



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Fruit Loop 29 State

#503H

74030

OH

Plan #1

HOBBS OCD

AUG 21 2019

RECEIVED

Anticollision Report

19 August, 2019

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #503H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3777.0usft
Reference Site:	Fruit Loop 29 State	MD Reference:	KB = 25' @ 3777.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14
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 1,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	8/19/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	15,840.4	Plan #1 (OH)	EOG MWD+IFR1	MWD + IFR1	

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						
Fruit Loop 29 State						
#501H - OH - OH						Out of range
#602H - OH - Plan #1	1,703.4	1,703.4	33.0	21.2	2.805	CC
#602H - OH - Plan #1	1,800.0	1,799.5	33.4	21.0	2.683	ES, SF
Wool Head 20 State #3 - OH - OH	10,408.2	10,383.0	498.6	269.3	2.175	CC
Wool Head 20 State #3 - OH - OH	10,450.0	10,424.1	499.5	269.3	2.170	ES, SF

Offset Design Fruit Loop 29 State - #602H - OH - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-EOG MWD+IFR1													Offset Well Error:	0.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
				Reference (usft)	Offset (usft)				Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	33.0	33.0					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	33.0	33.0	32.7	0.27	122.743		
200.0	200.0	200.0	200.0	0.5	0.5	90.00	0.0	33.0	33.0	32.0	0.99	33.475		
300.0	300.0	300.0	300.0	0.9	0.9	90.00	0.0	33.0	33.0	31.3	1.70	19.381		
400.0	400.0	400.0	400.0	1.2	1.2	90.00	0.0	33.0	33.0	30.6	2.42	13.638		
500.0	500.0	500.0	500.0	1.6	1.6	90.00	0.0	33.0	33.0	29.9	3.14	10.521		
600.0	600.0	600.0	600.0	1.9	1.9	90.00	0.0	33.0	33.0	29.1	3.85	8.563		
700.0	700.0	700.0	700.0	2.3	2.3	90.00	0.0	33.0	33.0	28.4	4.57	7.220		
800.0	800.0	800.0	800.0	2.6	2.6	90.00	0.0	33.0	33.0	27.7	5.29	6.241		
900.0	900.0	900.0	900.0	3.0	3.0	90.00	0.0	33.0	33.0	27.0	6.00	5.486		
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	90.00	0.0	33.0	33.0	26.3	6.72	4.910		
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	90.00	0.0	33.0	33.0	25.6	7.44	4.437		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	90.00	0.0	33.0	33.0	24.8	8.16	4.046		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	90.00	0.0	33.0	33.0	24.1	8.87	3.719		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	90.00	0.0	33.0	33.0	23.4	9.59	3.441		
1,500.0	1,500.0	1,500.0	1,500.0	5.2	5.2	90.00	0.0	33.0	33.0	22.7	10.31	3.202		
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	90.00	0.0	33.0	33.0	22.0	11.02	2.994		
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	90.00	0.0	33.0	33.0	21.3	11.74	2.811		
1,703.4	1,703.4	1,703.4	1,703.4	5.9	5.9	90.00	0.0	33.0	33.0	21.2	11.76	2.805 CC		
1,800.0	1,800.0	1,799.5	1,799.5	6.2	6.2	89.75	0.1	33.4	33.4	21.0	12.45	2.683 ES, SF		
1,900.0	1,900.0	1,898.3	1,898.2	6.6	6.6	93.68	1.3	36.6	36.7	23.6	13.14	2.797		
2,000.0	1,999.8	1,996.7	1,996.4	6.9	6.9	97.20	3.6	43.0	43.6	29.8	13.82	3.157		

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

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Reference Site: Fruit Loop 29 State
Site Error: 0.0 usft
Reference Well: #503H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #503H
TVD Reference: KB = 25' @ 3777.0usft
MD Reference: KB = 25' @ 3777.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.14
Offset TVD Reference: Offset Datum

Offset Design Fruit Loop 29 State - #602H - OH - Plan #1														Offset Site Error:	0.0 usft
Survey Program: 0-EOG MWD+IFR1														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			
2,050.0	2,049.7	2,045.7	2,045.2	7.1	7.1	99.39	5.2	47.3	48.5	34.3	14.15	3.425			
2,100.0	2,099.5	2,094.6	2,093.8	7.3	7.3	101.28	7.0	52.5	54.2	39.7	14.48	3.744			
2,200.0	2,199.1	2,191.8	2,190.1	7.7	7.6	102.98	11.6	65.0	68.0	52.9	15.14	4.494			
2,300.0	2,298.7	2,289.8	2,288.7	8.0	7.9	103.18	17.0	80.0	84.1	68.3	15.82	5.319			
2,400.0	2,398.4	2,388.5	2,384.1	8.4	8.3	103.26	22.5	95.3	100.4	83.9	16.52	6.078			
2,500.0	2,498.0	2,487.1	2,481.4	8.7	8.7	103.32	28.1	110.7	116.7	99.4	17.22	6.774			
2,600.0	2,597.6	2,585.8	2,578.7	9.1	9.0	103.37	33.6	126.0	132.9	115.0	17.83	7.415			
2,700.0	2,697.2	2,684.5	2,678.0	9.5	9.4	103.40	39.1	141.3	149.2	130.6	18.64	8.007			
2,800.0	2,796.8	2,783.1	2,773.3	9.8	9.7	103.43	44.7	156.6	165.5	148.1	19.34	8.554			
2,900.0	2,896.4	2,881.8	2,870.6	10.2	10.1	103.45	50.2	171.9	181.7	161.7	20.06	9.062			
3,000.0	2,896.1	2,880.5	2,867.9	10.5	10.5	103.47	55.7	187.3	198.0	177.3	20.77	9.535			
3,100.0	3,095.7	3,078.1	3,065.3	10.9	10.8	103.49	61.3	202.6	214.3	192.8	21.48	9.975			
3,200.0	3,195.3	3,177.8	3,162.6	11.3	11.2	103.50	66.8	217.9	230.6	208.4	22.20	10.387			
3,300.0	3,294.9	3,276.5	3,259.9	11.6	11.6	103.51	72.3	233.2	246.8	223.9	22.91	10.772			
3,400.0	3,394.5	3,375.2	3,357.2	12.0	11.9	103.53	77.9	248.6	263.1	239.5	23.63	11.134			
3,500.0	3,494.2	3,473.8	3,454.5	12.3	12.3	103.53	83.4	263.9	279.4	255.0	24.35	11.474			
3,600.0	3,593.8	3,572.5	3,551.8	12.7	12.7	103.54	88.9	279.2	295.6	270.6	25.07	11.794			
3,700.0	3,693.4	3,671.2	3,649.1	13.1	13.1	103.55	94.5	294.5	311.9	286.1	25.79	12.096			
3,800.0	3,793.0	3,769.8	3,746.4	13.4	13.4	103.56	100.0	309.8	328.2	301.7	26.51	12.381			
3,900.0	3,892.6	3,868.5	3,843.8	13.8	13.8	103.56	105.5	325.2	344.5	317.2	27.23	12.651			
4,000.0	3,892.3	3,867.2	3,841.1	14.1	14.2	103.57	111.1	340.5	360.7	332.8	27.95	12.906			
4,100.0	4,091.9	4,065.8	4,038.4	14.5	14.5	103.57	116.6	355.8	377.0	348.3	28.67	13.149			
4,200.0	4,191.5	4,164.5	4,135.7	14.9	14.9	103.58	122.2	371.1	393.3	363.9	29.39	13.379			
4,300.0	4,291.1	4,263.2	4,233.0	15.2	15.3	103.58	127.7	386.5	409.5	379.4	30.12	13.598			
4,400.0	4,390.7	4,361.8	4,330.3	15.6	15.7	103.59	133.2	401.8	425.8	395.0	30.84	13.807			
4,500.0	4,490.4	4,460.5	4,427.6	15.9	16.0	103.59	138.8	417.1	442.1	410.5	31.57	14.005			
4,600.0	4,590.0	4,559.2	4,524.9	16.3	16.4	103.59	144.3	432.4	458.4	426.1	32.29	14.195			
4,700.0	4,689.6	4,657.8	4,622.3	16.7	16.8	103.60	149.8	447.7	474.6	441.6	33.01	14.376			
4,776.0	4,765.3	4,732.8	4,696.2	16.9	17.1	103.60	154.0	459.4	487.0	453.4	33.57	14.509			
4,800.0	4,789.2	4,756.5	4,719.6	17.0	17.2	103.67	155.4	463.1	490.9	457.1	33.74	14.549			
4,900.0	4,889.0	4,855.2	4,817.0	17.4	17.6	103.69	160.9	478.4	506.5	472.1	34.46	14.699			
5,000.0	4,989.0	4,953.9	4,914.3	17.7	17.9	103.34	166.4	493.7	521.4	488.3	35.18	14.822			
5,026.0	5,015.0	4,979.6	4,939.6	17.8	18.0	100.10	167.9	497.7	525.2	489.8	35.37	14.850			
5,100.0	5,089.0	5,052.6	5,011.6	18.1	18.3	99.45	172.0	509.0	535.8	500.0	35.90	14.928			
5,200.0	5,189.0	5,151.2	5,108.9	18.5	18.7	98.61	177.5	524.4	550.4	513.7	36.61	15.032			
5,300.0	5,289.0	5,249.8	5,206.1	18.8	19.1	97.81	183.0	539.7	565.0	527.6	37.33	15.135			
5,400.0	5,389.0	5,348.5	5,303.4	19.2	19.4	97.06	188.6	555.0	579.7	541.6	38.05	15.236			
5,500.0	5,489.0	5,447.1	5,400.7	19.5	19.8	96.34	194.1	570.3	594.5	555.7	38.76	15.336			
5,600.0	5,589.0	5,545.7	5,498.0	19.9	20.2	95.65	199.6	585.6	609.4	569.9	39.48	15.434			
5,700.0	5,689.0	5,644.3	5,595.2	20.2	20.6	95.00	205.2	600.9	624.4	584.2	40.20	15.531			
5,800.0	5,789.0	5,743.0	5,692.5	20.6	21.0	94.38	210.7	616.2	639.4	598.5	40.92	15.626			
5,900.0	5,889.0	5,841.6	5,789.8	21.0	21.3	93.79	216.2	631.6	654.5	612.9	41.64	15.719			
6,000.0	5,989.0	5,940.2	5,887.1	21.3	21.7	93.22	221.8	646.9	669.7	627.4	42.36	15.811			
6,100.0	6,089.0	6,038.8	5,984.3	21.7	22.1	92.68	227.3	662.2	685.0	641.9	43.08	15.901			
6,200.0	6,189.0	6,137.5	6,081.6	22.0	22.5	92.17	232.8	677.5	700.3	656.5	43.80	15.989			
6,300.0	6,289.0	6,236.1	6,178.9	22.4	22.8	91.67	238.4	692.8	715.7	671.1	44.52	16.075			
6,400.0	6,389.0	6,334.7	6,276.2	22.7	23.2	91.20	243.9	708.1	731.1	685.8	45.24	16.159			
6,500.0	6,489.0	6,433.4	6,373.4	23.1	23.6	90.74	249.4	723.5	746.5	700.6	45.96	16.242			
6,600.0	6,589.0	6,563.6	6,502.3	23.5	24.1	90.24	255.8	741.1	760.0	713.1	46.62	16.317			
6,700.0	6,689.0	6,666.5	6,604.5	23.8	24.6	89.91	260.2	753.4	769.3	721.5	47.33	16.385			
6,800.0	6,789.0	6,830.3	6,768.2	24.2	25.1	89.73	262.6	759.9	774.2	725.5	48.05	16.454			
6,900.0	6,889.0	6,951.2	6,889.0	24.5	25.5	89.70	263.0	761.0	775.0	725.6	49.38	16.695			

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 5000.14
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Fruit Loop 29 State - #602H - OH - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-EOG MWD+IFR1													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)		+N/-S (usft)	+E/-W (usft)						
7,000.0	6,989.0	7,051.2	6,989.0	24.9	25.8	89.70	263.0	761.0	775.0	724.9	50.08	15.476		
7,100.0	7,089.0	7,151.2	7,089.0	25.2	26.2	89.70	263.0	761.0	775.0	724.2	50.78	15.263		
7,200.0	7,189.0	7,251.2	7,189.0	25.6	26.5	89.70	263.0	761.0	775.0	723.5	51.47	15.056		
7,300.0	7,289.0	7,351.2	7,289.0	26.0	26.8	89.70	263.0	761.0	775.0	722.8	52.17	14.854		
7,400.0	7,389.0	7,451.2	7,389.0	26.3	27.2	89.70	263.0	761.0	775.0	722.1	52.87	14.658		
7,500.0	7,489.0	7,551.2	7,489.0	26.7	27.5	89.70	263.0	761.0	775.0	721.4	53.57	14.466		
7,600.0	7,589.0	7,651.2	7,589.0	27.0	27.9	89.70	263.0	761.0	775.0	720.7	54.27	14.280		
7,700.0	7,689.0	7,751.2	7,689.0	27.4	28.2	89.70	263.0	761.0	775.0	720.0	54.97	14.098		
7,800.0	7,789.0	7,851.2	7,789.0	27.7	28.5	89.70	263.0	761.0	775.0	719.3	55.68	13.920		
7,900.0	7,889.0	7,951.2	7,889.0	28.1	28.9	89.70	263.0	761.0	775.0	718.6	56.38	13.747		
8,000.0	7,989.0	8,051.2	7,989.0	28.5	29.2	89.70	263.0	761.0	775.0	717.9	57.08	13.578		
8,100.0	8,089.0	8,151.2	8,089.0	28.8	29.6	89.70	263.0	761.0	775.0	717.2	57.78	13.413		
8,200.0	8,189.0	8,251.2	8,189.0	29.2	29.9	89.70	263.0	761.0	775.0	716.5	58.48	13.252		
8,300.0	8,289.0	8,351.2	8,289.0	29.5	30.3	89.70	263.0	761.0	775.0	715.8	59.19	13.094		
8,400.0	8,389.0	8,451.2	8,389.0	29.9	30.6	89.70	263.0	761.0	775.0	715.1	59.89	12.940		
8,500.0	8,489.0	8,551.2	8,489.0	30.2	30.9	89.70	263.0	761.0	775.0	714.4	60.59	12.790		
8,600.0	8,589.0	8,651.2	8,589.0	30.6	31.3	89.70	263.0	761.0	775.0	713.7	61.30	12.643		
8,700.0	8,689.0	8,751.2	8,689.0	31.0	31.6	89.70	263.0	761.0	775.0	713.0	62.00	12.500		
8,800.0	8,789.0	8,851.2	8,789.0	31.3	32.0	89.70	263.0	761.0	775.0	712.3	62.71	12.359		
8,900.0	8,889.0	8,951.2	8,889.0	31.7	32.3	89.70	263.0	761.0	775.0	711.6	63.41	12.222		
9,000.0	8,989.0	9,051.2	8,989.0	32.0	32.7	89.70	263.0	761.0	775.0	710.9	64.12	12.087		
9,100.0	9,089.0	9,151.2	9,089.0	32.4	33.0	89.70	263.0	761.0	775.0	710.2	64.82	11.956		
9,200.0	9,189.0	9,251.2	9,189.0	32.7	33.4	89.70	263.0	761.0	775.0	709.5	65.53	11.827		
9,300.0	9,289.0	9,351.2	9,289.0	33.1	33.7	89.70	263.0	761.0	775.0	708.8	66.23	11.701		
9,400.0	9,389.0	9,451.2	9,389.0	33.5	34.1	89.70	263.0	761.0	775.0	708.1	66.94	11.578		
9,500.0	9,489.0	9,551.2	9,489.0	33.8	34.4	89.70	263.0	761.0	775.0	707.4	67.65	11.457		
9,600.0	9,589.0	9,651.2	9,589.0	34.2	34.8	89.70	263.0	761.0	775.0	706.7	68.35	11.338		
9,700.0	9,689.0	9,751.2	9,689.0	34.5	35.1	89.70	263.0	761.0	775.0	706.0	69.06	11.222		
9,800.0	9,789.0	9,851.2	9,789.0	34.9	35.5	89.70	263.0	761.0	775.0	705.2	69.77	11.109		
9,900.0	9,889.0	9,951.2	9,889.0	35.3	35.8	89.70	263.0	761.0	775.0	704.5	70.47	10.997		
10,000.0	9,989.0	10,051.2	9,989.0	35.6	36.1	89.70	263.0	761.0	775.0	703.8	71.18	10.888		
10,100.0	10,089.0	10,151.2	10,089.0	36.0	36.5	89.70	263.0	761.0	775.0	703.1	71.89	10.781		
10,200.0	10,189.0	10,251.2	10,189.0	36.3	36.8	89.70	263.0	761.0	775.0	702.4	72.60	10.676		
10,300.0	10,289.0	10,351.2	10,289.0	36.7	37.2	89.70	263.0	761.0	775.0	701.7	73.30	10.573		
10,394.0	10,383.0	10,445.2	10,383.0	37.0	37.5	89.70	263.0	761.0	775.0	701.0	73.97	10.477		
10,400.0	10,389.0	10,451.2	10,389.0	37.0	37.5	-89.83	263.0	761.0	775.0	701.0	74.01	10.472		
10,446.0	10,434.9	10,502.9	10,434.9	37.2	37.7	-90.00	263.0	761.0	775.0	700.7	74.34	10.425		
10,450.0	10,438.9	10,501.1	10,438.9	37.2	37.7	-90.03	263.0	761.0	775.0	700.7	74.35	10.424		
10,500.0	10,488.4	10,550.5	10,488.4	37.4	37.9	-90.54	263.0	761.0	775.0	700.4	74.67	10.379		
10,550.0	10,537.1	10,600.8	10,537.1	37.5	38.1	-91.33	263.0	761.0	775.2	700.2	75.00	10.336		
10,600.0	10,584.6	10,646.7	10,584.6	37.6	38.2	-92.37	263.0	761.0	775.8	700.5	75.31	10.301		
10,650.0	10,630.6	10,707.3	10,630.6	37.8	38.4	-93.59	263.0	761.0	776.9	701.2	75.66	10.268		
10,700.0	10,674.7	10,736.8	10,674.7	37.9	38.5	-94.91	263.0	761.0	778.9	703.0	75.90	10.261		
10,750.0	10,716.5	10,778.7	10,716.5	38.0	38.7	-96.27	263.0	761.0	782.1	705.9	76.18	10.268		
10,800.0	10,755.9	10,818.0	10,755.9	38.2	38.8	-97.57	263.0	761.0	786.8	710.3	76.44	10.292		
10,850.0	10,792.4	10,854.5	10,792.4	38.3	39.0	-98.71	263.0	761.0	793.4	716.7	76.69	10.345		
10,900.0	10,825.7	10,887.9	10,825.7	38.4	39.1	-99.62	263.0	761.0	802.2	725.2	76.92	10.428		
10,950.0	10,855.8	10,917.9	10,855.8	38.5	39.2	-100.20	263.0	761.0	813.4	736.2	77.13	10.545		
11,000.0	10,882.2	10,944.3	10,882.2	38.6	39.3	-100.39	263.0	761.0	827.3	749.9	77.33	10.698		
11,050.0	10,904.8	10,966.9	10,904.8	38.7	39.3	-100.09	263.0	761.0	843.9	766.4	77.50	10.889		
11,100.0	10,923.4	10,985.6	10,923.4	38.8	39.4	-99.26	263.0	761.0	863.3	785.6	77.64	11.119		
11,150.0	10,938.0	11,000.1	10,938.0	38.9	39.5	-97.82	263.0	761.0	885.4	807.6	77.76	11.386		

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

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #503H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3777.0usft
Reference Site:	Fruit Loop 29 State	MD Reference:	KB = 25' @ 3777.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Fruit Loop 29 State - #602H - OH - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-EOG MWD+IFR1													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				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)	Minimum Separation (usft)	Separation Factor		
11,200.0	10,948.3	11,010.4	10,948.3	38.9	39.5	-95.74	263.0	761.0	910.0	832.2	77.86	11.688		
11,250.0	10,954.3	11,016.4	10,954.3	39.0	39.5	-92.98	263.0	761.0	937.0	859.1	77.83	12.024		
11,283.7	10,955.9	11,018.0	10,955.9	39.0	39.5	-90.74	263.0	761.0	956.3	878.4	77.86	12.267		
11,300.0	10,956.2	11,018.3	10,956.2	39.1	39.5	-90.77	263.0	761.0	966.0	888.0	77.97	12.389		

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Reference Site: Fruit Loop 29 State
Site Error: 0.0 usft
Reference Well: #503H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #503H
TVD Reference: KB = 25' @ 3777.0usft
MD Reference: KB = 25' @ 3777.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.14
Offset TVD Reference: Offset Datum

Offset Design Fruit Loop 29 State - Wool Head 20 State #3 - OH - OH

Survey Program: 173-Inclinometer only

Offset Site Error: 0.0 usft
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	0.0	0.0	0.0	0.0	-35.70	636.2	-457.1	783.7				
100.0	100.0	78.6	78.6	0.1	0.6	-35.70	636.1	-457.1	783.3	782.6	0.78	1,027.487	
200.0	200.0	179.4	179.4	0.5	1.4	-35.70	636.0	-457.1	783.2	781.3	1.93	406.664	
300.0	300.0	279.3	279.3	0.9	3.2	-35.71	635.8	-457.0	783.0	778.9	4.09	191.282	
400.0	400.0	384.7	379.3	1.2	5.1	-35.71	635.7	-456.9	782.9	776.6	6.30	124.353	
500.0	500.0	479.3	479.3	1.6	6.7	-35.71	635.5	-456.9	782.7	774.4	8.31	94.191	
600.0	600.0	579.3	579.3	1.9	8.5	-35.72	635.4	-456.8	782.5	772.1	10.42	75.115	
700.0	700.0	680.8	680.8	2.3	10.3	-35.72	635.1	-456.7	782.3	769.7	12.58	62.184	
800.0	800.0	782.6	782.6	2.6	12.1	-35.73	634.6	-456.6	781.8	767.1	14.75	52.997	
900.0	900.0	884.3	884.3	3.0	13.9	-35.75	633.9	-456.3	781.1	764.2	16.92	46.156	
1,000.0	1,000.0	986.1	986.1	3.4	15.7	-35.77	633.0	-456.0	780.2	761.1	19.09	40.859	
1,100.0	1,100.0	1,085.9	1,085.9	3.7	17.6	-35.79	632.0	-455.6	779.2	757.9	21.30	36.579	
1,200.0	1,200.0	1,185.9	1,185.8	4.1	19.4	-35.81	631.1	-455.3	778.2	754.7	23.50	33.108	
1,300.0	1,300.0	1,290.6	1,290.6	4.4	21.5	-35.84	629.7	-454.8	776.9	751.0	25.89	30.007	
1,400.0	1,400.0	1,395.5	1,395.4	4.8	23.6	-35.88	627.8	-454.0	774.9	748.5	28.42	27.268	
1,500.0	1,500.0	1,499.9	1,499.8	5.2	26.0	-35.93	625.2	-453.1	772.4	741.3	31.14	24.807	
1,600.0	1,600.0	1,604.3	1,604.1	5.5	28.4	-36.00	622.0	-452.0	769.3	735.4	33.85	22.726	
1,700.0	1,700.0	1,692.9	1,692.8	5.9	30.4	-36.05	619.8	-451.1	766.7	730.5	36.26	21.148	
1,800.0	1,800.0	1,789.1	1,788.9	6.2	32.3	-36.08	618.3	-450.6	765.2	726.6	38.53	19.858	
1,900.0	1,900.0	1,888.2	1,888.0	6.6	34.2	-33.12	617.0	-450.1	762.3	721.6	40.74	18.712	
2,000.0	1,999.8	1,987.0	1,986.8	6.9	36.0	-33.42	615.8	-449.7	756.7	713.8	42.95	17.620	
2,050.0	2,049.7	2,036.4	2,036.2	7.1	36.9	-33.64	615.2	-449.5	752.9	708.8	44.05	17.092	
2,100.0	2,099.5	2,085.7	2,085.5	7.3	37.8	-33.84	614.7	-449.3	748.7	703.5	45.15	16.583	
2,200.0	2,199.1	2,184.4	2,184.1	7.7	39.7	-34.23	613.7	-448.9	740.4	693.1	47.35	15.639	
2,300.0	2,298.7	2,283.0	2,282.8	8.0	41.5	-34.63	612.8	-448.6	732.4	682.8	49.55	14.781	
2,400.0	2,398.4	2,381.7	2,381.5	8.4	43.4	-35.04	612.1	-448.3	724.4	672.7	51.75	13.999	
2,500.0	2,498.0	2,480.4	2,480.2	8.7	45.2	-35.45	611.5	-448.1	716.7	662.7	53.95	13.284	
2,600.0	2,597.6	2,579.2	2,578.9	9.1	47.1	-35.87	610.9	-447.9	709.0	652.9	56.15	12.627	
2,700.0	2,697.2	2,677.9	2,677.7	9.5	48.9	-36.30	610.5	-447.8	701.6	643.2	58.38	12.022	
2,800.0	2,796.8	2,777.3	2,777.1	9.8	50.8	-36.73	610.2	-447.7	694.2	633.8	60.45	11.485	
2,900.0	2,896.4	2,876.9	2,876.7	10.2	52.3	-37.18	609.9	-447.5	686.9	624.4	62.51	10.989	
3,000.0	2,896.1	2,876.5	2,876.3	10.5	54.1	-37.63	609.5	-447.4	679.7	615.1	64.57	10.525	
3,100.0	3,095.7	3,076.1	3,075.9	10.9	55.8	-38.09	609.2	-447.3	672.4	605.6	66.64	10.091	
3,200.0	3,195.3	3,175.7	3,175.5	11.3	57.5	-38.56	608.9	-447.2	665.3	596.6	68.71	9.682	
3,300.0	3,294.9	3,275.3	3,275.1	11.6	59.2	-39.05	608.6	-447.1	658.1	587.4	70.78	9.298	
3,400.0	3,394.5	3,374.9	3,374.6	12.0	60.9	-39.54	608.2	-446.9	651.1	578.2	72.86	8.936	
3,500.0	3,494.2	3,473.8	3,473.6	12.3	62.6	-40.04	608.0	-446.8	644.1	569.2	74.88	8.601	
3,600.0	3,593.8	3,572.8	3,572.6	12.7	64.2	-40.55	607.8	-446.8	637.3	560.4	76.92	8.285	
3,700.0	3,693.4	3,671.9	3,671.6	13.1	65.9	-41.06	607.7	-446.8	630.6	551.6	78.95	7.987	
3,800.0	3,793.0	3,772.5	3,772.3	13.4	67.6	-41.60	607.6	-446.7	624.0	542.9	81.01	7.702	
3,900.0	3,892.6	3,872.8	3,872.6	13.8	69.3	-42.15	607.3	-446.6	617.2	534.1	83.10	7.427	
4,000.0	3,892.3	3,872.4	3,872.2	14.1	71.1	-42.71	607.0	-446.5	610.4	525.2	85.19	7.165	
4,100.0	4,091.9	4,106.0	4,071.8	14.5	73.4	-43.28	606.7	-446.4	603.7	515.8	87.87	6.870	
4,200.0	4,191.5	4,171.6	4,171.4	14.9	74.5	-43.87	606.4	-446.3	597.1	507.7	89.37	6.681	
4,300.0	4,291.1	4,271.2	4,271.0	15.2	76.3	-44.47	606.0	-446.1	590.5	499.0	91.47	6.456	
4,400.0	4,390.7	4,371.6	4,371.4	15.6	78.0	-45.09	605.6	-446.0	583.9	490.3	93.59	6.239	
4,500.0	4,490.4	4,471.1	4,470.8	15.9	79.8	-45.73	605.2	-445.8	577.3	481.6	95.70	6.033	
4,600.0	4,590.0	4,570.5	4,570.2	16.3	81.5	-46.37	604.7	-445.7	570.9	473.1	97.81	5.837	
4,700.0	4,689.6	4,669.9	4,669.6	16.7	83.3	-47.03	604.3	-445.5	564.5	464.6	99.82	5.650	
4,776.0	4,765.3	4,745.4	4,745.2	16.9	84.6	-47.54	604.0	-445.4	559.7	458.2	101.53	5.513	
4,800.0	4,789.2	4,769.3	4,769.0	17.0	85.0	-47.68	603.9	-445.4	558.3	456.3	102.03	5.472	
4,900.0	4,889.0	4,868.9	4,868.7	17.4	86.8	-48.10	603.6	-445.3	553.9	449.7	104.14	5.319	

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

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Reference Site: Fruit Loop 29 State
 Site Error: 0.0 usft
 Reference Well: #503H
 Well Error: 0.0 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well #503H
 TVD Reference: KB = 25' @ 3777.0usft
 MD Reference: KB = 25' @ 3777.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.14
 Offset TVD Reference: Offset Datum

Offset Design Fruit Loop 29 State - Wool Head 20 State #3 - OH - OH													Offset Site Error: 0.0 usft
Survey Program: 173-Inclinometer only													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)			
5,000.0	4,989.0	4,968.9	4,968.7	17.7	88.5	-48.29	603.3	-445.1	551.8	445.6	108.25	5.194	
5,026.0	5,015.0	4,995.0	4,994.8	17.8	89.0	-51.40	603.2	-445.1	551.7	444.9	108.80	5.185	
5,100.0	5,089.0	5,069.2	5,068.9	18.1	90.3	-51.41	602.9	-445.0	551.4	443.0	108.37	5.088	
5,200.0	5,189.0	5,169.4	5,169.1	18.5	92.1	-51.44	602.5	-444.9	551.0	440.6	110.49	4.987	
5,300.0	5,289.0	5,269.6	5,269.3	18.8	93.8	-51.46	602.1	-444.7	550.6	438.0	112.61	4.890	
5,400.0	5,389.0	5,369.8	5,369.5	19.2	95.6	-51.49	601.6	-444.5	550.2	435.4	114.76	4.794	
5,500.0	5,489.0	5,470.0	5,469.7	19.5	97.4	-51.52	601.0	-444.3	549.7	432.8	116.95	4.701	
5,600.0	5,589.0	5,570.2	5,569.9	19.9	99.3	-51.55	600.5	-444.1	549.2	430.1	119.14	4.610	
5,700.0	5,689.0	5,670.4	5,670.2	20.2	101.1	-51.59	599.9	-443.9	548.6	427.3	121.32	4.522	
5,800.0	5,789.0	5,770.6	5,770.4	20.6	102.9	-51.63	599.2	-443.7	548.0	424.5	123.51	4.437	
5,900.0	5,889.0	5,870.8	5,870.6	21.0	104.8	-51.67	598.5	-443.4	547.4	421.7	125.70	4.355	
6,000.0	5,989.0	5,971.0	5,970.8	21.3	106.6	-51.71	597.8	-443.1	546.7	418.9	127.89	4.275	
6,100.0	6,089.0	6,071.2	6,071.0	21.7	108.4	-51.76	597.0	-442.8	546.0	416.0	130.08	4.198	
6,200.0	6,189.0	6,171.4	6,171.2	22.0	110.3	-51.81	596.1	-442.5	545.3	413.0	132.27	4.123	
6,300.0	6,289.0	6,271.6	6,271.4	22.4	112.1	-51.86	595.3	-442.2	544.5	410.1	134.45	4.050	
6,400.0	6,389.0	6,371.8	6,371.6	22.7	113.9	-51.91	594.4	-441.9	543.7	407.0	136.64	3.979	
6,500.0	6,489.0	6,472.0	6,471.8	23.1	115.8	-51.97	593.4	-441.6	542.8	404.0	138.83	3.910	
6,600.0	6,589.0	6,572.2	6,572.0	23.5	117.6	-52.03	592.4	-441.2	541.9	400.9	141.02	3.843	
6,700.0	6,689.0	6,670.8	6,670.3	23.8	119.4	-52.07	591.7	-440.9	541.3	398.1	143.21	3.780	
6,800.0	6,789.0	6,770.8	6,770.5	24.2	121.3	-52.11	591.0	-440.7	540.7	395.2	145.44	3.717	
6,900.0	6,889.0	6,871.1	6,870.8	24.5	123.2	-52.16	590.3	-440.4	540.0	392.3	147.69	3.656	
7,000.0	6,989.0	6,971.4	6,971.1	24.9	125.1	-52.21	589.5	-440.1	539.3	389.3	149.93	3.597	
7,100.0	7,089.0	7,071.7	7,071.4	25.2	127.0	-52.26	588.6	-439.8	538.5	386.3	152.17	3.539	
7,200.0	7,189.0	7,172.1	7,171.8	25.6	128.9	-52.32	587.6	-439.4	537.6	383.2	154.41	3.482	
7,300.0	7,289.0	7,272.4	7,272.1	26.0	130.7	-52.38	586.6	-439.1	536.7	380.0	156.66	3.428	
7,400.0	7,389.0	7,372.7	7,372.4	26.3	132.6	-52.45	585.5	-438.7	535.7	376.8	158.90	3.371	
7,500.0	7,489.0	7,473.0	7,472.7	26.7	134.5	-52.52	584.4	-438.3	534.7	373.5	161.14	3.318	
7,600.0	7,589.0	7,573.4	7,573.0	27.0	136.4	-52.59	583.1	-437.8	533.6	370.2	163.39	3.266	
7,700.0	7,689.0	7,673.7	7,673.3	27.4	138.3	-52.67	581.8	-437.3	532.4	366.8	165.63	3.215	
7,800.0	7,789.0	7,772.4	7,772.0	27.7	140.2	-52.74	580.7	-436.9	531.4	363.5	167.87	3.165	
7,900.0	7,889.0	7,871.4	7,871.1	28.1	142.0	-52.80	579.7	-436.6	530.5	360.4	170.11	3.119	
8,000.0	7,989.0	7,972.4	7,972.1	28.5	144.0	-52.86	578.8	-436.2	529.7	357.3	172.40	3.072	
8,100.0	8,089.0	8,073.9	8,073.5	28.8	145.9	-52.94	577.5	-435.8	528.6	353.9	174.70	3.026	
8,200.0	8,189.0	8,173.9	8,173.5	29.2	147.9	-53.03	576.1	-435.3	527.3	350.3	176.99	2.979	
8,300.0	8,289.0	8,273.3	8,272.9	29.5	149.8	-53.11	574.8	-434.8	526.1	346.9	179.28	2.935	
8,400.0	8,389.0	8,372.7	8,372.3	29.9	151.7	-53.19	573.6	-434.3	525.1	343.5	181.57	2.892	
8,500.0	8,489.0	8,480.0	8,471.6	30.2	154.0	-53.25	572.6	-434.0	524.1	339.9	184.20	2.845	
8,600.0	8,589.0	8,572.0	8,571.6	30.6	155.5	-53.32	571.6	-433.6	523.3	337.2	186.11	2.812	
8,700.0	8,689.0	8,672.0	8,671.6	31.0	157.4	-53.38	570.6	-433.2	522.4	334.0	188.35	2.774	
8,800.0	8,789.0	8,772.3	8,771.8	31.3	159.4	-53.44	569.6	-432.9	521.5	330.8	190.65	2.735	
8,900.0	8,889.0	8,872.6	8,872.1	31.7	161.3	-53.51	568.5	-432.5	520.5	327.6	192.96	2.698	
9,000.0	8,989.0	8,972.9	8,972.4	32.0	163.3	-53.59	567.4	-432.1	519.5	324.2	195.27	2.661	
9,100.0	9,089.0	9,073.1	9,072.7	32.4	165.2	-53.67	566.1	-431.6	518.4	320.9	197.57	2.624	
9,200.0	9,189.0	9,173.4	9,173.0	32.7	167.2	-53.75	564.9	-431.2	517.3	317.4	199.88	2.588	
9,300.0	9,289.0	9,273.7	9,273.2	33.1	169.1	-53.84	563.5	-430.7	516.1	314.0	202.18	2.553	
9,400.0	9,389.0	9,374.0	9,373.5	33.5	171.1	-53.93	562.1	-430.2	514.9	310.4	204.49	2.518	
9,500.0	9,489.0	9,474.3	9,473.8	33.8	173.0	-54.03	560.7	-429.6	513.6	306.8	206.80	2.484	
9,600.0	9,589.0	9,574.7	9,574.2	34.2	175.1	-54.12	559.3	-429.1	512.4	303.2	209.21	2.449	
9,700.0	9,689.0	9,677.6	9,677.0	34.5	177.2	-54.25	557.3	-428.4	510.7	299.0	211.69	2.412	
9,800.0	9,789.0	9,778.1	9,777.6	34.9	179.4	-54.41	554.9	-427.5	508.6	294.3	214.26	2.374	
9,900.0	9,889.0	9,876.3	9,875.7	35.3	181.6	-54.56	552.8	-426.8	506.7	290.0	216.75	2.338	
10,000.0	9,989.0	9,975.0	9,974.4	35.6	183.7	-54.68	551.0	-426.1	505.2	285.9	219.23	2.304	

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

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #503H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3777.0usft
Reference Site:	Fruit Loop 29 State	MD Reference:	KB = 25' @ 3777.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Fruit Loop 29 State - Wool Head 20 State #3 - OH - OH													Offset Site Error:	0.0 usft
Survey Program: 173-Inclinometer only													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				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)	Minimum Separation (usft)	Separation Factor		
10,100.0	10,089.0	10,075.8	10,075.2	38.0	185.8	-54.80	549.2	-425.5	503.6	281.9	221.70	2.272		
10,200.0	10,189.0	10,176.3	10,175.6	38.3	187.9	-54.94	547.3	-424.8	501.9	277.7	224.19	2.239		
10,300.0	10,289.0	10,276.2	10,275.6	38.7	190.1	-55.07	545.3	-424.1	500.2	273.5	226.69	2.206		
10,394.0	10,383.0	10,369.0	10,368.3	37.0	192.0	-55.19	543.6	-423.4	498.7	269.8	228.92	2.178		
10,400.0	10,389.0	10,374.9	10,374.2	37.0	192.1	125.28	543.5	-423.4	498.8	269.6	229.08	2.177		
10,408.2	10,397.2	10,383.0	10,382.3	37.1	192.2	125.28	543.4	-423.3	498.8	269.3	229.25	2.175 CC		
10,450.0	10,438.9	10,424.1	10,423.4	37.2	193.1	125.40	542.7	-423.1	499.5	269.3	230.21	2.170 ES, SF		
10,500.0	10,488.4	10,472.9	10,472.2	37.4	194.0	125.71	542.0	-422.9	503.0	271.7	231.34	2.174		
10,550.0	10,537.1	10,521.0	10,520.3	37.5	195.0	126.17	541.5	-422.6	509.2	276.8	232.46	2.191		
10,600.0	10,584.6	10,567.9	10,567.2	37.6	195.9	126.72	541.0	-422.5	518.3	284.7	233.55	2.219		
10,650.0	10,630.6	10,613.3	10,612.6	37.8	196.8	127.31	540.6	-422.3	530.3	295.7	234.60	2.260		
10,700.0	10,674.7	10,657.7	10,657.0	37.9	197.7	127.89	540.2	-422.2	545.4	309.8	235.58	2.315		
10,750.0	10,716.5	10,700.0	10,699.3	38.0	198.5	128.34	539.8	-422.0	563.6	327.2	236.47	2.384		
10,800.0	10,755.9	10,739.9	10,739.1	38.2	199.2	128.59	539.4	-421.9	585.1	347.8	237.32	2.465		
10,850.0	10,792.4	10,776.9	10,776.2	38.3	199.9	128.53	539.1	-421.8	609.9	371.7	238.11	2.561		
10,900.0	10,825.7	10,811.0	10,810.3	38.4	200.6	128.08	538.8	-421.7	637.8	398.9	238.88	2.670		
10,950.0	10,855.8	10,842.4	10,841.6	38.5	201.2	127.15	538.4	-421.5	668.8	429.2	239.59	2.791		
11,000.0	10,882.2	10,870.1	10,869.4	38.6	201.8	125.68	538.1	-421.4	702.7	462.5	240.22	2.925		
11,050.0	10,904.8	10,894.1	10,893.3	38.7	202.3	123.20	537.8	-421.3	739.2	498.5	240.77	3.070		
11,100.0	10,923.4	10,914.0	10,913.3	38.8	202.7	119.80	537.5	-421.2	778.2	537.0	241.22	3.226		
11,150.0	10,938.0	10,929.8	10,929.1	38.9	203.0	115.12	537.2	-421.1	819.2	577.6	241.57	3.391		
11,200.0	10,948.3	10,941.3	10,940.6	38.9	203.3	108.88	537.1	-421.0	861.8	620.0	241.83	3.564		
11,250.0	10,954.3	10,948.4	10,947.7	39.0	203.4	100.85	536.9	-421.0	905.8	663.9	241.88	3.743		
11,283.7	10,955.9	10,950.7	10,949.9	39.0	203.5	94.41	536.9	-421.0	936.1	694.0	242.03	3.867		
11,300.0	10,956.2	10,951.2	10,950.5	39.1	203.5	94.49	536.9	-421.0	950.8	708.7	242.05	3.928		

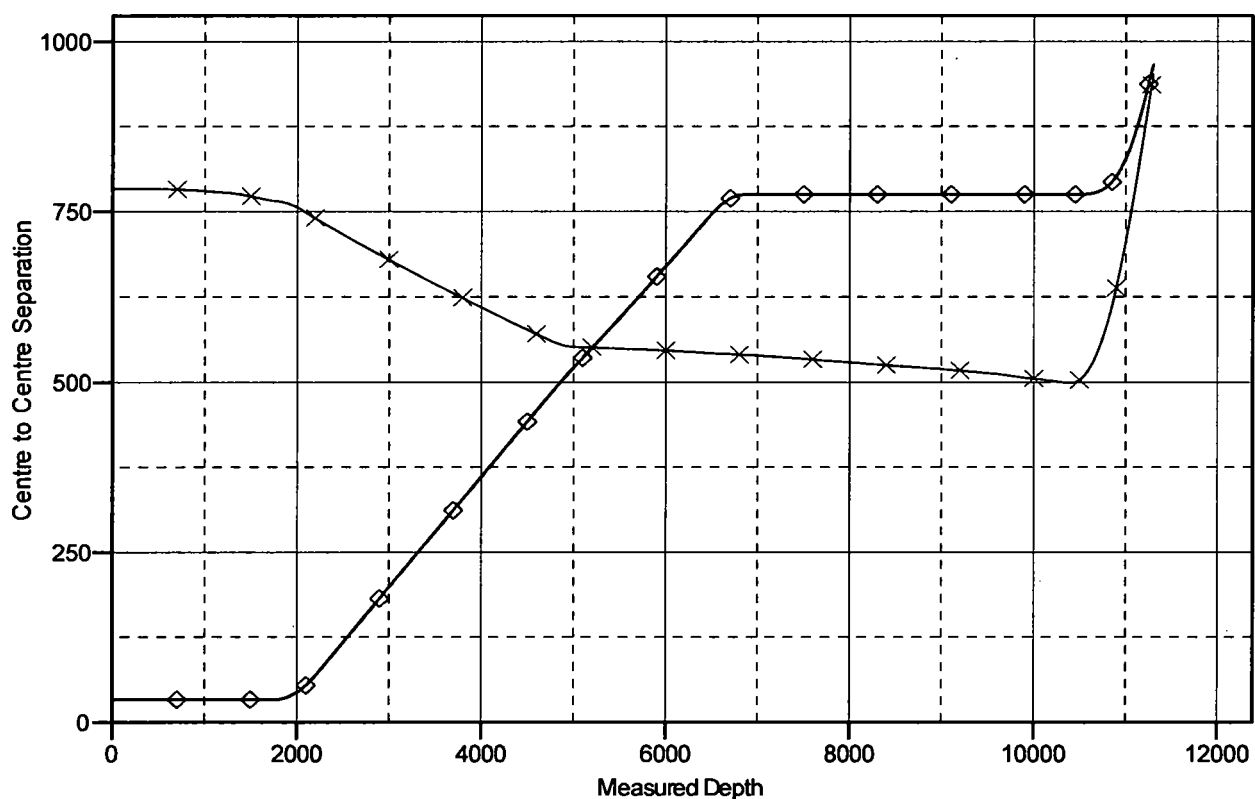
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Reference Site: Fruit Loop 29 State
Site Error: 0.0 usft
Reference Well: #503H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #503H
TVD Reference: KB = 25' @ 3777.0usft
MD Reference: KB = 25' @ 3777.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.14
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB = 25' @ 3777.0usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: #503H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.39°

Ladder Plot



LEGEND

Wood Head 20 State #3, OH, CH1V0
 #503H, CH, Plan #1 V0

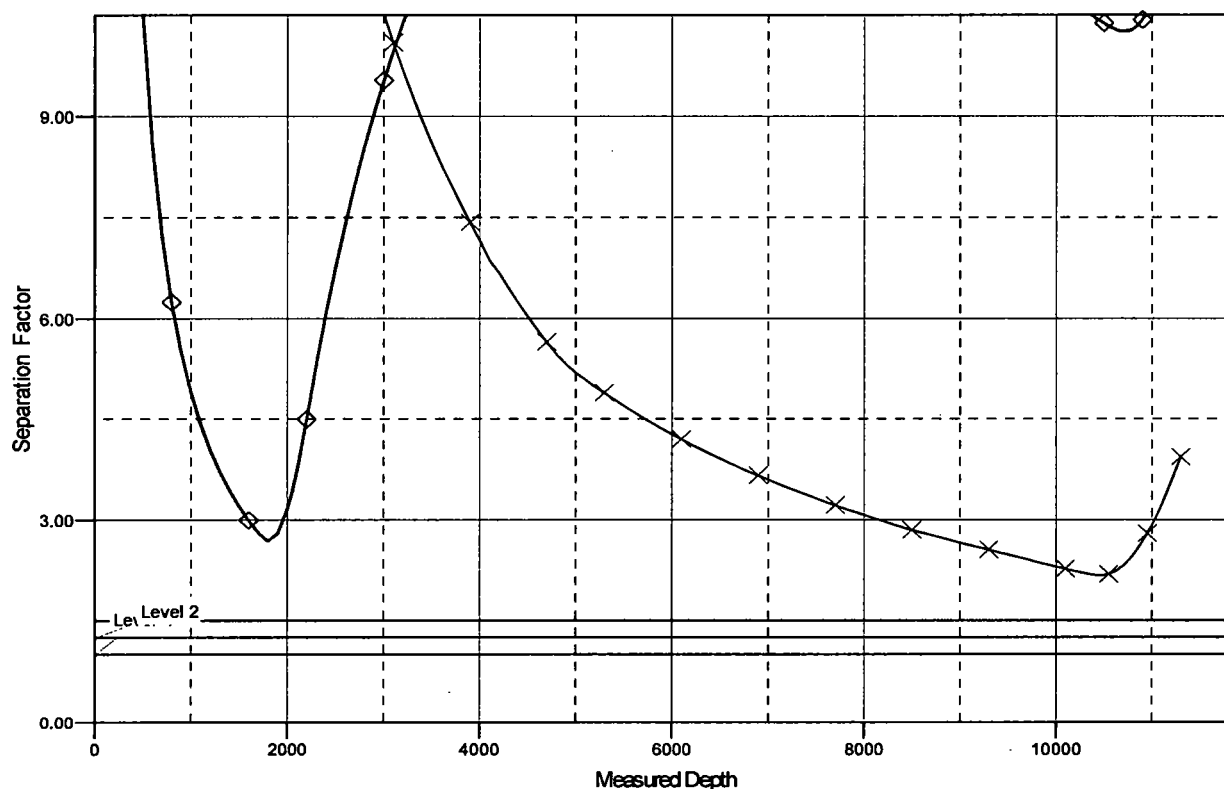
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Reference Site: Fruit Loop 29 State
Site Error: 0.0 usft
Reference Well: #503H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #503H
TVD Reference: KB = 25' @ 3777.0usft
MD Reference: KB = 25' @ 3777.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.14
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB = 25' @ 3777.0usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: #503H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.39°

Separation Factor Plot



LEGEND

Wood Head 20 State #3, OH, CH1V0
 #503H, OH, Plan #1 V0



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Fruit Loop 29 State

#503H

74030

OH

Plan: Plan #1

Standard Planning Report

19 August, 2019



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #503H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3777.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3777.0usft
Site:	Fruit Loop 29 State	North Reference:	Grid
Well:	#503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Fruit Loop 29 State				
Site Position:		Northing:	530,503.00 usft	Latitude:	32° 27' 22.624 N
From:	Map	Easting:	767,378.00 usft	Longitude:	103° 36' 1.794 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39

Well	#503H					
Well Position	+N/-S	0.0 usft	Northing:	530,503.00 usft	Latitude:	32° 27' 22.626 N
	+E/-W	-33.0 usft	Easting:	767,345.00 usft	Longitude:	103° 36' 2.180 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,752.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/15/2018	6.91	60.26	48,001.92544319

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.67

Plan Survey Tool Program	Date	8/19/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	15,840.4 Plan #1 (OH)	EOG MWD+IFR1	
			MWD + IFR1	



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #503H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3777.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3777.0usft
Site:	Fruit Loop 29 State	North Reference:	Grid
Well:	#503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,050.0	5.00	356.91	2,049.7	10.9	-0.6	2.00	2.00	0.00	356.91	
4,776.0	5.00	356.91	4,765.3	248.1	-13.4	0.00	0.00	0.00	0.00	
5,026.0	0.00	0.01	5,015.0	259.0	-14.0	2.00	-2.00	0.00	180.00	
10,394.0	0.00	0.01	10,383.0	259.0	-14.0	0.00	0.00	0.00	0.00	KOP (Fruit Loop 29 S
11,283.7	88.97	179.53	10,955.9	-303.6	-9.4	10.00	10.00	20.18	179.53	
11,792.2	88.97	179.53	10,965.0	-812.0	-5.2	0.00	0.00	0.00	0.00	TGT 1 (Fruit Loop 29
11,819.3	89.51	179.53	10,965.4	-839.1	-5.0	2.00	2.00	0.00	0.00	
12,952.2	89.51	179.53	10,975.0	-1,972.0	4.3	0.00	0.00	0.00	0.00	TGT 2 (Fruit Loop 29
12,953.1	89.50	179.53	10,975.0	-1,972.8	4.3	2.00	-2.00	0.00	-180.00	
14,088.3	89.50	179.53	10,985.0	-3,108.0	13.6	0.00	0.00	0.00	0.00	TGT 3 (Fruit Loop 29
14,090.1	89.53	179.53	10,985.0	-3,109.8	13.6	2.00	2.00	0.00	0.00	
15,310.3	89.53	179.53	10,995.0	-4,329.9	23.7	0.00	0.00	0.00	0.00	TGT 4 (Fruit Loop 29
15,317.6	89.68	179.53	10,995.1	-4,337.2	23.7	2.00	2.00	0.00	0.00	
15,840.4	89.68	179.53	10,998.0	-4,860.0	28.0	0.00	0.00	0.00	0.00	PBHL (Fruit Loop 29 S

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #503H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3777.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3777.0usft
Site:	Fruit Loop 29 State	North Reference:	Grid
Well:	#503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,594.0	0.00	0.00	1,594.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,681.0	0.00	0.00	1,681.0	0.0	0.0	0.0	0.00	0.00	0.00
Tamarisk Anhydrite									
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	2.00	356.91	1,900.0	1.7	-0.1	-1.7	2.00	2.00	0.00
2,000.0	4.00	356.91	1,999.8	7.0	-0.4	-7.0	2.00	2.00	0.00
2,007.2	4.14	356.91	2,007.0	7.5	-0.4	-7.5	2.00	2.00	0.00
Top of Salt									
2,050.0	5.00	356.91	2,049.7	10.9	-0.6	-10.9	2.00	2.00	0.00
2,100.0	5.00	356.91	2,099.5	15.2	-0.8	-15.2	0.00	0.00	0.00
2,200.0	5.00	356.91	2,199.1	23.9	-1.3	-23.9	0.00	0.00	0.00
2,300.0	5.00	356.91	2,298.7	32.6	-1.8	-32.7	0.00	0.00	0.00
2,400.0	5.00	356.91	2,398.4	41.3	-2.2	-41.4	0.00	0.00	0.00
2,500.0	5.00	356.91	2,498.0	50.0	-2.7	-50.1	0.00	0.00	0.00
2,600.0	5.00	356.91	2,597.6	58.7	-3.2	-58.8	0.00	0.00	0.00
2,700.0	5.00	356.91	2,697.2	67.5	-3.6	-67.5	0.00	0.00	0.00
2,800.0	5.00	356.91	2,796.8	76.2	-4.1	-76.2	0.00	0.00	0.00
2,900.0	5.00	356.91	2,896.4	84.9	-4.6	-84.9	0.00	0.00	0.00
3,000.0	5.00	356.91	2,996.1	93.6	-5.1	-93.6	0.00	0.00	0.00
3,100.0	5.00	356.91	3,095.7	102.3	-5.5	-102.3	0.00	0.00	0.00
3,200.0	5.00	356.91	3,195.3	111.0	-6.0	-111.0	0.00	0.00	0.00
3,300.0	5.00	356.91	3,294.9	119.7	-6.5	-119.7	0.00	0.00	0.00
3,400.0	5.00	356.91	3,394.5	128.4	-6.9	-128.4	0.00	0.00	0.00
3,500.0	5.00	356.91	3,494.2	137.1	-7.4	-137.1	0.00	0.00	0.00
3,600.0	5.00	356.91	3,593.8	145.8	-7.9	-145.8	0.00	0.00	0.00
3,700.0	5.00	356.91	3,693.4	154.5	-8.4	-154.5	0.00	0.00	0.00
3,800.0	5.00	356.91	3,793.0	163.2	-8.8	-163.2	0.00	0.00	0.00
3,900.0	5.00	356.91	3,892.6	171.9	-9.3	-171.9	0.00	0.00	0.00
4,000.0	5.00	356.91	3,992.3	180.6	-9.8	-180.6	0.00	0.00	0.00
4,100.0	5.00	356.91	4,091.9	189.3	-10.2	-189.3	0.00	0.00	0.00
4,160.3	5.00	356.91	4,152.0	194.5	-10.5	-194.6	0.00	0.00	0.00
Capitan									
4,200.0	5.00	356.91	4,191.5	198.0	-10.7	-198.0	0.00	0.00	0.00
4,300.0	5.00	356.91	4,291.1	206.7	-11.2	-206.8	0.00	0.00	0.00
4,400.0	5.00	356.91	4,390.7	215.4	-11.6	-215.5	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Fruit Loop 29 State
Well: #503H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #503H
TVD Reference: KB = 25' @ 3777.0usft
MD Reference: KB = 25' @ 3777.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.0	5.00	356.91	4,490.4	224.1	-12.1	-224.2	0.00	0.00	0.00
4,600.0	5.00	356.91	4,590.0	232.8	-12.6	-232.9	0.00	0.00	0.00
4,700.0	5.00	356.91	4,689.6	241.5	-13.1	-241.6	0.00	0.00	0.00
4,776.0	5.00	356.91	4,765.3	248.1	-13.4	-248.2	0.00	0.00	0.00
4,800.0	4.52	356.91	4,789.2	250.1	-13.5	-250.2	2.00	-2.00	0.00
4,900.0	2.52	356.91	4,889.0	256.2	-13.9	-256.3	2.00	-2.00	0.00
5,000.0	0.52	356.91	4,989.0	258.9	-14.0	-259.0	2.00	-2.00	0.00
5,026.0	0.00	0.01	5,015.0	259.0	-14.0	-259.1	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,089.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,189.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,259.0	0.00	0.00	5,248.0	259.0	-14.0	-259.1	0.00	0.00	0.00
Bell Canyon									
5,300.0	0.00	0.00	5,289.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,389.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,500.0	0.00	0.00	5,489.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,589.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,689.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,789.0	259.0	-14.0	-259.1	0.00	0.00	0.00
5,828.0	0.00	0.00	5,817.0	259.0	-14.0	-259.1	0.00	0.00	0.00
Cherry Canyon									
5,900.0	0.00	0.00	5,889.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,989.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,100.0	0.00	0.00	6,089.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,189.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,300.0	0.00	0.00	6,289.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,389.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,500.0	0.00	0.00	6,489.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,589.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,700.0	0.00	0.00	6,689.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,789.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,900.0	0.00	0.00	6,889.0	259.0	-14.0	-259.1	0.00	0.00	0.00
6,926.0	0.00	0.00	6,915.0	259.0	-14.0	-259.1	0.00	0.00	0.00
Brushy Canyon									
7,000.0	0.00	0.00	6,989.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,100.0	0.00	0.00	7,089.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,189.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,300.0	0.00	0.00	7,289.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,400.0	0.00	0.00	7,389.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,500.0	0.00	0.00	7,489.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,600.0	0.00	0.00	7,589.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,700.0	0.00	0.00	7,689.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,800.0	0.00	0.00	7,789.0	259.0	-14.0	-259.1	0.00	0.00	0.00
7,900.0	0.00	0.00	7,889.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,000.0	0.00	0.00	7,989.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,100.0	0.00	0.00	8,089.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,200.0	0.00	0.00	8,189.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,300.0	0.00	0.00	8,289.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,400.0	0.00	0.00	8,389.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,500.0	0.00	0.00	8,489.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,600.0	0.00	0.00	8,589.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,700.0	0.00	0.00	8,689.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,800.0	0.00	0.00	8,789.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,808.0	0.00	0.00	8,797.0	259.0	-14.0	-259.1	0.00	0.00	0.00

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Fruit Loop 29 State
Well: #503H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #503H
TVD Reference: KB = 25' @ 3777.0usft
MD Reference: KB = 25' @ 3777.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Bone Spring Lime									
8,900.0	0.00	0.00	8,889.0	259.0	-14.0	-259.1	0.00	0.00	0.00
8,972.0	0.00	0.00	8,961.0	259.0	-14.0	-259.1	0.00	0.00	0.00
Leonard A									
9,000.0	0.00	0.00	8,989.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,100.0	0.00	0.00	9,089.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,200.0	0.00	0.00	9,189.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,300.0	0.00	0.00	9,289.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,312.0	0.00	0.00	9,301.0	259.0	-14.0	-259.1	0.00	0.00	0.00
Leonard B									
9,400.0	0.00	0.00	9,389.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,500.0	0.00	0.00	9,489.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,600.0	0.00	0.00	9,589.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,700.0	0.00	0.00	9,689.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,800.0	0.00	0.00	9,789.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,900.0	0.00	0.00	9,889.0	259.0	-14.0	-259.1	0.00	0.00	0.00
9,953.9	0.00	0.00	9,942.9	259.0	-14.0	-259.1	0.00	0.00	0.00
First Bone Spring Sand									
10,000.0	0.00	0.00	9,989.0	259.0	-14.0	-259.1	0.00	0.00	0.00
10,100.0	0.00	0.00	10,089.0	259.0	-14.0	-259.1	0.00	0.00	0.00
10,200.0	0.00	0.00	10,189.0	259.0	-14.0	-259.1	0.00	0.00	0.00
10,214.9	0.00	0.00	10,203.9	259.0	-14.0	-259.1	0.00	0.00	0.00
SBSG Shale									
10,300.0	0.00	0.00	10,289.0	259.0	-14.0	-259.1	0.00	0.00	0.00
10,394.0	0.00	0.01	10,383.0	259.0	-14.0	-259.1	0.00	0.00	0.00
10,400.0	0.60	179.53	10,389.0	259.0	-14.0	-259.0	10.00	10.00	0.00
10,450.0	5.80	179.53	10,438.9	256.3	-14.0	-258.3	10.00	10.00	0.00
10,500.0	10.60	179.53	10,488.4	249.2	-13.9	-249.3	10.00	10.00	0.00
10,537.5	14.35	179.53	10,525.0	241.1	-13.9	-241.2	10.00	10.00	0.00
SBSG Sand									
10,550.0	15.60	179.53	10,537.1	237.9	-13.8	-238.0	10.00	10.00	0.00
10,600.0	20.80	179.53	10,584.8	222.4	-13.7	-222.4	10.00	10.00	0.00
10,635.4	24.14	179.53	10,617.3	208.9	-13.6	-209.0	10.00	10.00	0.00
SBSG SD "B"									
10,650.0	25.60	179.53	10,630.6	202.8	-13.5	-202.8	10.00	10.00	0.00
10,700.0	30.60	179.53	10,674.7	179.2	-13.3	-179.3	10.00	10.00	0.00
10,750.0	35.60	179.53	10,716.5	151.9	-13.1	-152.0	10.00	10.00	0.00
10,800.0	40.60	179.53	10,755.9	121.1	-12.9	-121.2	10.00	10.00	0.00
10,850.0	45.60	179.53	10,792.4	86.9	-12.6	-87.0	10.00	10.00	0.00
10,900.0	50.60	179.53	10,825.7	49.7	-12.3	-49.8	10.00	10.00	0.00
10,950.0	55.60	179.53	10,855.8	9.8	-12.0	-9.8	10.00	10.00	0.00
11,000.0	60.60	179.53	10,882.2	-32.7	-11.6	32.6	10.00	10.00	0.00
11,050.0	65.60	179.53	10,904.8	-77.2	-11.2	77.2	10.00	10.00	0.00
11,100.0	70.60	179.53	10,923.4	-123.6	-10.9	123.6	10.00	10.00	0.00
11,125.0	73.10	179.53	10,931.2	-147.4	-10.7	147.3	10.00	10.00	0.00
SBSG SD "D2"									
11,136.0	74.19	179.53	10,934.3	-157.9	-10.6	157.8	10.00	10.00	0.00
SBSG D2 TOW									
11,150.0	75.60	179.53	10,938.0	-171.4	-10.5	171.4	10.00	10.00	0.00
11,200.0	80.60	179.53	10,948.3	-220.4	-10.1	220.3	10.00	10.00	0.00
11,250.0	85.60	179.53	10,954.3	-270.0	-9.7	269.9	10.00	10.00	0.00
11,283.7	88.97	179.53	10,955.9	-303.6	-9.4	303.6	10.00	10.00	0.00
11,300.0	88.97	179.53	10,956.2	-319.9	-9.3	319.9	0.00	0.00	0.00

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #503H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3777.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3777.0usft
Site:	Fruit Loop 29 State	North Reference:	Grid
Well:	#503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,400.0	88.97	179.53	10,958.0	-419.9	-8.4	419.9	0.00	0.00	0.00
11,500.0	88.97	179.53	10,959.8	-519.9	-7.6	519.8	0.00	0.00	0.00
11,600.0	88.97	179.53	10,961.5	-619.9	-6.8	619.8	0.00	0.00	0.00
11,700.0	88.97	179.53	10,963.3	-719.9	-6.0	719.8	0.00	0.00	0.00
11,792.2	88.97	179.53	10,965.0	-812.0	-5.2	812.0	0.00	0.00	0.00
11,800.0	89.13	179.53	10,965.1	-819.8	-5.1	819.8	2.00	2.00	0.00
11,819.3	89.51	179.53	10,965.4	-839.1	-5.0	839.0	2.00	2.00	0.00
11,900.0	89.51	179.53	10,966.0	-919.8	-4.3	919.8	0.00	0.00	0.00
12,000.0	89.51	179.53	10,966.9	-1,019.8	-3.5	1,019.8	0.00	0.00	0.00
12,100.0	89.51	179.53	10,967.7	-1,119.8	-2.7	1,119.8	0.00	0.00	0.00
12,200.0	89.51	179.53	10,968.6	-1,219.8	-1.9	1,219.8	0.00	0.00	0.00
12,300.0	89.51	179.53	10,969.4	-1,319.8	-1.0	1,319.8	0.00	0.00	0.00
12,400.0	89.51	179.53	10,970.3	-1,419.8	-0.2	1,419.8	0.00	0.00	0.00
12,500.0	89.51	179.53	10,971.2	-1,519.8	0.6	1,519.8	0.00	0.00	0.00
12,600.0	89.51	179.53	10,972.0	-1,619.8	1.4	1,619.8	0.00	0.00	0.00
12,700.0	89.51	179.53	10,972.9	-1,719.8	2.2	1,719.8	0.00	0.00	0.00
12,800.0	89.51	179.53	10,973.7	-1,819.8	3.1	1,819.7	0.00	0.00	0.00
12,900.0	89.51	179.53	10,974.6	-1,919.8	3.9	1,919.7	0.00	0.00	0.00
12,952.2	89.51	179.53	10,975.0	-1,972.0	4.3	1,972.0	0.00	0.00	0.00
12,953.1	89.50	179.53	10,975.0	-1,972.8	4.3	1,972.8	2.00	-2.00	0.00
13,000.0	89.50	179.53	10,975.4	-2,019.7	4.7	2,019.7	0.00	0.00	0.00
13,100.0	89.50	179.53	10,976.3	-2,119.7	5.5	2,119.7	0.00	0.00	0.00
13,200.0	89.50	179.53	10,977.2	-2,219.7	6.3	2,219.7	0.00	0.00	0.00
13,300.0	89.50	179.53	10,978.1	-2,319.7	7.2	2,319.7	0.00	0.00	0.00
13,400.0	89.50	179.53	10,978.9	-2,419.7	8.0	2,419.7	0.00	0.00	0.00
13,500.0	89.50	179.53	10,979.8	-2,519.7	8.8	2,519.7	0.00	0.00	0.00
13,600.0	89.50	179.53	10,980.7	-2,619.7	9.6	2,619.7	0.00	0.00	0.00
13,700.0	89.50	179.53	10,981.6	-2,719.7	10.4	2,719.7	0.00	0.00	0.00
13,800.0	89.50	179.53	10,982.5	-2,819.7	11.3	2,819.7	0.00	0.00	0.00
13,900.0	89.50	179.53	10,983.3	-2,919.7	12.1	2,919.7	0.00	0.00	0.00
14,000.0	89.50	179.53	10,984.2	-3,019.7	12.9	3,019.7	0.00	0.00	0.00
14,088.3	89.50	179.53	10,985.0	-3,108.0	13.6	3,108.0	0.00	0.00	0.00
14,090.1	89.53	179.53	10,985.0	-3,109.8	13.6	3,109.8	2.00	2.00	0.00
14,100.0	89.53	179.53	10,985.1	-3,119.7	13.7	3,119.7	0.00	0.00	0.00
14,200.0	89.53	179.53	10,985.9	-3,219.7	14.5	3,219.7	0.00	0.00	0.00
14,300.0	89.53	179.53	10,986.7	-3,319.7	15.4	3,319.7	0.00	0.00	0.00
14,400.0	89.53	179.53	10,987.6	-3,419.6	16.2	3,419.7	0.00	0.00	0.00
14,500.0	89.53	179.53	10,988.4	-3,519.6	17.0	3,519.7	0.00	0.00	0.00
14,600.0	89.53	179.53	10,989.2	-3,619.6	17.8	3,619.7	0.00	0.00	0.00
14,700.0	89.53	179.53	10,990.0	-3,719.6	18.6	3,719.7	0.00	0.00	0.00
14,800.0	89.53	179.53	10,990.8	-3,819.6	19.5	3,819.7	0.00	0.00	0.00
14,900.0	89.53	179.53	10,991.6	-3,919.6	20.3	3,919.7	0.00	0.00	0.00
15,000.0	89.53	179.53	10,992.5	-4,019.6	21.1	4,019.7	0.00	0.00	0.00
15,100.0	89.53	179.53	10,993.3	-4,119.6	21.9	4,119.7	0.00	0.00	0.00
15,200.0	89.53	179.53	10,994.1	-4,219.6	22.7	4,219.7	0.00	0.00	0.00
15,300.0	89.53	179.53	10,994.9	-4,319.6	23.6	4,319.7	0.00	0.00	0.00
15,310.3	89.53	179.53	10,995.0	-4,329.9	23.7	4,330.0	0.00	0.00	0.00
15,317.6	89.68	179.53	10,995.1	-4,337.2	23.7	4,337.2	2.00	2.00	0.00
15,400.0	89.68	179.53	10,995.5	-4,419.6	24.4	4,419.6	0.00	0.00	0.00
15,500.0	89.68	179.53	10,996.1	-4,519.6	25.2	4,519.6	0.00	0.00	0.00
15,600.0	89.68	179.53	10,996.6	-4,619.6	26.0	4,619.6	0.00	0.00	0.00
15,700.0	89.68	179.53	10,997.2	-4,719.6	26.8	4,719.6	0.00	0.00	0.00
15,800.0	89.68	179.53	10,997.8	-4,819.6	27.7	4,819.6	0.00	0.00	0.00
15,840.4	89.68	179.53	10,998.0	-4,860.0	28.0	4,860.1	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #503H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3777.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3777.0usft
Site:	Fruit Loop 29 State	North Reference:	Grid
Well:	#503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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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
KOP (Fruit Loop 29 State - plan hits target center - Rectangle (sides W80.0 H80.0 D0.0))	0.00	179.53	10,383.0	259.0	-14.0	530,762.00	767,331.00	32° 27' 25.190 N	103° 36' 2.322 W
FTP (Fruit Loop 29 State - plan misses target center by 202.8usft at 10868.4usft MD (10805.0 TVD, 73.6 N, -12.5 E) - Point	0.00	0.00	10,956.0	209.0	-14.0	530,712.00	767,331.00	32° 27' 24.695 N	103° 36' 2.326 W
TGT 1 (Fruit Loop 29 State - plan hits target center - Point	0.00	0.00	10,965.0	-812.0	-5.2	529,691.00	767,339.78	32° 27' 14.592 N	103° 36' 2.305 W
TGT 2 (Fruit Loop 29 State - plan hits target center - Point	0.00	0.01	10,975.0	-1,972.0	4.3	528,531.00	767,349.30	32° 27' 3.113 N	103° 36' 2.287 W
TGT 3 (Fruit Loop 29 State - plan hits target center - Point	0.00	0.00	10,985.0	-3,108.0	13.6	527,395.00	767,358.62	32° 26' 51.872 N	103° 36' 2.269 W
TGT 4 (Fruit Loop 29 State - plan hits target center - Point	0.00	0.00	10,995.0	-4,329.9	23.7	526,173.10	767,368.65	32° 26' 39.780 N	103° 36' 2.250 W
PBHL (Fruit Loop 29 State - plan hits target center - Rectangle (sides W60.0 H0.0 D5,064.0))	90.53	179.53	10,998.0	-4,860.0	28.0	525,643.00	767,373.00	32° 26' 34.535 N	103° 36' 2.242 W



Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #503H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3777.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3777.0usft
Site:	Fruit Loop 29 State	North Reference:	Grid
Well:	#503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,594.0	1,594.0	Rustler				
1,681.0	1,681.0	Tamarisk Anhydrite				
2,007.2	2,007.0	Top of Salt				
4,160.3	4,152.0	Capitan				
5,259.0	5,248.0	Bell Canyon				
5,828.0	5,817.0	Cherry Canyon				
6,926.0	6,915.0	Brushy Canyon				
8,808.0	8,797.0	Bone Spring Lime				
8,972.0	8,961.0	Leonard A				
9,312.0	9,301.0	Leonard B				
9,953.9	9,942.9	First Bone Spring Sand		-0.47		
10,214.9	10,203.9	SBSG Shale		-0.47		
10,537.5	10,525.0	SBSG Sand		-0.47		
10,635.4	10,617.3	SBSG SD "B"		-0.47		
11,125.0	10,931.2	SBSG SD "D2"		-0.47		
11,136.0	10,934.3	SBSG D2 TOW		-0.47		



Lea County, NM (NAD 83 NME)

Fruit Loop 29 State #503H

Plan #1

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #503H

KB = 25' @ 3777.0 surf
Northing 630503.00 Easting 767345.00 Latitude 32° 27' 22.625 N Longitude 102° 38' 2.180 W

To convert a Magnetic Direction to a Grid Direction, Add 6.52°
To convert a Magnetic Direction to a True Direction, Add 6.81° East
To convert a True Direction to a Grid Direction, Subtract 0.30°

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0	
3	2050.0	5.00	356.91	2049.7	10.9	-0.6	2.00	356.91	-10.9	
4	4776.0	5.00	356.91	4765.3	248.1	-13.4	0.00	0.00	-248.2	
5	5028.0	0.00	0.00	5015.0	259.0	-14.0	2.00	180.00	-259.1	KOP (Fruit Loop 29 State #503H)
6	10394.0	0.00	0.00	10383.0	259.0	-14.0	0.00	0.00	-259.1	
7	11283.7	88.97	179.53	10955.9	-303.6	-9.4	10.00	179.53	303.6	TGT 1 (Fruit Loop 29 State #503H)
8	11792.2	88.97	179.53	10965.0	-912.0	-5.2	0.00	0.00	812.0	
9	11819.3	89.51	179.53	10965.4	-939.1	-5.0	2.00	0.00	839.0	
10	12952.2	89.51	179.53	10975.0	-1972.0	4.3	0.00	0.00	1972.0	TGT 2 (Fruit Loop 29 State #503H)
11	12953.1	89.50	179.53	10975.0	-1972.8	4.3	2.00	-180.00	1972.8	
12	14088.3	89.50	179.53	10985.0	-3108.0	13.6	0.00	0.00	3108.0	TGT 3 (Fruit Loop 29 State #503H)
13	14090.1	89.53	179.53	10985.0	-3109.8	13.6	2.00	0.00	3109.8	
14	15310.3	89.53	179.53	10995.0	-4329.9	23.7	0.00	0.00	4330.0	TGT 4 (Fruit Loop 29 State #503H)
15	15317.6	89.68	179.53	10995.1	-4337.2	23.7	2.00	0.00	4337.2	
16	15840.4	89.68	179.53	10998.0	-4860.0	28.0	0.00	0.00	4860.1	PBHL (Fruit Loop 29 State #503H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP (Fruit Loop 29 State #503H)	10383.0	259.0	-14.0	630762.00	767331.00
TGT 1 (Fruit Loop 29 State #503H)	10965.0	-912.0	-5.2	628691.00	767333.79
TGT 2 (Fruit Loop 29 State #503H)	10975.0	-1972.0	4.3	628531.00	767348.30
TGT 3 (Fruit Loop 29 State #503H)	10985.0	-3108.0	13.6	627995.00	767358.83
TGT 4 (Fruit Loop 29 State #503H)	10995.0	-4329.9	23.7	626173.10	767368.68
PBHL (Fruit Loop 29 State #503H)	10998.0	-4860.0	28.0	625843.00	767373.00
FTP (Fruit Loop 29 State #503H)	10958.0	209.0	-14.0	630712.00	767321.00

