



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Hunter 21 State

#601H

OH

Design: OH

PVA Report

21 March, 2018

HOBBS OCD
MAY 11 2018
RECEIVED



PVA Report

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Hunter 21 State Corn Well: #601H Wellbore: OH Design: OH		Local Co-ordinate Reference: Well #601H TVD Reference: Kb = 25 @ 3435.0usft (HP 473) MD Reference: Kb = 25 @ 3435.0usft (HP 473) North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 5000.14													
Project Lea County, NM (NAD 83 NME)															
Map System: US State Plane 1983 Geo Datum: North American Datum 1983 Map Zone: New Mexico Eastern Zone		System Datum: Mean Sea Level													
Site Hunter 21 State Corn															
Site Position: From: Map Position Uncertainty: 0.0 usft		Northing: 473,030.00 usft Easting: 836,252.00 usft Slot Radius: 13-3/16 " Latitude: 32° 17' 48.570 N Longitude: 103° 22' 44.008 W Grid Convergence: 0.51 °													
Well #601H															
Well Position +N/-S 0.0 usft +E/-W 0.0 usft Position Uncertainty 0.0 usft		Northing: 473,030.00 usft Easting: 836,252.00 usft Wellhead Elevation: usft Latitude: 32° 17' 48.570 N Longitude: 103° 22' 44.008 W Ground Level: 3,410.0 usft													
Wellbore OH															
<table border="1"> <thead> <tr> <th>Magnetics</th> <th>Model Name</th> <th>Sample Date</th> <th>Declination (°)</th> <th>Dip Angle (°)</th> <th>Field Strength (nT)</th> </tr> </thead> <tbody> <tr> <td></td> <td>IGRF2015</td> <td>12/12/2017</td> <td>6.82</td> <td>60.15</td> <td>47,951.47013634</td> </tr> </tbody> </table>				Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)		IGRF2015	12/12/2017	6.82	60.15	47,951.47013634
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)										
	IGRF2015	12/12/2017	6.82	60.15	47,951.47013634										
Design OH															
Audit Notes: Version: 1.0 Phase: ACTUAL Tie On Depth:															
<table border="1"> <thead> <tr> <th>Vertical Section:</th> <th>Depth From (TVD) (usft)</th> <th>+N/-S (usft)</th> <th>+E/-W (usft)</th> <th>Direction (°)</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>183.26</td> </tr> </tbody> </table>				Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)		0.0	0.0	0.0	183.26		
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)											
	0.0	0.0	0.0	183.26											



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Site:	Hunter 21 State Corn	MD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey Program		Date	3/21/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
171.0	1,553.0	Olebrook MWD (OH)	MWD	OWSG MWD - Standard	
1,742.0	16,397.0	Intrepid MWD (OH)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
171.0	1.32	302.71	171.0	1.1	-1.7	0.77	0.77	0.00	-2.0	0.0
294.0	1.85	240.93	293.9	0.9	-4.6	1.37	0.43	-50.23	-3.6	-3.0
387.0	1.14	224.95	386.9	-0.5	-6.6	0.88	-0.76	-17.18	-5.0	-4.3
482.0	0.79	244.35	481.9	-1.5	-7.8	0.50	-0.37	20.42	-7.7	-2.1
576.0	0.70	253.14	575.9	-1.9	-8.9	0.15	-0.10	9.35	-9.1	-0.8
670.0	0.70	257.89	669.9	-2.2	-10.1	0.06	0.00	5.05	-10.3	0.0
765.0	1.14	256.22	764.9	-2.6	-11.5	0.46	0.46	-1.76	-11.8	-0.3
860.0	0.70	275.47	859.9	-2.7	-13.0	0.56	-0.46	20.26	-12.7	4.0
988.0	0.88	274.76	987.8	-2.6	-14.8	0.14	0.14	-0.55	-14.5	3.8
1,113.0	0.44	266.06	1,112.8	-2.5	-16.2	0.36	-0.35	-6.96	-16.4	1.4
1,208.0	1.06	262.46	1,207.8	-2.7	-17.5	0.65	0.65	-3.79	-17.7	0.3
1,303.0	0.44	225.11	1,302.8	-3.0	-18.6	0.80	-0.65	-39.32	-15.3	-11.0
1,397.0	0.44	214.91	1,396.8	-3.6	-19.1	0.08	0.00	-10.85	-13.8	-13.6
1,523.0	0.79	258.59	1,522.8	-4.2	-20.2	0.45	0.28	34.67	-20.6	0.1
1,553.0	0.09	285.75	1,552.8	-4.2	-20.4	2.37	-2.33	90.53	-18.5	9.6
1,742.0	1.00	255.40	1,741.8	-4.6	-22.1	0.49	0.48	-16.06	-22.6	-1.2
1,931.0	1.10	261.70	1,930.8	-5.2	-25.5	0.08	0.05	3.33	-26.0	1.5
2,120.0	1.50	265.20	2,119.7	-5.7	-29.8	0.22	0.21	1.85	-30.2	3.2
2,309.0	1.50	244.00	2,308.7	-7.0	-34.5	0.29	0.00	-11.22	-34.1	-8.8
2,497.0	1.10	232.90	2,496.6	-9.2	-38.1	0.25	-0.21	-5.90	-35.9	-15.7



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Site:	Hunter 21 State Corn	MD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
2,686.0	1.10	246.70	2,685.6	-11.0	-41.3	0.14	0.00	7.30	-42.2	-6.2	
2,875.0	0.40	253.50	2,874.6	-11.9	-43.5	0.37	-0.37	3.60	-45.1	-1.0	
3,064.0	1.00	42.90	3,063.5	-10.9	-43.1	0.72	0.32	79.05	37.3	24.2	
3,253.0	2.30	52.40	3,252.5	-7.3	-38.9	0.70	0.69	5.03	35.3	17.9	
3,443.0	2.00	51.60	3,442.3	-3.0	-33.3	0.16	-0.16	-0.42	27.9	18.4	
3,631.0	2.10	56.80	3,630.2	1.0	-27.9	0.11	0.05	2.77	22.8	16.1	
3,820.0	1.80	140.00	3,819.1	0.6	-23.1	1.37	-0.16	44.02	15.3	-17.3	
4,008.0	1.30	145.90	4,007.1	-3.4	-20.0	0.28	-0.27	3.14	8.3	-18.5	
4,197.0	0.40	167.80	4,196.0	-5.9	-18.6	0.50	-0.48	11.59	-1.8	-19.4	
4,386.0	0.50	180.00	4,385.0	-7.3	-18.5	0.07	0.05	6.46	-7.3	-18.5	
4,574.0	1.30	243.00	4,573.0	-9.1	-20.4	0.62	0.43	33.51	-22.3	-1.1	
4,763.0	3.40	294.70	4,761.9	-7.7	-27.4	1.47	1.11	27.35	-21.6	18.5	
4,951.0	3.30	300.20	4,949.5	-2.7	-37.1	0.18	-0.05	2.93	-26.8	20.6	
5,140.0	6.60	312.40	5,137.8	7.4	-49.8	1.82	1.75	6.46	-22.6	22.1	
5,329.0	7.30	309.80	5,325.4	22.4	-67.1	0.41	0.37	-1.38	-20.1	13.7	
5,512.0	7.30	311.40	5,506.9	37.5	-84.7	0.11	0.00	0.87	-16.3	6.7	
5,700.0	8.20	300.30	5,693.2	52.2	-105.3	0.93	0.48	-5.90	-13.9	-1.4	
5,888.0	7.60	299.40	5,879.5	65.0	-127.7	0.33	-0.32	-0.48	-11.3	-3.9	
6,077.0	6.80	298.50	6,067.0	76.5	-148.4	0.43	-0.42	-0.48	-6.2	-6.0	
6,266.0	6.00	301.70	6,254.8	87.0	-166.7	0.46	-0.42	1.69	0.9	-8.3	
6,455.0	6.70	289.30	6,442.6	95.9	-185.5	0.81	0.37	-6.56	10.6	-7.2	
6,643.0	6.60	285.60	6,629.4	102.4	-206.2	0.23	-0.05	-1.97	17.5	-2.5	
6,832.0	6.90	286.90	6,817.1	108.6	-227.5	0.18	0.16	0.69	23.7	1.5	
7,021.0	6.20	282.90	7,004.8	114.2	-248.4	0.44	-0.37	-2.12	30.1	8.4	
7,210.0	6.20	298.30	7,192.7	121.3	-267.3	0.88	0.00	8.15	38.9	1.3	
7,399.0	5.10	297.40	7,380.8	130.0	-283.7	0.58	-0.58	-0.48	37.9	1.0	
7,588.0	4.70	299.00	7,569.1	137.7	-298.0	0.22	-0.21	0.85	26.8	-0.1	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Site:	Hunter 21 State Com	MD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
7,776.0	4.00	292.90	7,756.6	143.9	-310.7	0.45	-0.37	-3.24	12.5	1.9	
7,965.0	3.00	295.40	7,945.2	148.6	-321.3	0.54	-0.53	1.32	1.0	1.6	
8,153.0	2.70	283.20	8,133.0	151.7	-330.0	0.36	-0.16	-6.49	-8.6	0.8	
8,342.0	2.30	280.10	8,321.8	153.4	-338.1	0.22	-0.21	-1.64	-16.9	0.1	
8,531.0	1.70	286.20	8,510.7	154.9	-344.5	0.34	-0.32	3.23	-23.3	2.3	
8,720.0	1.10	261.40	8,699.6	155.4	-349.0	0.44	-0.32	-13.12	-26.5	-8.9	
8,908.0	1.10	114.50	8,887.6	154.4	-349.2	1.12	0.00	-78.14	26.8	-8.0	
9,097.0	0.90	143.50	9,076.6	152.4	-346.6	0.28	-0.11	15.34	16.5	-19.1	
9,273.0	1.40	155.20	9,252.6	149.4	-344.9	0.31	0.28	6.65	8.7	-21.7	
9,462.0	1.80	99.70	9,441.5	146.8	-341.0	0.81	0.21	-29.37	18.6	-7.0	
9,651.0	2.20	93.10	9,630.4	146.1	-334.5	0.24	0.21	-3.49	12.7	-5.2	
9,839.0	2.30	104.50	9,818.2	144.9	-327.2	0.24	0.05	6.06	4.1	-6.9	
10,027.0	0.80	82.20	10,006.2	144.2	-322.3	0.85	-0.80	-11.86	1.6	-6.2	
10,215.0	0.90	111.00	10,194.1	143.8	-319.6	0.23	0.05	15.32	-4.2	-5.6	
10,403.0	1.20	84.90	10,382.1	143.5	-316.2	0.30	0.16	-13.88	-4.6	-7.5	
10,592.0	1.10	23.60	10,571.1	145.3	-313.5	0.62	-0.05	-32.43	1.6	-9.4	
10,780.0	0.60	263.70	10,759.1	146.8	-313.8	0.79	-0.27	-63.78	7.3	4.5	
10,909.0	0.90	273.50	10,888.1	146.8	-315.5	0.25	0.23	7.60	6.2	3.3	
10,985.0	1.60	170.10	10,964.0	145.8	-315.9	2.64	0.92	-136.05	-5.6	4.7	
11,027.7	5.57	199.93	11,006.6	143.3	-316.5	9.99	9.31	69.90	-5.1	7.2	
KOP(Hunter 21 st com #601H)											
11,032.0	6.00	200.70	11,010.9	142.9	-316.6	9.99	9.82	17.86	-5.4	7.3	
11,080.0	12.00	195.50	11,058.3	135.7	-318.9	12.60	12.50	-10.83	-10.9	5.7	
11,127.0	15.90	184.30	11,103.9	124.6	-320.7	10.06	8.30	-23.83	-15.6	1.9	
11,174.0	19.80	176.70	11,148.7	110.2	-320.7	9.65	8.30	-16.17	-18.0	-0.4	
11,221.0	25.20	175.30	11,192.1	92.3	-319.4	11.54	11.49	-2.98	-19.3	0.3	
11,269.0	28.40	180.10	11,234.9	70.7	-318.6	8.04	6.67	10.00	-19.2	2.4	



PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Hunter 21 State Com
 Well: #601H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #601H
 TVD Reference: Kb = 25 @ 3435.0usft (HP 473)
 MD Reference: Kb = 25 @ 3435.0usft (HP 473)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
11,316.0	25.70	183.30	11,276.8	49.3	-319.2	6.52	-5.74	6.81	-14.4	2.2
11,363.0	25.50	182.90	11,319.2	29.0	-320.3	0.56	-0.43	-0.85	-4.0	0.3
11,394.0	28.20	186.50	11,346.8	15.1	-321.5	10.16	8.71	11.61	4.5	-1.6
11,457.0	31.00	188.00	11,401.6	-15.8	-325.4	4.60	4.44	2.38	24.3	-8.2
11,551.0	34.20	180.50	11,480.8	-66.2	-329.0	5.48	3.40	-7.98	63.1	-11.2
11,582.0	38.80	178.30	11,505.7	-84.6	-328.8	15.43	14.84	-7.10	77.0	-9.6
11,598.0	41.10	177.10	11,518.0	-94.9	-328.4	15.16	14.37	-7.50	83.8	-8.3
11,600.8	41.41	177.13	11,520.1	-96.7	-328.3	11.30	11.27	1.17	85.0	-8.3
FTP(Hunter 21 st com #601H)										
11,645.0	46.40	177.60	11,551.9	-127.4	-326.9	11.30	11.28	1.06	102.9	-7.3
11,654.3	47.96	177.19	11,558.2	-134.2	-326.6	17.07	16.76	-4.43	106.6	-6.7
HL Crossing, MD:11654.3, TVD:11558.2,N/S:-134.2, E/W:-326.6, INC:47.96										
11,676.0	51.60	176.30	11,572.3	-150.7	-325.6	17.07	16.78	-4.09	114.7	-5.2
11,739.0	65.30	174.60	11,605.1	-204.1	-321.3	21.87	21.75	-2.70	133.2	-0.7
11,770.0	72.20	173.00	11,616.4	-232.8	-318.2	22.77	22.26	-5.16	139.1	2.3
11,808.0	79.30	174.90	11,625.7	-269.4	-314.3	19.30	18.68	5.00	143.9	4.5
11,854.0	86.80	177.10	11,631.3	-314.9	-311.1	16.98	16.30	4.78	146.8	6.5
11,886.0	88.50	177.20	11,632.6	-346.8	-309.6	5.32	5.31	0.31	146.7	7.8
11,949.0	89.50	177.20	11,633.7	-409.8	-306.5	1.59	1.59	0.00	145.1	10.3
12,043.0	91.20	177.80	11,633.1	-503.7	-302.4	1.92	1.81	0.64	140.6	13.5
12,138.0	91.70	178.60	11,630.7	-598.6	-299.4	0.99	0.53	0.84	134.2	15.6
12,225.6	91.23	178.51	11,628.5	-686.1	-297.2	0.54	-0.53	-0.11	128.2	17.0
TGT 1(Hunter 21 st com #601H)										
12,232.0	91.20	178.50	11,628.3	-692.5	-297.0	0.54	-0.53	-0.11	127.9	17.1
12,327.0	89.50	178.50	11,627.8	-787.5	-294.5	1.79	-1.79	0.00	124.9	18.7
12,421.0	87.60	178.50	11,630.1	-881.4	-292.1	2.02	-2.02	0.00	125.4	20.3
12,516.0	88.10	178.50	11,633.7	-976.3	-289.6	0.53	0.53	0.00	127.0	22.0



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Site:	Hunter 21 State Com	MD Reference:	Kb = 25 @ 3435.0usft (HP 473)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,610.0	89.20	178.70	11,635.9	-1,070.3	-287.3	1.19	1.17	0.21	127.3	23.4	
12,704.0	90.10	178.80	11,636.5	-1,164.2	-285.2	0.96	0.96	0.11	126.0	24.6	
12,798.0	91.60	178.90	11,635.1	-1,258.2	-283.4	1.60	1.60	0.11	122.7	25.7	
12,893.0	90.90	179.70	11,633.0	-1,353.2	-282.2	1.12	-0.74	0.84	118.7	26.0	
12,975.7	90.02	180.58	11,632.4	-1,435.9	-282.4	1.50	-1.06	1.06	116.3	25.0	
TGT 2(Hunter 21 st com #601H)											
12,987.0	89.90	180.70	11,632.4	-1,447.2	-282.5	1.50	-1.06	1.06	116.1	24.7	
13,081.0	90.60	181.00	11,632.0	-1,541.2	-283.9	0.81	0.74	0.32	113.7	22.5	
13,176.0	89.00	180.40	11,632.3	-1,636.1	-285.1	1.80	-1.68	-0.63	112.0	20.5	
13,271.0	89.60	180.50	11,633.5	-1,731.1	-285.8	0.64	0.63	0.11	111.1	18.9	
13,365.0	91.20	180.70	11,632.8	-1,825.1	-286.8	1.72	1.70	0.21	108.4	17.1	
13,459.0	90.50	180.50	11,631.4	-1,919.1	-287.8	0.77	-0.74	-0.21	105.0	15.3	
13,553.0	90.00	181.10	11,631.0	-2,013.1	-289.1	0.83	-0.53	0.64	102.6	13.1	
13,648.0	88.90	180.80	11,631.9	-2,108.1	-290.7	1.20	-1.16	-0.32	101.5	10.7	
13,742.0	89.70	181.10	11,633.1	-2,202.1	-292.2	0.91	0.85	0.32	100.6	8.3	
13,836.0	89.80	180.30	11,633.5	-2,296.0	-293.4	0.86	0.11	-0.85	99.0	6.4	
13,931.0	90.30	180.00	11,633.4	-2,391.0	-293.6	0.61	0.53	-0.32	96.9	5.3	
14,025.0	89.80	180.80	11,633.3	-2,485.0	-294.3	1.00	-0.53	0.85	94.8	3.8	
14,120.0	90.60	181.30	11,633.0	-2,580.0	-296.0	0.99	0.84	0.53	92.5	1.2	
14,214.0	89.80	181.50	11,632.6	-2,674.0	-298.3	0.88	-0.85	0.21	90.1	-2.0	
14,309.0	89.40	181.40	11,633.3	-2,769.0	-300.7	0.43	-0.42	-0.11	88.8	-5.2	
14,376.9	89.33	181.54	11,634.1	-2,836.8	-302.5	0.24	-0.11	0.21	88.1	-7.6	
TGT 3(Hunter 21 st com #601H)											
14,404.0	89.30	181.60	11,634.4	-2,863.9	-303.2	0.24	-0.11	0.21	87.9	-8.5	
14,498.0	89.50	181.10	11,635.4	-2,957.9	-305.4	0.57	0.21	-0.53	87.2	-11.6	
14,592.0	89.20	180.80	11,636.4	-3,051.9	-307.0	0.45	-0.32	-0.32	86.6	-14.0	
14,687.0	88.10	180.30	11,638.7	-3,146.8	-307.9	1.27	-1.16	-0.53	87.1	-15.7	



PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Hunter 21 State Com
Well: #601H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #601H
TVD Reference: Kb = 25 @ 3435.0usft (HP 473)
MD Reference: Kb = 25 @ 3435.0usft (HP 473)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
14,781.0	87.00	180.00	11,642.7	-3,240.8	-308.1	1.21	-1.17	-0.32	89.4	-16.8
14,875.0	87.30	180.20	11,647.4	-3,334.6	-308.3	0.38	0.32	0.21	92.4	-17.8
14,969.0	88.50	179.20	11,650.8	-3,428.6	-307.8	1.66	1.28	-1.06	94.2	-18.1
15,063.0	88.90	178.80	11,652.9	-3,522.5	-306.2	0.60	0.43	-0.43	94.6	-17.3
15,158.0	89.10	179.10	11,654.6	-3,617.5	-304.4	0.38	0.21	0.32	94.6	-16.4
15,252.0	90.20	179.20	11,655.2	-3,711.5	-303.0	1.18	1.17	0.11	93.5	-15.9
15,347.0	91.10	179.30	11,654.1	-3,806.5	-301.8	0.95	0.95	0.11	90.7	-15.5
15,382.8	91.33	179.49	11,653.3	-3,842.3	-301.4	0.83	0.64	0.53	89.3	-15.4
TGT 4(Hunter 21 st com #601H)										
15,441.0	91.70	179.80	11,651.8	-3,900.4	-301.1	0.83	0.64	0.53	86.7	-15.6
15,536.0	90.10	180.10	11,650.3	-3,995.4	-301.0	1.71	-1.68	0.32	83.5	-16.3
15,630.0	90.20	180.50	11,650.1	-4,089.4	-301.5	0.44	0.11	0.43	81.6	-17.7
15,725.0	90.90	180.60	11,649.1	-4,184.4	-302.4	0.74	0.74	0.11	79.0	-19.4
15,819.0	90.10	179.90	11,648.3	-4,278.4	-302.8	1.13	-0.85	-0.74	76.5	-20.7
15,914.0	90.70	180.40	11,647.7	-4,373.4	-303.0	0.82	0.63	0.53	74.1	-21.8
16,009.0	91.70	180.20	11,645.7	-4,468.4	-303.5	1.07	1.05	-0.21	70.5	-23.1
16,199.0	92.70	180.50	11,638.4	-4,658.2	-304.7	0.55	0.53	0.16	59.8	-26.0
16,297.8	90.03	180.50	11,636.0	-4,757.0	-305.6	2.70	-2.70	0.00	55.8	-27.7
LTP Crossing, MD:16297.8', TVD:11636.0', N/S:-4757.0', E/W:-305.6', INC:90.03 - LTP(Hunter 21 st com #601H)										
16,299.0	90.00	180.50	11,636.0	-4,758.2	-305.6	2.77	-2.77	0.00	55.7	-27.7
Final MWD Survey (MD= 16299.0')										
16,397.0	90.00	180.50	11,636.0	-4,856.2	-306.4	0.00	0.00	0.00	54.0	-29.4
Final Bit Projection (MD= 16397.0') - PBHL(Hunter 21 st com #601H)										



PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Hunter 21 State Com
Well: #601H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #601H
TVD Reference: Kb = 25 @ 3435.0usft (HP 473)
MD Reference: Kb = 25 @ 3435.0usft (HP 473)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,654.3	11,558.2	-134.2	-326.6	HL Crossing, MD:11654.3', TVD:11558.2', N/S:-134.2', E/W:-326.6', INC:47.96
16,297.8	11,636.0	-4,757.0	-305.6	LTP Crossing, MD:16297.8', TVD:11636.0', N/S:-4757.0', E/W:-305.6', INC:90.03
16,299.0	11,636.0	-4,758.2	-305.6	Final MWD Survey (MD= 16299.0')
16,397.0	11,636.0	-4,856.2	-306.4	Final Bit Projection (MD= 16397.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Hunter 21 State

#601H

HP 473

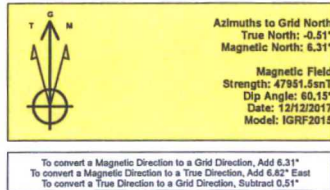
Plan #1

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: #601H

Northings 473030.00
Kb = 25 @ 3435.0usft (HP 473)
Easting 836252.00
Latitude 32° 17' 48.50 N
Longitude 103° 22' 44.00 W



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeal
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
4800.0	0.00	0.00	4800.0	0.0	0.0	0.00	0.00	0.0
5236.3	8.73	295.09	5234.6	14.1	-30.0	2.00	295.09	-12.3
7139.1	8.73	295.09	7115.4	136.5	-291.5	0.00	0.00	-119.7
7575.4	0.00	0.00	7550.0	150.5	-321.5	2.00	180.00	-132.0
11032.4	0.00	0.00	11007.0	150.5	-321.5	0.00	0.00	-132.0
11762.2	87.57	179.49	11484.0	-306.7	-317.5	12.00	179.49	324.3
12139.1	87.57	179.49	11500.0	-683.3	-314.1	0.00	0.00	700.1
12202.2	88.83	179.49	11502.0	-746.3	-313.6	2.00	-0.10	762.9
12891.0	88.83	179.49	11516.0	-1435.0	-307.4	0.00	0.00	1450.2
12894.0	88.78	179.49	11516.1	-1437.9	-307.4	2.00	179.91	1453.1
14294.4	88.78	179.49	11546.0	-2838.0	-295.0	0.00	0.00	2850.2
14304.3	88.97	179.49	11546.2	-2847.8	-294.9	2.00	0.00	2860.0
15296.6	88.97	179.49	11564.0	-3840.0	-286.0	0.00	0.00	3850.1
16313.8	89.00	179.49	11582.0	-4857.0	-277.0	0.00	0.00	4864.9

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northings	Easting
KOP(Hunter 21 st com #601H)	11007.0	150.5	-321.5	473180.54	835930.50
TPP(Hunter 21 st com #601H)	11484.0	-134.0	-319.0	472886.50	835933.00
TGT 1(Hunter 21 st com #601H)	11500.0	-683.3	-314.1	472346.70	835937.89
TGT 2(Hunter 21 st com #601H)	11516.0	-1435.0	-307.4	471995.00	835944.57
TGT 3(Hunter 21 st com #601H)	11546.0	-2838.0	-295.0	470192.00	835957.05
TGT 4(Hunter 21 st com #601H)	11564.0	-3840.0	-286.0	469190.00	835965.96
LTP(Hunter 21 st com #601H)	11582.0	-4767.0	-307.0	468273.00	835945.00
PSH (Hunter 21 st com #601H)	11582.0	-4857.0	-277.0	468173.00	835978.00

