



Lea County, NM (NAD 27 NME)
Rattlesnake 28 Fed Com #708H
H&P 653
Plan #2



Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.59°
Magnetic Field
Strength: 47859.45nT
Dip Angle: 59.88°
Date: 1/18/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.59°
To convert a Magnetic Direction to a True Direction, Add 6.59° East
To convert a True Direction to a Grid Direction, Subtract 0.40°

PROJECT DETAILS: Lea County, NM (NAD 27 NME)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: #708H

Ground Level: 3226.0
KB = 28' @ 3251.0usft (H&P 653)
Northing: 371895.00
Easting: 732964.00
Latitude: 32° 1' 12.814 N
Longitude: 103° 34' 54.005 W

SECTION DETAILS

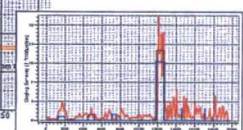
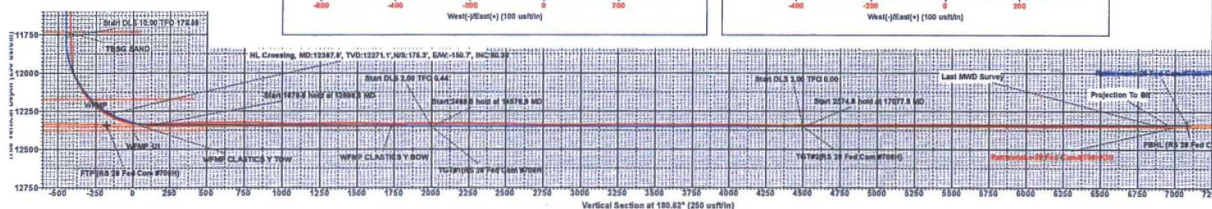
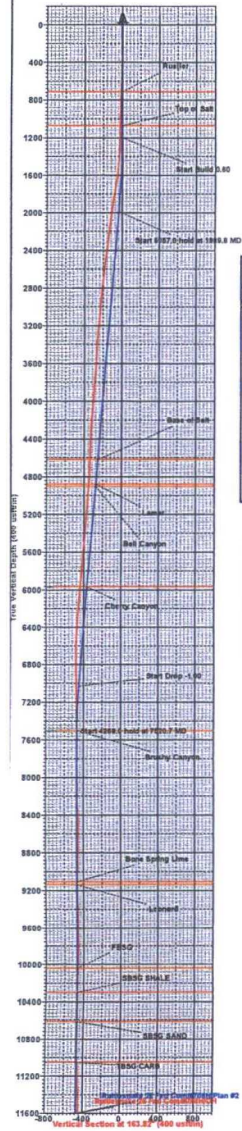
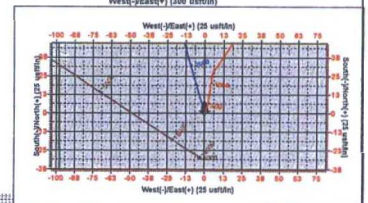
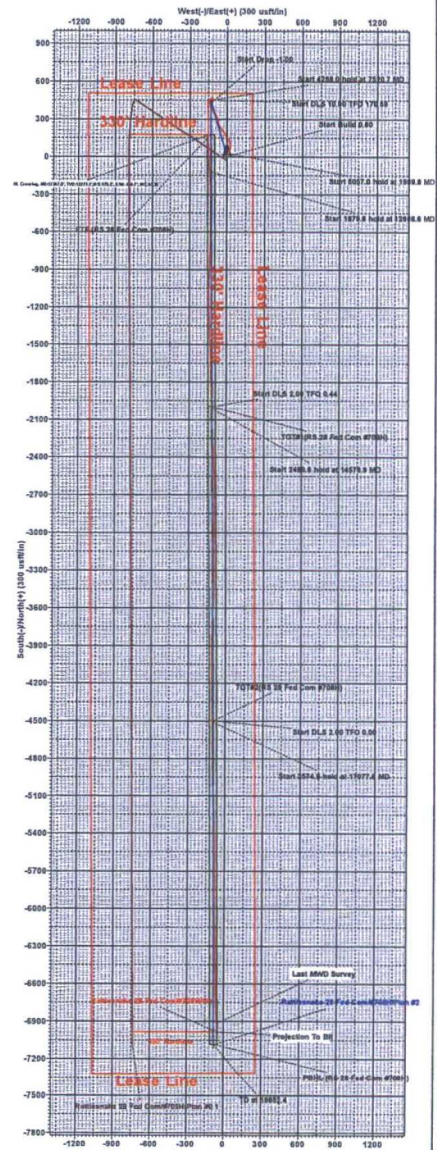
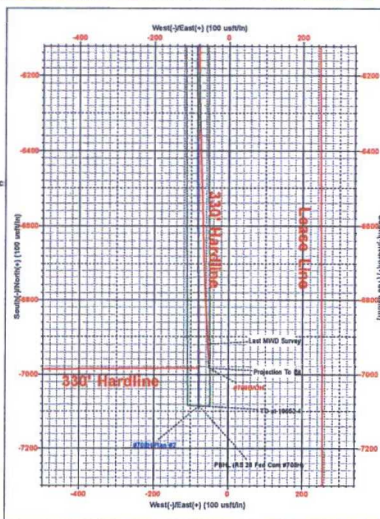
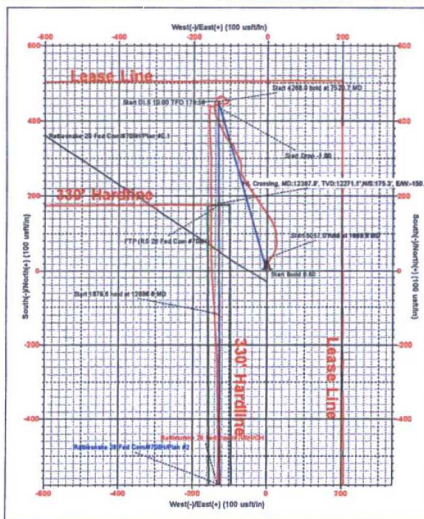
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1989.8	4.74	343.82	1988.9	31.4	-9.1	0.60	343.82	-31.2	
4	7046.8	4.74	343.82	7028.7	432.6	-125.5	0.00	0.00	-431.2	
5	7520.7	0.00	0.00	7502.0	451.4	-131.0	1.00	180.00	-449.9	
6	11788.7	0.00	0.00	11770.0	451.4	-131.0	0.00	0.00	-449.9	
7	12686.6	89.79	179.59	12343.0	-119.4	-126.9	10.00	179.59	120.8	
8	14566.1	89.79	179.59	12350.0	-1998.9	-113.4	0.00	0.00	2000.0	TGT#1(RS 28 Fed Com #708H)
9	14576.9	90.00	179.59	12350.0	-2009.7	-113.3	2.00	0.44	2010.8	
10	17066.5	90.00	179.59	12350.0	-4499.2	-95.5	0.00	0.00	4500.0	TGT#2(RS 28 Fed Com #708H)
11	17077.6	90.22	179.59	12350.0	-4510.3	-95.4	2.00	0.00	4511.0	
12	19652.4	90.22	179.59	12340.0	-7085.0	-77.0	0.00	0.00	7085.4	PBHL (RS 28 Fed Com #708H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
TGT#1(RS 28 Fed Com #708H)	12350.0	-1998.9	-113.4	369896.10	732850.60
TGT#2(RS 28 Fed Com #708H)	12350.0	-4499.2	-95.5	367396.00	732869.50
PBHL (RS 28 Fed Com #708H)	12340.0	-7085.0	-77.0	364810.00	732897.00
FTP (RS 28 Fed Com #708H)	12343.0	175.0	-129.0	372070.00	732895.00



Lea County, NM (NAD 27 NME)
Rattlesnake 28 Fed Com #708H
H&P 653
Plan #2



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EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Rattlesnake 28 Fed Com

#708H

OH

Design: OH

PVA

31 January, 2017



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Rattlesnake 28 Fed Com
 Well: #708H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #708H
 TVD Reference: KB = 25' @ 3251.0usft (H&P 653)
 MD Reference: KB = 25' @ 3251.0usft (H&P 653)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Project Lea County, NM (NAD 27 NME)

Map System: US State Plane 1927 (Exact solution)
 Geo Datum: NAD 1927 (NADCON CONUS)
 Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site Rattlesnake 28 Fed Com

Site Position:		Northing:	371,679.00 usft	Latitude:	32° 1' 10.534 N
From: Map		Easting:	735,024.00 usft	Longitude:	103° 34' 30.097 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well #708H

Well Position	+N/-S	0.0 usft	Northing:	371,895.00 usft	Latitude:	32° 1' 12.814 N
	+E/-W	0.0 usft	Easting:	732,964.00 usft	Longitude:	103° 34' 54.005 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,226.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/18/2017	6.99	59.88	47,859

Design OH

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	180.62

Survey Program Date 1/31/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
164.0	19,563.0	Intrepid #1 (OH)	MWD	MWD - Standard



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Design: OH

Local Co-ordinate Reference: Well #708H
TVD Reference: KB = 25' @ 3251.0usft (H&P 653)
MD Reference: KB = 25' @ 3251.0usft (H&P 653)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
164.0	0.70	34.40	164.0	0.8	0.6	0.43	0.43	0.00	-1.0	0.0
282.0	1.20	13.30	282.0	2.6	1.3	0.51	0.42	-17.88	-2.8	-0.6
432.0	1.10	16.80	431.9	5.5	2.0	0.08	-0.07	2.33	-5.9	-0.3
588.0	1.30	4.80	587.9	8.7	2.6	0.21	0.13	-7.69	-8.9	-1.9
773.0	1.80	11.50	772.8	13.7	3.4	0.29	0.27	3.62	-14.1	-0.6
958.0	1.70	2.30	957.8	19.3	4.1	0.16	-0.05	-4.97	-19.4	-3.3
1,139.0	1.50	10.00	1,138.7	24.3	4.6	0.16	-0.11	4.25	-24.7	-0.3
1,323.0	4.20	35.20	1,322.5	32.2	8.9	1.58	1.47	13.70	-30.9	10.7
1,511.0	7.60	32.30	1,509.4	48.3	19.5	1.81	1.81	-1.54	-47.9	5.6
1,700.0	10.60	359.60	1,696.1	76.3	26.1	3.10	1.59	-17.30	-63.5	-30.4
1,886.0	8.60	348.10	1,879.6	107.0	23.1	1.48	-1.08	-6.18	-75.5	-46.6
2,073.0	7.00	328.00	2,064.9	130.3	14.1	1.68	-0.86	-10.75	-65.4	-70.3
2,260.0	7.20	325.20	2,250.4	149.6	1.4	0.21	0.11	-1.50	-70.4	-69.0
2,447.0	7.20	325.70	2,435.9	168.9	-11.9	0.03	0.00	0.27	-79.7	-63.5
2,634.0	6.70	324.30	2,621.6	187.5	-24.8	0.28	-0.27	-0.75	-86.3	-60.6
2,822.0	6.70	325.80	2,808.3	205.4	-37.4	0.09	0.00	0.80	-95.0	-53.2
3,009.0	6.40	326.70	2,994.1	223.2	-49.3	0.17	-0.16	0.48	-102.4	-47.0
3,197.0	5.40	330.30	3,181.1	239.6	-59.4	0.57	-0.53	1.91	-109.4	-36.2
3,384.0	4.60	331.30	3,367.4	253.8	-67.4	0.43	-0.43	0.53	-111.2	-30.8
3,571.0	3.50	1.00	3,553.9	266.1	-70.9	1.25	-0.59	15.88	-109.4	27.3
3,758.0	4.50	0.30	3,740.4	279.2	-70.7	0.54	0.53	-0.37	-107.9	21.5
3,945.0	4.60	345.10	3,926.9	293.7	-72.6	0.65	0.05	-8.13	-108.9	-9.7
4,133.0	4.80	321.40	4,114.2	307.2	-79.5	1.03	0.11	-12.61	-96.3	-49.6
4,321.0	2.90	341.90	4,301.8	317.8	-85.8	1.23	-1.01	10.90	-104.2	-9.6
4,510.0	1.80	333.10	4,490.7	325.0	-88.7	0.61	-0.58	-4.66	-93.8	-23.3
4,698.0	1.50	12.70	4,678.6	330.1	-89.5	0.61	-0.16	21.06	-78.3	36.1



EOG Resources, Inc.
PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25' @ 3251.0usft (H&P 653)
Site:	Rattlesnake 28 Fed Com	MD Reference:	KB = 25' @ 3251.0usft (H&P 653)
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
4,885.0	4.40	313.70	4,865.4	337.4	-94.1	2.06	1.55	-31.55	-66.5	-42.6
5,074.0	3.60	313.10	5,053.9	346.5	-103.7	0.42	-0.42	-0.32	-65.8	-35.4
5,262.0	5.20	330.60	5,241.3	357.9	-112.2	1.10	0.85	9.31	-72.4	-8.8
5,450.0	5.50	335.50	5,428.5	373.6	-120.1	0.29	0.16	2.61	-75.0	0.4
5,638.0	5.10	333.50	5,615.7	389.2	-127.6	0.23	-0.21	-1.06	-77.1	0.3
5,824.0	5.00	333.20	5,801.0	403.9	-134.9	0.06	-0.05	-0.16	-78.4	2.7
6,012.0	4.70	346.90	5,988.3	418.7	-140.3	0.63	-0.16	7.29	-75.7	22.2
6,200.0	4.40	350.20	6,175.7	433.3	-143.3	0.21	-0.16	1.76	-73.7	25.2
6,387.0	4.20	23.70	6,362.2	446.6	-141.8	1.33	-0.11	17.91	-48.7	55.7
6,574.0	4.00	29.90	6,548.8	458.6	-135.8	0.26	-0.11	3.32	-45.0	50.2
6,761.0	3.40	83.10	6,735.4	464.9	-127.0	1.79	-0.32	28.45	1.2	56.1
6,948.0	1.10	122.10	6,922.3	464.6	-120.0	1.41	-1.23	20.86	18.7	35.9
7,137.0	1.20	151.00	7,111.2	461.9	-117.5	0.31	0.05	15.29	15.6	19.9
7,325.0	1.30	128.40	7,299.2	458.9	-114.9	0.27	0.05	-12.02	-5.1	17.9
7,512.0	1.20	121.40	7,486.1	456.5	-111.5	0.10	-0.05	-3.74	-13.9	14.5
7,699.0	0.70	268.20	7,673.1	455.5	-111.0	0.98	-0.27	78.50	20.1	-3.4
7,887.0	1.30	241.00	7,861.1	454.4	-114.0	0.40	0.32	-14.47	16.3	5.6
8,074.0	2.50	74.90	8,048.1	454.4	-111.9	2.02	0.64	-88.82	-19.2	-2.0
8,262.0	1.50	145.70	8,236.0	453.5	-106.6	1.31	-0.53	37.66	-12.0	21.3
8,448.0	1.50	188.60	8,421.9	449.0	-105.6	0.59	0.00	23.06	1.5	25.5
8,636.0	2.10	247.10	8,609.8	445.3	-109.1	0.98	0.32	31.12	17.8	14.2
8,823.0	2.10	275.00	8,796.7	444.2	-115.7	0.54	0.00	14.92	15.9	5.8
9,011.0	2.10	285.90	8,984.6	445.5	-122.4	0.21	0.00	5.80	9.8	3.3
9,199.0	1.30	273.30	9,172.5	446.5	-127.9	0.47	-0.43	-6.70	3.4	4.7
9,391.0	1.30	230.00	9,364.5	445.3	-131.7	0.50	0.00	-22.55	-4.5	4.2
9,579.0	2.10	226.80	9,552.4	441.5	-135.9	0.43	0.43	-1.70	-10.3	3.8
9,766.0	1.30	239.20	9,739.3	438.1	-140.2	0.47	-0.43	6.63	-14.7	6.7



EOG Resources, Inc.

PVA

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Project: Lea County, NM (NAD 27 NME)
Site: Rattlesnake 28 Fed Com
Well: #708H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #708H
TVD Reference: KB = 25' @ 3251.0usft (H&P 653)
MD Reference: KB = 25' @ 3251.0usft (H&P 653)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
9,953.0	2.90	278.80	9,926.2	437.7	-146.7	1.11	0.86	21.18	-13.4	15.9
10,140.0	1.30	276.90	10,113.0	438.7	-153.5	0.86	-0.86	-1.02	-20.8	15.3
10,327.0	1.40	278.50	10,300.0	439.3	-157.8	0.06	0.05	0.86	-24.8	15.9
10,515.0	0.70	9.70	10,488.0	440.8	-159.9	0.84	-0.37	48.51	15.3	26.7
10,703.0	1.70	98.70	10,675.9	441.5	-157.0	0.97	0.53	47.34	24.2	-13.7
10,890.0	1.10	135.40	10,862.9	439.8	-153.0	0.56	-0.32	19.63	7.2	-23.8
11,077.0	1.80	225.80	11,049.8	436.7	-153.6	1.04	0.27	48.34	-26.4	-5.2
11,266.0	1.80	173.40	11,238.8	431.9	-155.1	0.80	0.11	-27.72	-16.6	-26.2
11,452.0	1.10	187.40	11,424.7	427.2	-155.0	0.42	-0.38	7.53	-27.0	-20.7
11,627.0	1.10	191.10	11,599.7	423.9	-155.6	0.04	0.00	2.11	-31.7	-18.8
11,751.0	1.70	193.50	11,723.6	421.0	-156.2	0.49	0.48	1.94	-35.5	-17.4
11,939.0	4.20	182.60	11,911.4	411.4	-157.2	1.36	1.33	-5.80	-22.5	-25.5
11,986.0	9.40	175.30	11,958.0	405.8	-156.9	11.19	11.06	-15.53	-10.7	-27.2
12,032.0	15.90	175.50	12,002.9	395.8	-156.1	14.13	14.13	0.43	-3.6	-25.9
12,079.0	24.10	178.30	12,047.0	379.8	-155.3	17.56	17.45	5.96	0.5	-24.9
12,126.0	29.60	177.50	12,088.9	358.6	-154.6	11.73	11.70	-1.70	4.3	-24.1
12,173.0	34.90	176.20	12,128.7	333.5	-153.2	11.37	11.28	-2.77	7.7	-22.7
12,219.0	40.30	178.10	12,165.1	305.5	-151.8	12.01	11.74	4.13	9.4	-21.7
12,266.0	45.70	181.00	12,199.5	273.5	-151.6	12.23	11.49	6.17	10.3	-22.0
12,311.0	52.20	179.10	12,229.0	239.6	-151.6	14.79	14.44	-4.22	11.3	-22.0
12,358.0	58.20	179.00	12,255.8	201.0	-150.9	12.77	12.77	-0.21	10.4	-21.7
12,387.9	60.36	179.77	12,271.1	175.3	-150.7	7.56	7.23	2.58	9.5	-21.7
HL Crossing, MD:12387.9', TVD:12271.1', N/S:175.3', E/W:-150.7', INC:60.36										
12,405.0	61.60	180.20	12,279.4	160.3	-150.7	7.56	7.24	2.50	9.2	-21.8
12,452.0	66.40	179.40	12,300.0	118.1	-150.5	10.33	10.21	-1.70	8.8	-21.9
12,499.0	73.20	179.60	12,316.2	74.0	-150.1	14.47	14.47	0.43	7.2	-21.8
12,546.0	80.10	178.30	12,327.0	28.3	-149.3	14.93	14.68	-2.77	4.0	-21.3



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12,593.0	87.00	176.70	12,332.3	-18.3	-147.2	15.07	14.68	-3.40	-1.1	-19.6
12,687.0	90.40	175.30	12,334.5	-112.0	-140.7	3.91	3.62	-1.49	-8.4	-13.7
12,816.0	90.80	178.00	12,333.1	-240.8	-133.2	2.12	0.31	2.09	-10.3	-7.1
12,909.0	92.30	179.10	12,330.6	-333.7	-130.8	2.00	1.61	1.18	-13.2	-5.4
13,002.0	92.30	179.30	12,326.9	-426.6	-129.5	0.21	0.00	0.22	-17.2	-4.8
13,096.0	90.20	180.50	12,324.8	-520.6	-129.3	2.57	-2.23	1.28	-19.7	-5.3
13,189.0	90.40	180.90	12,324.3	-613.6	-130.5	0.48	0.22	0.43	-20.5	-7.1
13,283.0	90.70	181.70	12,323.4	-707.6	-132.6	0.91	0.32	0.85	-21.7	-9.9
13,376.0	87.70	181.70	12,324.7	-800.5	-135.4	3.23	-3.23	0.00	-20.8	-13.3
13,470.0	88.00	182.10	12,328.2	-894.4	-138.5	0.53	0.32	0.43	-17.6	-17.1
13,564.0	88.00	182.40	12,331.5	-988.3	-142.2	0.32	0.00	0.32	-14.7	-21.5
13,657.0	88.90	179.90	12,334.0	-1,081.2	-144.0	2.86	0.97	-2.69	-12.5	-24.0
13,751.0	92.00	177.80	12,333.3	-1,175.2	-142.1	3.98	3.30	-2.23	-13.6	-22.8
13,845.0	91.50	178.20	12,330.4	-1,269.1	-138.9	0.68	-0.53	0.43	-16.8	-20.2
13,938.0	92.70	178.00	12,327.0	-1,362.0	-135.8	1.31	1.29	-0.22	-20.6	-17.8
14,032.0	87.80	177.00	12,326.6	-1,455.8	-131.7	5.32	-5.21	-1.06	-21.3	-14.4
14,126.0	88.60	178.00	12,329.6	-1,549.7	-127.6	1.36	0.85	1.06	-18.8	-11.0
14,219.0	88.80	177.60	12,331.7	-1,642.6	-124.0	0.48	0.22	-0.43	-17.0	-8.1
14,313.0	89.60	178.20	12,333.0	-1,736.5	-120.6	1.06	0.85	0.64	-16.0	-5.3
14,406.0	90.20	178.80	12,333.1	-1,829.5	-118.1	0.91	0.65	0.65	-16.2	-3.5
14,499.0	90.80	179.10	12,332.3	-1,922.5	-116.4	0.72	0.65	0.32	-17.4	-2.5
14,592.0	91.60	179.80	12,330.4	-2,015.5	-115.5	1.14	0.86	0.75	-19.6	-2.3
14,686.0	91.20	180.00	12,328.1	-2,109.4	-115.4	0.48	-0.43	0.21	-21.9	-2.8
14,780.0	88.90	176.80	12,328.0	-2,203.4	-112.8	4.19	-2.45	-3.40	-22.0	-0.8
14,873.0	89.10	177.00	12,329.6	-2,296.2	-107.7	0.30	0.22	0.22	-20.4	3.5
14,967.0	91.00	177.30	12,329.6	-2,390.1	-103.1	2.05	2.02	0.32	-20.5	7.5
15,061.0	87.50	177.70	12,330.8	-2,484.0	-99.0	3.75	-3.72	0.43	-19.2	11.0



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Rattlesnake 28 Fed Com
 Well: #708H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #708H
 TVD Reference: KB = 25' @ 3251.0usft (H&P 653)
 MD Reference: KB = 25' @ 3251.0usft (H&P 653)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

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)
15,155.0	87.50	177.30	12,334.9	-2,577.8	-94.9	0.43	0.00	-0.43	-15.1	14.4
15,249.0	88.30	179.60	12,338.3	-2,671.7	-92.3	2.59	0.85	2.45	-11.7	16.3
15,342.0	89.50	180.80	12,340.1	-2,764.7	-92.6	1.82	1.29	1.29	-9.9	15.3
15,436.0	90.00	181.00	12,340.5	-2,858.7	-94.1	0.57	0.53	0.21	-9.5	13.1
15,530.0	90.50	180.40	12,340.1	-2,952.7	-95.3	0.83	0.53	-0.64	-9.9	11.3
15,625.0	90.20	180.60	12,339.5	-3,047.7	-96.1	0.38	-0.32	0.21	-10.5	9.8
15,720.0	90.50	180.10	12,339.0	-3,142.6	-96.7	0.61	0.32	-0.53	-11.1	8.5
15,813.0	91.10	180.30	12,337.7	-3,235.6	-97.0	0.68	0.65	0.22	-12.4	7.5
15,907.0	91.50	180.50	12,335.5	-3,329.6	-97.7	0.48	0.43	0.21	-14.5	6.2
16,000.0	88.60	180.30	12,335.4	-3,422.6	-98.3	3.13	-3.12	-0.22	-14.6	4.9
16,093.0	89.60	180.40	12,336.9	-3,515.6	-98.9	1.08	1.08	0.11	-13.1	3.7
16,187.0	91.00	181.90	12,336.4	-3,609.6	-100.8	2.18	1.49	1.60	-13.6	1.1
16,281.0	89.30	181.40	12,336.2	-3,703.5	-103.5	1.89	-1.81	-0.53	-13.8	-2.3
16,375.0	90.20	181.90	12,336.6	-3,797.5	-106.2	1.10	0.96	0.53	-13.4	-5.6
16,469.0	90.10	180.20	12,336.3	-3,891.5	-107.9	1.81	-0.11	-1.81	-13.7	-8.0
16,562.0	88.20	179.10	12,337.7	-3,984.4	-107.3	2.36	-2.04	-1.18	-12.3	-8.1
16,655.0	88.70	179.60	12,340.2	-4,077.4	-106.3	0.76	0.54	0.54	-9.8	-7.8
16,749.0	89.10	179.40	12,342.0	-4,171.4	-105.5	0.48	0.43	-0.21	-8.0	-7.6
16,843.0	89.40	179.40	12,343.3	-4,265.4	-104.5	0.32	0.32	0.00	-6.7	-7.3
16,937.0	90.60	179.60	12,343.3	-4,359.4	-103.7	1.29	1.28	0.21	-6.7	-7.1
17,031.0	90.60	179.20	12,342.3	-4,453.3	-102.7	0.43	0.00	-0.43	-7.7	-6.8
17,124.0	90.40	179.20	12,341.5	-4,546.3	-101.4	0.22	-0.22	0.00	-8.4	-6.2
17,216.0	90.10	178.90	12,341.1	-4,638.3	-99.8	0.46	-0.33	-0.33	-8.4	-5.3
17,310.0	89.80	179.00	12,341.1	-4,732.3	-98.1	0.34	-0.32	0.11	-8.0	-4.3
17,404.0	89.50	179.30	12,341.7	-4,826.3	-96.7	0.45	-0.32	0.32	-7.0	-3.6
17,498.0	88.90	179.00	12,343.0	-4,920.3	-95.3	0.71	-0.64	-0.32	-5.4	-2.8
17,592.0	90.90	178.80	12,343.2	-5,014.2	-93.5	2.14	2.13	-0.21	-4.8	-1.7



EOG Resources, Inc.

PVA

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 Design: OH

Local Co-ordinate Reference: Well #708H
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

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)
17,687.0	90.90	178.50	12,341.7	-5,109.2	-91.3	0.32	0.00	-0.32	-6.0	-0.2
17,781.0	90.50	178.20	12,340.6	-5,203.2	-88.6	0.53	-0.43	-0.32	-6.7	1.9
17,875.0	90.50	178.20	12,339.7	-5,297.1	-85.6	0.00	0.00	0.00	-7.2	4.2
17,969.0	91.20	178.90	12,338.3	-5,391.1	-83.3	1.05	0.74	0.74	-8.2	5.9
18,052.0	91.60	179.50	12,336.3	-5,474.0	-82.1	0.87	0.48	0.72	-9.9	6.4
18,147.0	87.60	179.10	12,337.0	-5,569.0	-80.9	4.23	-4.21	-0.42	-8.9	6.9
18,242.0	87.80	179.90	12,340.8	-5,663.9	-80.1	0.87	0.21	0.84	-4.7	7.1
18,335.0	88.00	180.00	12,344.2	-5,756.9	-80.0	0.24	0.22	0.11	-1.0	6.5
18,429.0	88.30	180.80	12,347.2	-5,850.8	-80.7	0.91	0.32	0.85	2.4	5.2
18,523.0	87.90	180.30	12,350.3	-5,944.8	-81.6	0.68	-0.43	-0.53	5.9	3.6
18,617.0	89.10	178.50	12,352.8	-6,038.7	-80.6	2.30	1.28	-1.91	8.7	3.9
18,711.0	90.80	179.00	12,352.9	-6,132.7	-78.5	1.89	1.81	0.53	9.2	5.3
18,805.0	91.00	178.80	12,351.4	-6,226.7	-76.7	0.30	0.21	-0.21	8.1	6.4
18,899.0	91.00	179.60	12,349.8	-6,320.6	-75.4	0.85	0.00	0.85	6.8	7.0
18,992.0	89.30	178.00	12,349.5	-6,413.6	-73.5	2.51	-1.83	-1.72	6.9	8.3
19,086.0	91.00	178.20	12,349.3	-6,507.6	-70.4	1.82	1.81	0.21	7.0	10.8
19,180.0	91.10	178.50	12,347.6	-6,601.5	-67.7	0.34	0.11	0.32	5.7	12.8
19,274.0	90.30	178.10	12,346.4	-6,695.4	-64.9	0.95	-0.85	-0.43	4.9	14.9
19,368.0	88.70	177.70	12,347.2	-6,789.4	-61.4	1.75	-1.70	-0.43	6.1	17.7
19,462.0	87.80	176.70	12,350.1	-6,883.2	-56.8	1.43	-0.96	-1.06	9.3	21.6
19,498.0	87.60	176.50	12,351.5	-6,919.1	-54.7	0.79	-0.56	-0.56	10.9	23.5
Last MWD Survey										
19,563.0	87.60	176.50	12,354.3	-6,984.0	-50.7	0.00	0.00	0.00	13.8	27.0
Projection To Bit										



EOG Resources, Inc.

PVA

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Design: OH

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TVD Reference: KB = 25' @ 3251.0usft (H&P 653)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,387.9	12,271.1	175.3	-150.7	HL Crossing, MD:12387.9', TVD:12271.1', N/S:175.3', E/W:-150.7', INC:60.36
19,498.0	12,351.5	-6,919.1	-54.7	Last MWD Survey
19,563.0	12,354.3	-6,984.0	-50.7	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____