.125	
9,000.0	8,994.4	8,990.5	8,990.5	20.1	10.1	12.35	-59.1	-3,025.6	2,986.7	2,958.3	28.46	104.932	
9,025.0	9,017.0	9,013.1	9,013.1	20.1	10.1	12.70	-59.1	-3,025.6	2,976.3	2,948.2	28.11	105.883	
9,050.0	9,039.1	9,035.2	9,035.2	20.2	10.1	13.10	-59.1	-3,025.6	2,964.7	2,937.0	27.71	106.974	
9,075.0	9,060.5	9,056.6	9,056.6	20.2	10.2	13.56	-59.1	-3,025.6	2,952.0	2,924.8	27.28	108.201	
9,100.0	9,081.1	9,077.2	9,077.2	20.3	10.2	14.10	-59.1	-3,025.6	2,938.3	2,911.5	26.82	109.555	
9,125.0	9,101.1	9,097.2	9,097.2	20.4	10.2	14.72	-59.1	-3,025.6	2,923.5	2,897.1	26.33	111.020	
9,150.0	9,120.1	9,116.2	9,116.2	20.5	10.2	15.44	-59.1	-3,025.6	2,907.7	2,881.8	25.83	112.573	
9,175.0	9,138.4	9,134.5	9,134.5	20.5	10.2	16.27	-59.1	-3,025.6	2,890.9	2,865.6	25.32	114.178	

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



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 usft
Survey Program: 10000-MWD														Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)										
9,200.0	9,155.7	9,151.8	9,151.8	20.6	10.3	17.23	-59.1	-3,025.6	2,873.3	2,848.4	24.82	115.782			
9,225.0	9,172.0	9,168.1	9,168.1	20.8	10.3	18.36	-59.1	-3,025.6	2,854.7	2,830.4	24.34	117.304			
9,250.0	9,187.3	9,183.4	9,183.4	20.9	10.3	19.67	-59.1	-3,025.6	2,835.4	2,811.5	23.90	118.633			
9,275.0	9,201.6	9,197.7	9,197.7	21.0	10.3	21.23	-59.1	-3,025.6	2,815.3	2,791.8	23.54	119.612			
9,300.0	9,214.8	9,210.9	9,210.9	21.2	10.3	23.07	-59.1	-3,025.6	2,794.6	2,771.3	23.28	120.037			
9,325.0	9,226.8	9,222.9	9,222.9	21.3	10.3	25.28	-59.1	-3,025.6	2,773.2	2,750.0	23.18	119.653			
9,350.0	9,237.7	9,233.8	9,233.8	21.5	10.4	27.96	-59.1	-3,025.6	2,751.2	2,727.9	23.28	118.177			
9,375.0	9,247.4	9,243.5	9,243.5	21.7	10.4	31.23	-59.1	-3,025.6	2,728.7	2,705.0	23.66	115.344			
9,400.0	9,255.9	9,252.0	9,252.0	21.9	10.4	35.29	-59.1	-3,025.6	2,705.7	2,681.3	24.38	110.991			
9,425.0	9,263.1	9,259.2	9,259.2	22.2	10.4	40.36	-59.1	-3,025.6	2,682.4	2,656.8	25.51	105.158			
9,450.0	9,269.1	9,265.2	9,265.2	22.4	10.4	46.73	-59.1	-3,025.6	2,658.7	2,631.6	27.08	98.182			
9,475.0	9,273.8	9,269.9	9,269.9	22.7	10.4	54.72	-59.1	-3,025.6	2,634.7	2,605.7	29.04	90.736			
9,500.0	9,277.2	9,273.3	9,273.3	23.0	10.4	64.54	-59.1	-3,025.6	2,610.6	2,579.4	31.16	83.783			
9,525.0	9,279.3	9,275.4	9,275.4	23.3	10.4	76.08	-59.1	-3,025.6	2,586.3	2,553.3	32.99	78.394			
9,550.0	9,280.1	9,276.2	9,276.2	23.6	10.4	88.68	-59.1	-3,025.6	2,562.0	2,528.0	33.98	75.402			
9,561.6	9,280.0	9,276.1	9,276.1	23.7	10.4	94.58	-59.1	-3,025.6	2,550.7	2,516.6	34.05	74.914			
9,600.0	9,279.3	9,275.4	9,275.4	24.2	10.4	94.51	-59.1	-3,025.6	2,513.4	2,478.8	34.56	72.725			
9,700.0	9,277.4	9,273.5	9,273.5	25.7	10.4	94.33	-59.1	-3,025.6	2,416.3	2,380.2	36.04	67.043			
9,800.0	9,275.5	9,271.6	9,271.6	27.4	10.4	94.14	-59.1	-3,025.6	2,319.4	2,281.7	37.71	61.515			
9,900.0	9,273.6	9,269.7	9,269.7	29.2	10.4	93.96	-59.1	-3,025.6	2,222.8	2,183.3	39.52	56.243			
10,000.0	9,271.7	9,267.8	9,267.8	31.1	10.4	93.77	-59.1	-3,025.6	2,126.6	2,085.1	41.47	51.286			
10,100.0	9,269.8	9,265.9	9,265.9	33.2	10.4	93.59	-59.1	-3,025.6	2,030.7	1,987.2	43.51	46.669			
10,200.0	9,267.9	9,264.0	9,264.0	35.3	10.4	93.41	-59.1	-3,025.6	1,935.2	1,889.5	45.65	42.396			
10,261.6	9,266.7	9,262.8	9,262.8	36.7	10.4	93.29	-59.1	-3,025.6	1,876.5	1,829.5	47.00	39.929			
10,300.0	9,266.0	9,262.1	9,262.1	37.5	10.4	93.54	-59.1	-3,025.6	1,840.0	1,792.2	47.83	38.466			
10,400.0	9,264.1	9,260.2	9,260.2	39.8	10.4	94.39	-59.1	-3,025.6	1,743.7	1,693.7	49.97	34.897			
10,500.0	9,262.2	9,258.3	9,258.3	42.1	10.4	95.78	-59.1	-3,025.6	1,646.0	1,594.0	51.97	31.671			
10,543.3	9,261.4	9,257.5	9,257.5	43.2	10.4	96.70	-59.1	-3,025.6	1,603.3	1,550.6	52.77	30.382			
10,600.0	9,260.3	9,256.4	9,256.4	44.5	10.4	96.46	-59.1	-3,025.6	1,547.4	1,493.2	54.15	28.576			
10,700.0	9,258.4	9,254.5	9,254.5	46.9	10.4	96.04	-59.1	-3,025.6	1,448.9	1,392.3	56.61	25.594			
10,800.0	9,256.5	9,252.6	9,252.6	49.4	10.4	95.62	-59.1	-3,025.6	1,350.6	1,291.5	59.11	22.850			
10,900.0	9,254.6	9,250.7	9,250.7	51.9	10.4	95.20	-59.1	-3,025.6	1,252.5	1,190.9	61.63	20.324			
11,000.0	9,252.7	9,248.8	9,248.8	54.4	10.4	94.78	-59.1	-3,025.6	1,154.8	1,090.7	64.18	17.995			
11,100.0	9,250.8	9,246.9	9,246.9	56.9	10.4	94.35	-59.1	-3,025.6	1,057.6	990.8	66.75	15.844			
11,200.0	9,248.9	9,245.0	9,245.0	59.5	10.4	93.93	-59.1	-3,025.6	960.8	891.5	69.33	13.858			
11,300.0	9,247.0	9,243.1	9,243.1	62.0	10.4	93.51	-59.1	-3,025.6	864.9	792.9	71.94	12.022			
11,400.0	9,245.1	9,241.2	9,241.2	64.6	10.4	93.08	-59.1	-3,025.6	769.9	695.4	74.55	10.327			
11,500.0	9,243.2	9,239.3	9,239.3	67.2	10.4	92.66	-59.1	-3,025.6	676.4	599.2	77.18	8.764			
11,600.0	9,241.3	9,237.4	9,237.4	69.8	10.4	92.24	-59.1	-3,025.6	585.0	505.2	79.82	7.330			
11,700.0	9,239.4	9,235.5	9,235.5	72.4	10.4	91.81	-59.1	-3,025.6	497.0	414.5	82.46	6.027			
11,800.0	9,237.5	9,233.6	9,233.6	75.1	10.4	91.39	-59.1	-3,025.6	414.4	329.3	85.11	4.869			
11,900.0	9,235.7	9,231.8	9,231.8	77.7	10.4	90.96	-59.1	-3,025.6	341.3	253.5	87.77	3.888			
12,000.0	9,233.8	9,229.9	9,229.9	80.3	10.4	90.54	-59.1	-3,025.6	284.9	194.5	90.43	3.151			
12,100.0	9,231.9	9,228.0	9,228.0	83.0	10.4	90.11	-59.1	-3,025.6	256.7	163.6	93.09	2.758			
12,126.5	9,231.4	9,227.5	9,227.5	83.7	10.4	90.00	-59.1	-3,025.6	255.3	161.5	93.80	2.722 CC, ES, SF			
12,200.0	9,230.0	9,226.1	9,226.1	85.7	10.3	89.69	-59.1	-3,025.6	265.7	170.0	95.75	2.775			
12,300.0	9,228.1	9,224.2	9,224.2	88.3	10.3	89.26	-59.1	-3,025.6	308.7	210.3	98.42	3.137			
12,400.0	9,226.2	9,222.3	9,222.3	91.0	10.3	88.84	-59.1	-3,025.6	374.2	273.1	101.08	3.702			
12,500.0	9,224.3	9,220.4	9,220.4	93.7	10.3	88.41	-59.1	-3,025.6	452.4	348.7	103.74	4.361			
12,600.0	9,222.4	9,218.5	9,218.5	96.3	10.3	87.99	-59.1	-3,025.6	537.9	431.5	106.41	5.055			
12,700.0	9,220.5	9,216.6	9,216.6	99.0	10.3	87.56	-59.1	-3,025.6	627.7	518.7	109.06	5.755			
12,800.0	9,218.6	9,214.7	9,214.7	101.7	10.3	87.14	-59.1	-3,025.6	720.2	608.5	111.72	6.447			

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



TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Corn	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 usft
Survey Program: 10000-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			
12,900.0	9,216.7	9,212.8	9,212.8	104.4	10.3	86.72	-59.1	-3,025.6	814.5	700.1	114.37	7.121			
13,000.0	9,214.8	9,210.9	9,210.9	107.1	10.3	86.29	-59.1	-3,025.6	909.9	792.9	117.02	7.776			
13,100.0	9,212.9	9,209.0	9,209.0	109.8	10.3	85.87	-59.1	-3,025.6	1,006.3	886.6	119.66	8.410			
13,200.0	9,211.0	9,207.1	9,207.1	112.5	10.3	85.45	-59.1	-3,025.6	1,103.3	981.0	122.30	9.022			
13,300.0	9,209.1	9,205.2	9,205.2	115.2	10.3	85.02	-59.1	-3,025.6	1,200.8	1,075.9	124.93	9.612			
13,400.0	9,207.2	9,203.3	9,203.3	117.9	10.3	84.60	-59.1	-3,025.6	1,298.7	1,171.1	127.55	10.182			
13,500.0	9,205.3	9,201.4	9,201.4	120.6	10.3	84.18	-59.1	-3,025.6	1,396.8	1,266.7	130.16	10.731			
13,600.0	9,203.4	9,199.5	9,199.5	123.3	10.3	83.76	-59.1	-3,025.6	1,495.2	1,362.5	132.77	11.262			
13,700.0	9,201.6	9,197.7	9,197.7	126.0	10.3	83.34	-59.1	-3,025.6	1,593.8	1,458.5	135.37	11.774			
13,782.1	9,200.0	9,196.1	9,196.1	128.3	10.3	83.00	-59.1	-3,025.6	1,674.9	1,537.4	137.50	12.181			



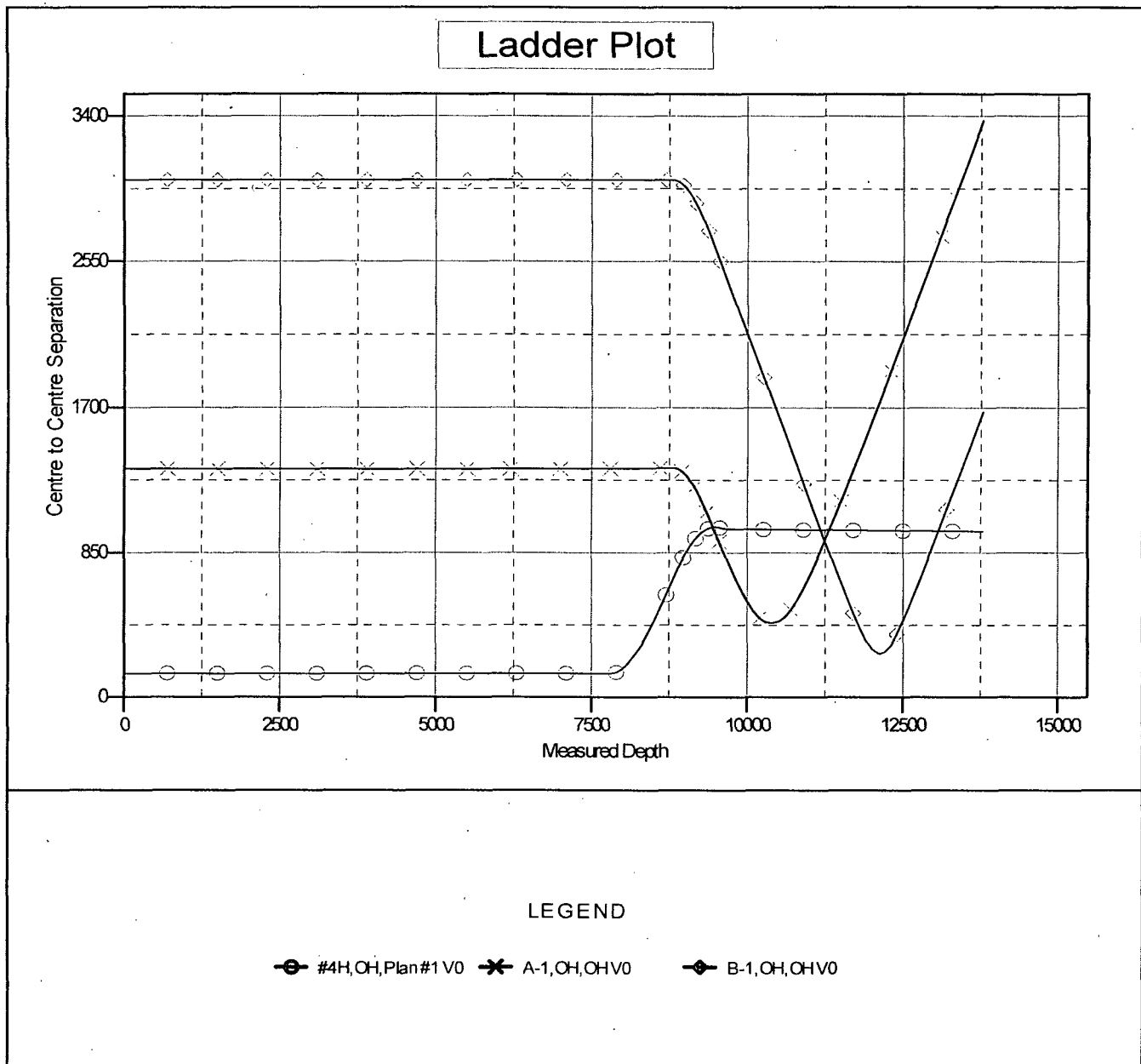
TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 3676.9usft (McVay 6)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: #2H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001
Grid Convergence at Surface is: 0.29°





TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County, NM	TVD Reference:	KB @ 3676.9usft (McVay 6)
Reference Site:	Haas 6 Federal Com	MD Reference:	KB @ 3676.9usft (McVay 6)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 3676.9usft (McVay 6)

Offset Depths are relative to Offset Datum

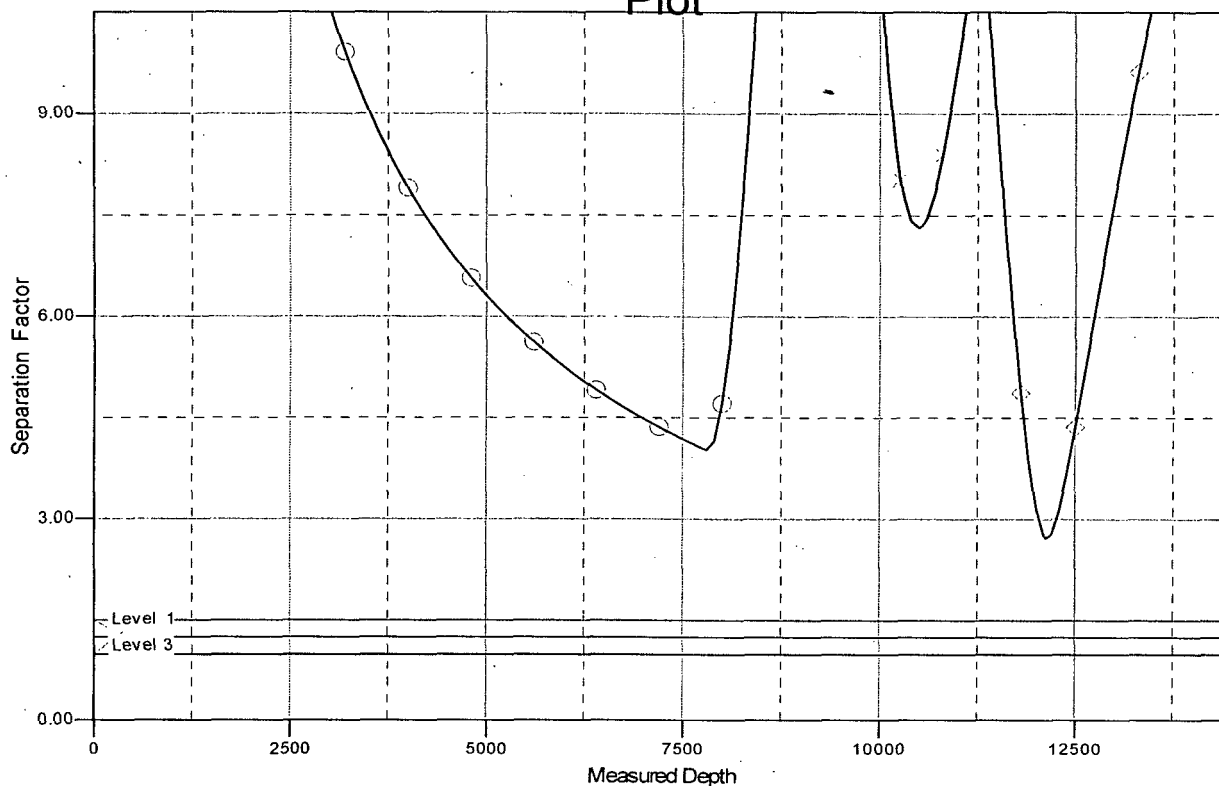
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: #2H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001

Grid Convergence at Surface is: 0.29°

Separation Factor Plot



LEGEND

⊖ #4H, OH, Plan#1 V0 ✕ A-1, OH, OHV0 ◆ B-1, OH, OHV0

Run Time: 09:49 AM

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Run Date: 05/22/2015
Page 1 of 1

LLD ACREAGE REPORT

Admin State: NM

Geo State: NM

MTR: 23 0190S 0320E

Section: 006

<u>Sur Type</u>	<u>Sur No</u>	<u>Lld Suff</u>	<u>NE</u> <u>NW</u> <u>SW</u> <u>SE</u> <u>NNSS</u> <u>NNSS</u> <u>NNSS</u> <u>NNSS</u> <u>EWWE</u> <u>EWWE</u> <u>EWWE</u> <u>EWWE</u>	<u>Sur Note</u>	<u>Dup</u> <u>Flg</u>	<u>Sub</u> <u>Surf</u>	<u>Acreage</u>
A			XXXX X--X X--X XXXX				480.000
L	1		---- -X-- ----				41.410
L	2		---- --X- ----				41.260
L	3		---- ---- -X-- ----				41.120
L	4		---- ---- --X- ----				40.970

Section 006 Total: 644.760

MTR Total Excluding Survey Notes C/D/R
and Sub Surf = Y 644.760

Grand Total Excluding Survey Notes C/D/R
and Sub Surf = Y: 644.760



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00073			LE	2	4	34	19S	32E	617502	3609301	575			
CP 00075			LE	2	4	34	19S	32E	617502	3609301	575			
CP 00563			LE	1	1	2	19	19S	32E	612118	3613376*	300		
CP 00639			LE	3	1	20	19S	32E	613029	3612880*	350	345		5
CP 00640			LE	2	2	19	19S	32E	612621	3613280*	260	102		158
CP 00812			LE	4	4	01	19S	32E	620623	3616973*	200			

Average Depth to Water: **223 feet**

Minimum Depth: **102 feet**

Maximum Depth: **345 feet**

Record Count: 6

PLSS Search:

Township: 19S

Range: 32E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



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No records found.

PLSS Search:

Section(s): 6

Township: 19S

Range: 32E