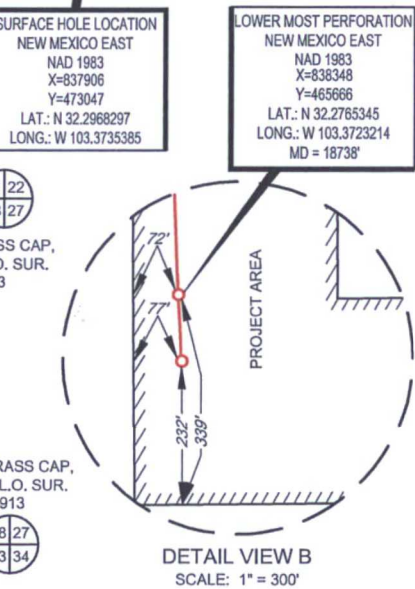
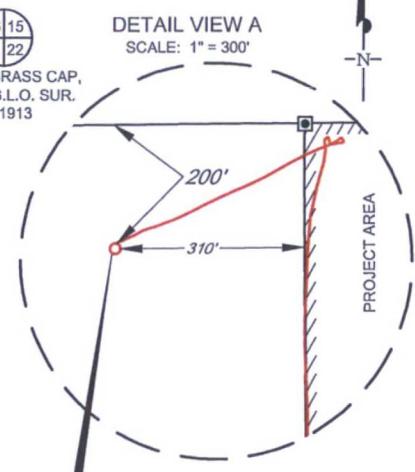
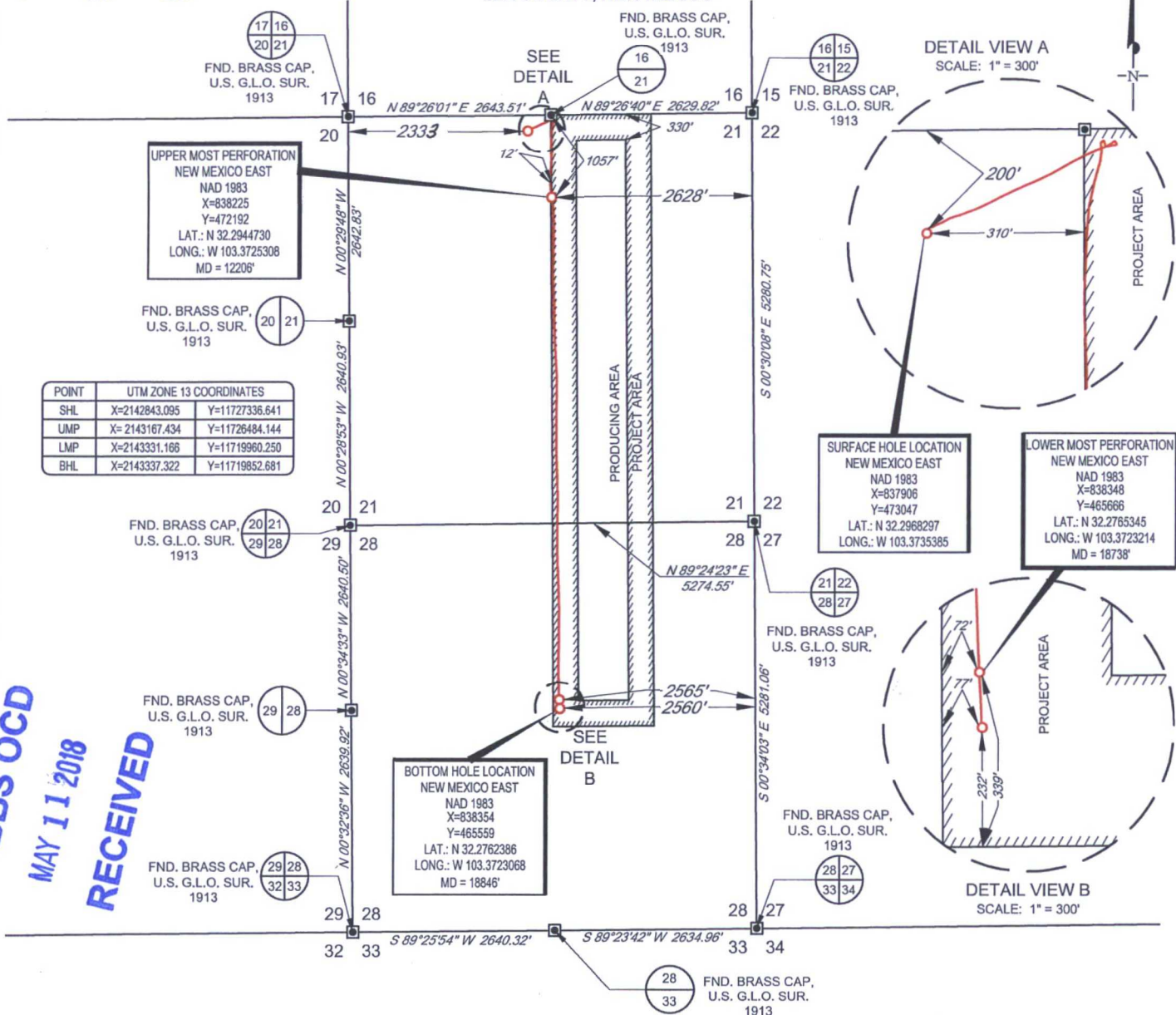


SCALE: 1" = 2000'

SECTION 21 & 28, TOWNSHIP 23-S, RANGE 35-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



HOBBS OCD
MAY 11 2018
RECEIVED

LEASE NAME & WELL NO.: HUNTER 21 STATE COM #604H
SECTION 21 TWP 23-S RGE 35-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3431'
DESCRIPTION 200' FNL & 2334' FWL

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 148 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Michael Blake Brown, P.S. No. 18329
OCTOBER 19, 2017

eoog resources, inc.

HUNTER 21 STATE COM #604H AS-COMPLETE	REVISION:	NOTES: 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. THIS WELL LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.
DATE: 04/24/18		
FILE: AD_HUNTER_21_STATE_COM_604H_REV1		
DRAWN BY: H.B.		
SHEET: 1 OF 1		

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Hunter 21 State Com

#604H

OH

Design: OH

PVA Report

22 March, 2018

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3456.0usft (HP 424)
Site:	Hunter 21 State Com	MD Reference:	KB = 25 @ 3456.0usft (HP 424)
Well:	#604H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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				Hunter 21 State Com							
Site Position:		Northing:		473,030.00 usft		Latitude:		32° 17' 48.570 N			
From:		Map		Easting:		836,252.00 usft		Longitude:		103° 22' 44.008 W	
Position Uncertainty:		0.0 usft		Slot Radius:		13-3/16 "		Grid Convergence:		0.51 °	

Well				#604H									
Well Position		+N/-S		0.0 usft		Northing:		473,046.00 usft		Latitude:		32° 17' 48.582 N	
		+E/-W		0.0 usft		Easting:		837,905.00 usft		Longitude:		103° 22' 24.750 W	
Position Uncertainty		0.0 usft				Wellhead Elevation:		usft		Ground Level:		3,431.0 usft	

Wellbore				OH																			
Magnetics				Model Name				Sample Date				Declination (°)				Dip Angle (°)				Field Strength (nT)			
				IGRF2015				12/12/2017				6.81				60.15				47,951.87321392			

Design				OH																			
Audit Notes:																							
Version:		1.0		Phase:		ACTUAL		Tie On Depth:		0.0													
Vertical Section:		Depth From (TVD)		+N/-S		+E/-W		Direction															
		(usft)		(usft)		(usft)		(°)															
		0.0		0.0		0.0		176.77															

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3456.0usft (HP 424)
Site:	Hunter 21 State Com	MD Reference:	KB = 25 @ 3456.0usft (HP 424)
Well:	#604H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey Program	Date	3/22/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
219.0	1,635.0	Olebrook MWD (OH)	MWD	OWSG MWD - Standard	
1,660.0	18,847.0	Newsco 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
219.0	0.35	155.85	219.0	-0.6	0.3	0.16	0.16	0.00	-0.7	0.0
311.0	0.70	76.22	311.0	-0.7	0.9	0.79	0.38	-86.55	-0.7	-0.9
404.0	0.70	290.76	404.0	-0.4	1.0	1.44	0.00	-156.41	1.0	0.0
498.0	0.44	173.95	498.0	-0.6	0.5	1.04	-0.28	-124.27	-0.6	0.4
593.0	0.44	167.10	593.0	-1.3	0.6	0.06	0.00	-7.21	-1.4	0.3
687.0	0.53	182.48	687.0	-2.1	0.6	0.17	0.10	16.36	-2.0	0.7
781.0	0.62	161.56	781.0	-3.0	0.8	0.24	0.10	-22.26	-3.1	-0.2
876.0	0.62	232.84	876.0	-3.8	0.5	0.76	0.00	75.03	-1.9	3.3
971.0	0.79	182.39	971.0	-4.7	0.1	0.65	0.18	-53.11	-4.7	0.3
1,066.0	0.53	234.95	1,066.0	-5.6	-0.3	0.66	-0.27	55.33	-3.5	4.5
1,161.0	0.35	222.20	1,161.0	-6.1	-0.8	0.21	-0.19	-13.42	-5.1	3.5
1,255.0	0.62	201.55	1,255.0	-6.8	-1.2	0.34	0.29	-21.97	-6.8	1.4
1,350.0	0.70	211.65	1,350.0	-7.8	-1.7	0.15	0.08	10.63	-7.5	2.6
1,445.0	0.53	195.93	1,444.9	-8.7	-2.1	0.25	-0.18	-16.55	-8.9	0.3
1,540.0	0.18	292.52	1,539.9	-9.0	-2.4	0.61	-0.37	101.67	1.2	9.3
1,635.0	0.35	277.84	1,634.9	-9.0	-2.8	0.19	0.18	-15.45	-1.6	9.3
1,660.0	0.40	2.00	1,659.9	-8.9	-2.9	2.02	0.20	336.65	9.0	2.6
1,817.0	0.60	350.20	1,816.9	-7.5	-3.0	0.14	0.13	-7.52	6.9	4.3
2,007.0	0.60	3.20	2,006.9	-5.5	-3.1	0.07	0.00	6.84	5.7	2.8
2,196.0	0.70	17.40	2,195.9	-3.4	-2.7	0.10	0.05	7.51	4.1	1.6

PVA Report

Company:	EOG Resources - Midland					Local Co-ordinate Reference:			Well #604H		
Project:	Lea County, NM (NAD 83 NME)					TVD Reference:			KB = 25 @ 3456.0usft (HP 424)		
Site:	Hunter 21 State Com					MD Reference:			KB = 25 @ 3456.0usft (HP 424)		
Well:	#604H					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)	
2,385.0	0.70	358.50	2,384.9	-1.2	-2.4	0.12	0.00	-10.00	1.1	2.4	
2,574.0	0.80	353.20	2,573.9	1.3	-2.6	0.06	0.05	-2.80	-1.6	2.4	
2,764.0	1.00	358.30	2,763.9	4.3	-2.8	0.11	0.11	2.68	-4.3	2.7	
2,953.0	0.20	219.00	2,952.9	5.7	-3.1	0.61	-0.42	-73.70	2.5	-5.9	
3,143.0	0.10	15.90	3,142.9	5.6	-3.2	0.16	-0.05	82.58	-4.5	4.6	
3,332.0	1.60	51.80	3,331.8	7.3	-1.1	0.80	0.79	18.99	-3.7	6.5	
3,514.0	0.50	103.90	3,513.8	8.7	1.7	0.74	-0.60	28.63	0.5	8.9	
3,703.0	2.40	56.40	3,702.7	10.7	5.8	1.11	1.01	-25.13	-10.7	5.7	
3,893.0	4.30	70.60	3,892.4	15.3	15.8	1.08	1.00	7.47	-20.0	9.2	
4,082.0	5.40	63.70	4,080.7	21.6	30.4	0.66	0.58	-3.65	-36.8	5.9	
4,271.0	4.70	63.00	4,269.0	29.0	45.3	0.37	-0.37	-0.37	-52.7	5.4	
4,460.0	3.00	78.10	4,457.6	33.6	57.1	1.04	-0.90	7.99	-51.1	18.8	
4,649.0	3.20	72.80	4,646.3	36.2	66.9	0.18	0.11	-2.80	-40.4	11.4	
4,838.0	5.00	67.50	4,834.8	40.9	79.6	0.97	0.95	-2.80	-30.2	7.0	
5,028.0	4.30	69.60	5,024.2	46.5	93.9	0.38	-0.37	1.11	-20.6	7.3	
5,217.0	6.10	66.90	5,212.4	52.9	109.8	0.96	0.95	-1.43	-13.4	6.1	
5,347.0	7.90	63.20	5,341.4	59.7	124.1	1.43	1.38	-2.85	-12.7	6.0	
5,494.0	8.70	64.10	5,486.9	69.1	143.1	0.55	0.54	0.61	-14.8	7.4	
5,683.0	8.60	65.10	5,673.7	81.3	168.8	0.10	-0.05	0.53	-18.6	8.8	
5,872.0	5.40	65.00	5,861.3	91.0	189.7	1.69	-1.69	-0.05	-17.0	9.7	
6,061.0	6.60	69.00	6,049.2	98.6	207.9	0.67	0.63	2.12	-11.5	10.7	
6,251.0	5.60	64.30	6,238.2	106.6	226.4	0.59	-0.53	-2.47	-7.8	10.0	
6,440.0	5.40	61.80	6,426.3	114.8	242.6	0.17	-0.11	-1.32	-1.8	11.6	
6,629.0	8.30	59.80	6,613.9	125.8	262.2	1.54	1.53	-1.06	-0.3	14.4	
6,818.0	8.30	60.00	6,800.9	139.5	285.8	0.02	0.00	0.11	-3.2	17.5	
7,007.0	8.10	67.10	6,988.0	151.5	309.9	0.55	-0.11	3.76	-3.3	19.5	
7,196.0	7.00	64.80	7,175.4	161.6	332.6	0.60	-0.58	-1.22	-4.4	19.8	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3456.0usft (HP 424)
Site:	Hunter 21 State Com	MD Reference:	KB = 25 @ 3456.0usft (HP 424)
Well:	#604H	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)	
7,385.0	4.90	78.30	7,363.4	168.1	350.9	1.33	-1.11	7.14	-0.8	19.4	
7,574.0	2.50	86.00	7,552.0	170.1	362.9	1.29	-1.27	4.07	-4.5	18.5	
7,763.0	0.80	73.50	7,740.9	170.7	368.3	0.91	-0.90	-6.61	-13.8	16.2	
7,952.0	0.70	36.60	7,929.9	172.0	370.3	0.26	-0.05	-19.52	-22.9	3.9	
8,141.0	0.40	353.40	8,118.8	173.6	370.9	0.26	-0.16	-22.86	-20.9	-13.7	
8,330.0	0.40	334.20	8,307.8	174.9	370.5	0.07	0.00	-10.16	-16.5	-20.0	
8,520.0	0.80	328.90	8,497.8	176.6	369.5	0.21	0.21	-2.79	-16.6	-21.5	
8,709.0	0.80	328.10	8,686.8	178.8	368.2	0.01	0.00	-0.42	-18.9	-21.7	
8,898.0	1.50	223.90	8,875.8	178.2	365.8	0.99	0.37	-55.13	23.6	-14.3	
9,087.0	1.90	232.90	9,064.7	174.5	361.5	0.25	0.21	4.76	15.5	-17.4	
9,276.0	2.10	243.30	9,253.6	171.1	355.9	0.22	0.11	5.50	5.5	-19.3	
9,465.0	1.90	237.10	9,442.5	167.8	350.2	0.16	-0.11	-3.28	1.0	-19.0	
9,654.0	0.90	29.30	9,631.4	167.4	348.3	1.44	-0.53	80.53	-8.5	17.8	
9,843.0	0.80	4.70	9,820.4	170.0	349.2	0.20	-0.05	-13.02	-17.8	12.0	
10,033.0	1.90	335.60	10,010.4	174.2	348.0	0.66	0.58	-15.32	-25.7	1.2	
10,222.0	1.40	0.60	10,199.3	179.4	346.7	0.46	-0.26	13.23	-27.9	13.3	
10,412.0	1.30	215.40	10,389.3	179.9	345.5	1.36	-0.05	-76.42	15.1	-28.2	
10,601.0	2.00	238.60	10,578.2	176.5	341.4	0.50	0.37	12.28	-2.5	-31.0	
10,760.0	2.00	150.00	10,737.1	172.6	340.4	1.76	0.00	-55.72	28.1	-6.0	
10,858.0	6.40	171.25	10,834.9	165.7	342.1	4.68	4.49	21.67	16.9	-15.2	
KOP(Hunter 21 st com #604H)											
10,884.0	7.60	172.70	10,860.7	162.6	342.6	4.68	4.63	5.60	14.0	-15.5	
10,979.0	19.40	192.10	10,952.9	140.9	340.0	13.14	12.42	20.42	-1.9	-19.8	
11,073.0	30.70	197.10	11,037.9	102.5	329.7	12.22	12.02	5.32	-17.8	-26.7	
11,168.0	34.70	188.50	11,117.9	52.6	318.5	6.44	4.21	-9.05	-25.0	-39.1	
11,262.0	47.80	181.80	11,188.5	-9.0	313.5	14.69	13.94	-7.13	-29.5	-46.9	
11,310.0	51.30	181.40	11,219.6	-45.5	312.4	7.32	7.29	-0.83	-35.6	-48.3	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3456.0usft (HP 424)
Site:	Hunter 21 State Corn	MD Reference:	KB = 25 @ 3456.0usft (HP 424)
Well:	#604H	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)	
11,357.0	54.70	183.40	11,247.9	-83.0	310.9	7.99	7.23	4.26	-43.4	-49.2	
11,369.0	54.79	182.75	11,254.8	-92.8	310.3	4.51	0.79	-5.44	-44.8	-50.0	
Exit, MD:11369.0', TVD:11254.8', N/S:-92.8', E/W:310.3', INC:54.79											
11,405.0	55.10	180.80	11,275.5	-122.2	309.4	4.51	0.85	-5.41	-48.1	-52.0	
11,451.0	55.00	177.70	11,301.8	-159.9	309.9	5.53	-0.22	-8.74	-50.1	-53.3	
11,499.0	54.40	177.90	11,329.6	-199.1	311.4	1.30	-1.25	0.42	-51.2	-52.0	
11,546.0	53.40	176.70	11,357.3	-237.0	313.2	2.96	-2.13	-2.55	-48.3	-51.1	
11,562.0	54.86	177.77	11,366.6	-250.0	313.8	10.60	9.11	6.69	-47.7	-50.0	
Entrance, MD:11562.0', TVD:11366.6', N/S:-250.0', E/W:313.8', INC:54.86 - FTP(Hunter 21 st com #604H)											
11,594.0	57.80	179.80	11,384.4	-276.6	314.4	10.60	9.19	6.34	-46.5	-48.7	
11,640.0	60.10	181.70	11,408.1	-316.0	313.9	6.13	5.00	4.13	-44.4	-48.9	
11,669.0	60.89	181.64	11,422.4	-341.2	313.1	2.71	2.71	-0.21	-42.1	-50.0	
Exit, MD:11669.0', TVD:11422.4', N/S:-341.2', E/W:313.1', INC:60.89											
11,688.0	61.40	181.60	11,431.6	-357.8	312.7	2.71	2.71	-0.21	-40.3	-50.7	
11,735.0	64.30	182.20	11,453.0	-399.6	311.3	6.27	6.17	1.28	-35.9	-52.3	
11,783.0	64.10	182.00	11,473.9	-442.8	309.7	0.56	-0.42	-0.42	-29.6	-54.5	
11,829.0	68.00	182.00	11,492.6	-484.8	308.2	8.48	8.48	0.00	-23.1	-56.4	
11,877.0	71.40	183.40	11,509.2	-529.8	306.1	7.59	7.08	2.92	-17.3	-58.9	
11,923.0	75.20	182.10	11,522.4	-573.8	304.0	8.69	8.26	-2.83	-11.4	-61.5	
11,971.0	78.00	180.60	11,533.6	-620.5	302.9	6.58	5.83	-3.12	-5.8	-63.1	
12,018.0	82.20	179.40	11,541.6	-666.8	302.9	9.28	8.94	-2.55	-1.0	-63.5	
12,066.0	85.50	176.30	11,546.8	-714.4	304.7	9.41	6.87	-6.46	2.3	-62.1	
12,112.0	88.50	174.00	11,549.2	-760.2	308.6	8.21	6.52	-5.00	2.6	-58.6	
12,196.0	89.38	173.38	11,550.7	-843.7	317.8	1.28	1.05	-0.74	0.4	-50.0	
Entrance Crossing, MD:12196.0', TVD:11550.7', N/S:-843.7', E/W:317.8', INC:89.38											
12,207.0	89.50	173.30	11,550.8	-854.6	319.1	1.28	1.05	-0.74	0.0	-48.9	
12,324.0	89.20	171.90	11,552.2	-970.6	334.1	1.22	-0.26	-1.20	-3.7	-34.7	

PVA Report

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Hunter 21 State Com Well: #604H Wellbore: OH Design: OH			Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:			Well #604H KB = 25 @ 3456.0usft (HP 424) KB = 25 @ 3456.0usft (HP 424) Grid Minimum Curvature 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)	
12,419.0	92.20	175.60	11,551.0	-1,065.0	344.5	5.01	3.16	3.89	-9.1	-25.2	
12,513.0	92.10	179.50	11,547.5	-1,158.8	348.5	4.15	-0.11	4.15	-16.6	-21.9	
12,608.0	89.00	180.90	11,546.6	-1,253.8	348.2	3.58	-3.26	1.47	-21.7	-23.0	
12,702.0	89.20	181.00	11,548.1	-1,347.8	346.6	0.24	0.21	0.11	-24.3	-25.3	
12,786.0	89.38	181.09	11,549.1	-1,431.8	345.1	0.24	0.21	0.11	-26.9	-27.6	
TGT 1(Hunter 21 st com #604H)											
12,797.0	89.40	181.10	11,549.2	-1,442.8	344.9	0.24	0.21	0.11	-27.2	-27.8	
12,891.0	88.70	180.20	11,550.8	-1,536.8	343.8	1.21	-0.74	-0.96	-28.0	-29.7	
12,986.0	86.00	181.20	11,555.2	-1,631.6	342.6	3.03	-2.84	1.05	-25.0	-31.6	
13,080.0	87.10	181.20	11,560.8	-1,725.4	340.7	1.17	1.17	0.00	-20.7	-34.3	
13,175.0	85.00	179.70	11,567.4	-1,820.2	339.9	2.71	-2.21	-1.58	-15.5	-35.9	
13,269.0	86.10	178.70	11,574.7	-1,913.9	341.2	1.58	1.17	-1.06	-9.6	-35.3	
13,364.0	87.70	177.00	11,579.8	-2,008.7	344.8	2.46	1.68	-1.79	-5.9	-32.6	
13,458.0	90.20	176.90	11,581.5	-2,102.5	349.8	2.66	2.66	-0.11	-5.6	-28.3	
13,553.0	91.80	177.40	11,579.9	-2,197.4	354.5	1.76	1.68	0.53	-8.7	-24.4	
13,647.0	90.70	179.30	11,577.8	-2,291.3	357.2	2.34	-1.17	2.02	-12.1	-22.4	
13,742.0	88.50	178.60	11,578.5	-2,386.3	359.0	2.43	-2.32	-0.74	-12.9	-21.5	
13,836.0	88.50	178.20	11,580.9	-2,480.3	361.6	0.43	0.00	-0.43	-11.8	-19.6	
13,931.0	88.40	177.70	11,583.5	-2,575.2	365.0	0.54	-0.11	-0.53	-10.7	-17.0	
14,025.0	88.20	177.70	11,586.3	-2,669.0	368.8	0.21	-0.21	0.00	-9.3	-14.0	
14,120.0	88.10	177.10	11,589.4	-2,763.9	373.1	0.64	-0.11	-0.63	-7.6	-10.4	
14,189.8	88.10	177.03	11,591.7	-2,833.6	376.6	0.11	0.00	-0.11	-6.3	-7.4	
TGT 2(Hunter 21 st com #604H)											
14,215.0	88.10	177.00	11,592.5	-2,858.7	377.9	0.11	0.00	-0.11	-5.8	-6.3	
14,309.0	87.80	176.40	11,595.9	-2,952.5	383.4	0.71	-0.32	-0.64	-3.6	-1.7	
14,404.0	90.00	176.70	11,597.7	-3,047.3	389.1	2.34	2.32	0.32	-2.9	3.3	
14,498.0	90.60	177.60	11,597.2	-3,141.2	393.7	1.15	0.64	0.96	-4.5	7.2	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3456.0usft (HP 424)
Site:	Hunter 21 State Com	MD Reference:	KB = 25 @ 3456.0usft (HP 424)
Well:	#604H	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)	
14,593.0	91.80	179.60	11,595.2	-3,236.1	396.1	2.45	1.26	2.11	-7.6	8.7	
14,687.0	91.00	180.60	11,592.9	-3,330.1	395.9	1.36	-0.85	1.06	-11.0	7.8	
14,782.0	89.40	180.70	11,592.6	-3,425.1	394.8	1.69	-1.68	0.11	-12.5	5.9	
14,877.0	89.20	180.50	11,593.7	-3,520.1	393.8	0.30	-0.21	-0.21	-12.5	4.2	
14,971.0	88.90	180.90	11,595.3	-3,614.1	392.7	0.53	-0.32	0.43	-12.1	2.3	
15,066.0	91.00	180.20	11,595.4	-3,709.0	391.8	2.33	2.21	-0.74	-13.1	0.6	
15,161.0	90.50	180.60	11,594.1	-3,804.0	391.1	0.67	-0.53	0.42	-15.5	-0.9	
15,190.9	90.25	180.41	11,593.9	-3,834.0	390.8	1.06	-0.85	-0.64	-16.1	-1.4	
TGT 3(Hunter 21 st com #604H)											
15,255.0	89.70	180.00	11,594.0	-3,898.0	390.6	1.06	-0.85	-0.64	-16.8	-2.1	
15,350.0	89.40	179.10	11,594.7	-3,993.0	391.4	1.00	-0.32	-0.95	-17.1	-2.2	
15,444.0	88.30	178.50	11,596.6	-4,087.0	393.3	1.33	-1.17	-0.64	-16.3	-1.0	
15,539.0	86.50	178.30	11,600.9	-4,181.8	396.0	1.91	-1.89	-0.21	-13.0	0.9	
15,633.0	86.30	178.00	11,606.8	-4,275.6	399.0	0.38	-0.21	-0.32	-8.2	3.2	
15,728.0	89.20	177.60	11,610.6	-4,370.5	402.7	3.08	3.05	-0.42	-5.6	6.1	
15,822.0	88.70	179.80	11,612.3	-4,464.4	404.8	2.40	-0.53	2.34	-4.9	7.4	
15,917.0	88.20	176.50	11,614.8	-4,559.3	407.8	3.51	-0.53	-3.47	-3.4	9.7	
16,011.0	89.20	179.40	11,617.0	-4,653.2	411.2	3.26	1.06	3.09	-2.4	12.3	
16,105.0	88.90	178.60	11,618.5	-4,747.2	412.8	0.91	-0.32	-0.85	-1.9	13.2	
16,200.0	89.90	181.20	11,619.5	-4,842.2	413.0	2.93	1.05	2.74	-2.0	12.6	
16,244.0	89.76	180.92	11,619.7	-4,886.2	412.2	0.71	-0.32	-0.63	-2.3	11.4	
TGT 4(Hunter 21 st com #604H)											
16,295.0	89.60	180.60	11,619.9	-4,937.2	411.5	0.71	-0.32	-0.63	-2.6	10.3	
16,389.0	90.20	181.10	11,620.1	-5,031.1	410.1	0.83	0.64	0.53	-3.5	8.2	
16,484.0	89.30	179.90	11,620.5	-5,126.1	409.3	1.58	-0.95	-1.26	-4.2	6.6	
16,578.0	89.80	180.20	11,621.3	-5,220.1	409.2	0.62	0.53	0.32	-4.5	5.7	
16,673.0	90.20	180.40	11,621.3	-5,315.1	408.7	0.47	0.42	0.21	-5.6	4.4	

PVA Report

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Hunter 21 Slate Com Well: #604H Wellbore: OH Design: OH			Local Co-ordinate Reference: TVD Reference: KB = 25 @ 3456.0usft (HP 424) MD Reference: KB = 25 @ 3456.0usft (HP 424) North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 5000.14		
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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)	
16,767.0	90.00	179.70	11,621.1	-5,409.1	408.6	0.77	-0.21	-0.74	-6.8	3.6	
16,862.0	88.10	178.40	11,622.7	-5,504.1	410.2	2.42	-2.00	-1.37	-6.3	4.4	
16,956.0	88.80	177.70	11,625.2	-5,598.0	413.4	1.05	0.74	-0.74	-4.8	6.8	
17,051.0	89.20	177.90	11,626.9	-5,692.9	417.1	0.47	0.42	0.21	-4.2	9.7	
17,145.0	89.20	177.40	11,628.2	-5,786.8	420.9	0.53	0.00	-0.53	-3.9	12.8	
17,239.0	89.20	177.60	11,629.5	-5,880.7	425.0	0.21	0.00	0.21	-3.7	16.1	
17,334.0	89.40	177.40	11,630.7	-5,975.6	429.2	0.30	0.21	-0.21	-3.5	19.5	
17,428.0	88.70	178.60	11,632.2	-6,069.6	432.4	1.48	-0.74	1.28	-3.0	22.0	
17,523.0	89.90	179.10	11,633.4	-6,164.5	434.3	1.37	1.26	0.53	-2.9	23.1	
17,618.0	91.30	180.90	11,632.4	-6,259.5	434.3	2.40	1.47	1.89	-4.9	22.4	
17,712.0	92.00	180.80	11,629.7	-6,353.5	432.9	0.75	0.74	-0.11	-8.6	20.2	
17,807.0	92.40	180.60	11,626.0	-6,448.4	431.8	0.47	0.42	-0.21	-13.3	18.3	
17,902.0	92.30	180.30	11,622.1	-6,543.3	431.0	0.33	-0.11	-0.32	-18.2	16.8	
17,996.0	92.80	179.80	11,618.0	-6,637.2	431.0	0.75	0.53	-0.53	-23.4	15.9	
18,090.0	90.10	181.00	11,615.6	-6,731.2	430.3	3.14	-2.87	1.28	-26.8	14.5	
18,185.0	90.20	180.40	11,615.3	-6,826.2	429.1	0.64	0.11	-0.63	-28.0	12.5	
18,247.0	89.67	180.14	11,615.4	-6,888.1	428.9	0.95	-0.85	-0.43	-28.6	11.8	
TGT 5(Hunter 21 st com #604H)											
18,279.0	89.40	180.00	11,615.7	-6,920.2	428.8	0.95	-0.85	-0.43	-28.9	11.5	
18,374.0	89.40	178.60	11,616.6	-7,015.2	430.0	1.47	0.00	-1.47	-30.1	11.8	
18,468.0	90.30	178.60	11,616.9	-7,109.1	432.3	0.96	0.96	0.00	-32.1	13.4	
18,563.0	90.00	178.10	11,616.6	-7,204.1	435.0	0.61	-0.32	-0.53	-34.6	15.3	
18,658.0	90.20	177.60	11,616.5	-7,299.0	438.6	0.57	0.21	-0.53	-37.0	18.1	
18,752.0	90.60	177.20	11,615.8	-7,392.9	442.8	0.60	0.43	-0.43	-39.9	21.6	
18,787.0	90.30	177.00	11,615.5	-7,427.9	444.6	1.03	-0.86	-0.57	-41.0	23.1	
Final MWD Survey (MD=18787.0')											

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3456.0usft (HP 424)
Site:	Hunter 21 State Com	MD Reference:	KB = 25 @ 3456.0usft (HP 424)
Well:	#604H	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)	
18,846.6	90.30	177.00	11,615.2	-7,487.4	447.7	0.00	0.00	0.00	-42.7	25.7	
PBHL(Hunter 21 st com #604H)											
18,847.0	90.30	177.00	11,615.2	-7,487.8	447.7	0.00	0.00	0.00	-42.8	25.7	
Final Projection to Bit (MD=18847.0')											

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N-S (usft)	+E-W (usft)	Comment	
11,369.0	11,254.8	-92.8	310.3	Exit, MD:11369.0', TVD:11254.8', N/S:-92.8', E/W:310.3', INC:54.79	
11,562.0	11,366.6	-250.0	313.8	Entrance, MD:11562.0', TVD:11366.6', N/S:-250.0', E/W:313.8', INC:54.86	
11,669.0	11,422.4	-341.2	313.1	Exit, MD:11669.0', TVD:11422.4', N/S:-341.2', E/W:313.1', INC:60.89	
12,196.0	11,550.7	-843.7	317.8	Entrance Crossing, MD:12196.0', TVD:11550.7', N/S:-843.7', E/W:317.8', INC:85	
18,787.0	11,615.5	-7,427.9	444.6	Final MWD Survey (MD=18787.0')	
18,847.0	11,615.2	-7,487.8	447.7	Final Projection to Bit (MD=18847.0')	

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Hunter 21 State Com #604H

HP 424

Plan # 1

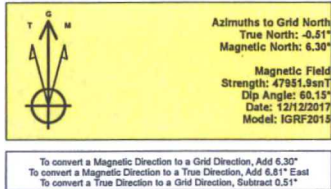
PROJECT DETAILS: Lea County, NM (NAD 83 NME)

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: #604H

KB = 25 @ 3456.0usft (HP 424)

Northing	Eastng	Latitude	Longitude
473046.00	837905.00	32° 17' 48.582 N	103° 22' 24.750 W



SECTION DETAILS

MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSecc
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
4200.0	0.00	0.00	4200.0	0.0	0.0	0.00	0.00	0.0
4573.5	7.47	67.18	4572.5	9.4	22.4	2.00	67.18	-8.2
7200.9	7.47	67.18	7177.5	141.9	337.3	0.00	0.00	-122.7
7554.4	0.00	0.00	7550.0	151.3	359.7	2.00	180.00	-130.8
10857.8	0.00	0.00	10833.4	151.3	359.7	0.00	0.00	-130.8
11255.6	39.78	179.53	11200.0	18.7	360.8	10.00	179.53	1.6
12051.1	87.51	179.53	11543.0	-673.7	366.5	6.00	0.00	693.2
12810.2	87.51	179.53	11576.0	-1432.0	372.6	0.00	0.00	1450.7
12892.1	89.15	179.53	11578.4	-1513.8	373.3	2.00	0.03	1532.5
14211.4	89.15	179.53	11598.0	-2833.0	384.1	0.00	0.00	2850.1
14219.7	89.31	179.53	11598.1	-2841.3	384.1	2.00	-0.01	2858.4
15212.5	89.31	179.53	11610.0	-3834.0	392.2	0.00	0.00	3850.0
15214.2	89.35	179.53	11610.0	-3835.6	392.2	2.00	0.00	3851.6
16264.6	89.35	179.53	11622.0	-4886.0	400.8	0.00	0.00	4900.8
18266.8	89.39	179.53	11644.0	-6888.0	417.1	0.00	0.00	6900.6
18304.4	88.64	179.53	11644.5	-6925.6	417.0	2.00	180.00	6938.1
18868.0	88.64	179.53	11658.0	-7489.0	422.4	0.00	0.00	7500.9

