



Lea County, NM (NAD 27-NME)

Rattlesnake 28 Fed Com #709H

H&P 653

Plan #1

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: #709H

Ground Level: 3227.0
KB = 25' @ 3252.0usft (H&P 653)
Northing: 371865.90 Easting: 732961.90
Latitude: 32° 1' 12.517 N Longitude: 103° 34' 54.043 W



Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.58°
Magnetic Field
Strength: 47854.3nT
Dip Angle: 59.81°
Date: 2/5/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.58°
To convert a Magnetic Direction to a True Direction, Add 6.98° East
To convert a True Direction to a Grid Direction, Subtract 0.40°

SECTION DETAILS

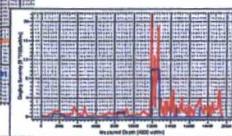
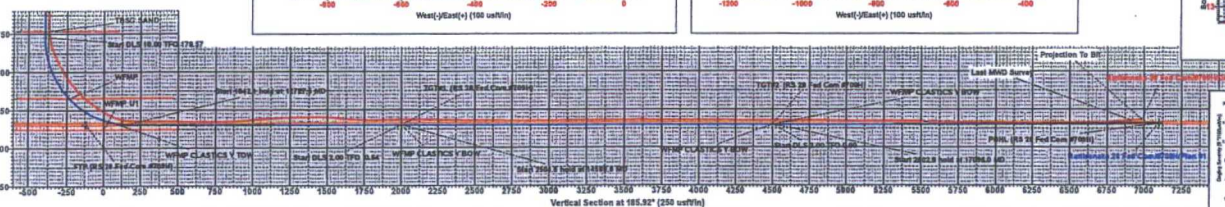
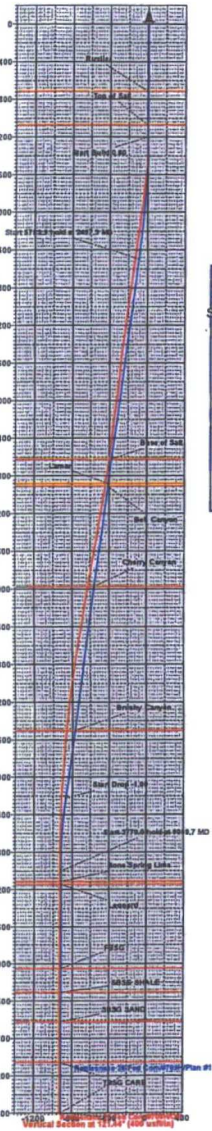
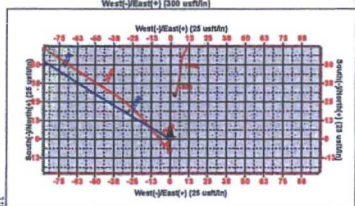
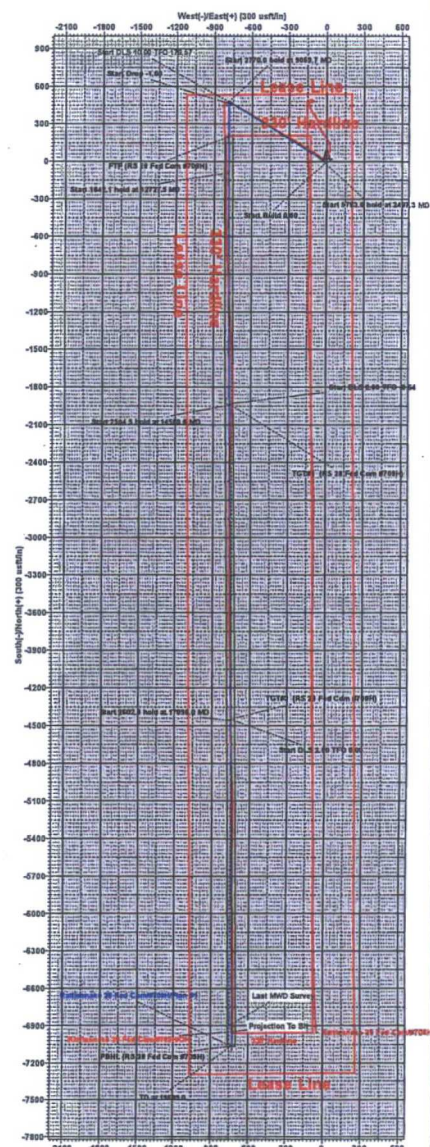
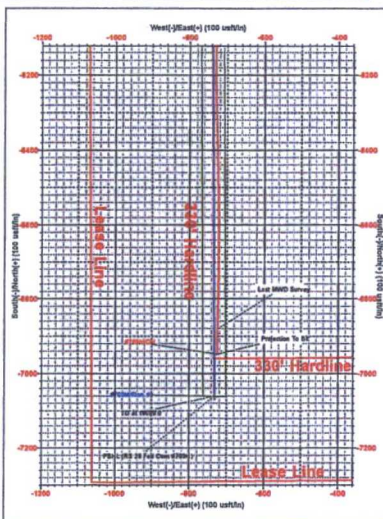
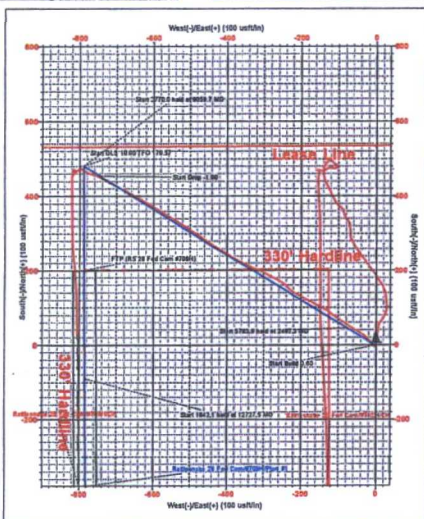
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	2497.3	7.78	301.44	2493.3	45.9	-75.1	0.60	301.44	-37.9	
4	8281.3	7.78	301.44	8224.0	454.5	-743.5	0.00	0.00	-375.4	
5	9059.7	0.00	0.00	9000.0	482.0	-788.5	1.00	180.00	-398.1	
6	11829.7	0.00	0.00	11770.0	482.0	-788.5	0.00	0.00	-398.1	
7	12727.5	89.78	179.57	12343.0	-88.7	-784.2	10.00	179.57	169.2	
8	14569.6	89.78	179.57	12350.0	-1930.8	-770.5	0.00	0.00	2000.0	TGT#1 (RS 28 Fed Com #709H)
9	14580.6	90.00	179.57	12350.0	-1941.8	-770.4	2.00	-0.64	2010.9	
10	17085.1	90.00	179.57	12350.0	-4446.2	-751.6	0.00	0.00	4500.0	TGT#2 (RS 28 Fed Com #709H)
11	17096.0	90.22	179.57	12350.0	-4457.2	-751.5	2.00	0.00	4510.9	
12	19699.0	90.22	179.57	12340.0	-7060.0	-732.0	0.00	0.00	7097.8	PBHL (RS 28 Fed Com #709H)

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 #709H)	12350.0	-1930.8	-770.5	368954.55	732190.81
TGT#2 (RS 28 Fed Com #709H)	12350.0	-4446.2	-751.6	367418.80	732209.38
PBHL (RS 28 Fed Com #709H)	12340.0	-7060.0	-732.0	364805.00	732229.00
FTP (RS 28 Fed Com #709H)	12343.0	202.0	-787.0	372067.00	732174.00



Lea County, NM (NAD 27-NME)
Rattlesnake 28 Fed Com #709H
H&P 653
Plan #1
10/10/2017



EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Rattlesnake 28 Fed Com

#709H

OH

Design: OH

PVA

22 February, 2017

HOBBS OCD
MAY 18 2017
RECEIVED



EOG Resources, Inc.

PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25' @ 3252.0usft (H&P 653)
Site:	Rattlesnake 28 Fed Com	MD Reference:	KB = 25' @ 3252.0usft (H&P 653)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Rattlesnake 28 Fed Com		
Site Position:		Northing:	371,679.00 usft
From:	Map	Easting:	735,024.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 10.534 N
		Longitude:	103° 34' 30.097 W
		Grid Convergence:	0.40 °

Well	#709H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	2/5/2017	6.98
			Dip Angle
			59.88
			Field Strength
			47,854

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			185.92

Survey Program	Date 2/22/2017		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
170.0	19,521.0	Intrepid MWD #1 (OH)	MWD
			Description
			MWD - Standard



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Rattlesnake 28 Fed Com
Well: #709H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3252.0usft (H&P 653)
MD Reference: KB = 25' @ 3252.0usft (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
170.0	0.40	166.60	170.0	-0.6	0.1	0.24	0.24	0.00	-0.6	0.0
347.0	0.30	242.60	347.0	-1.4	-0.1	0.25	-0.06	42.94	-0.8	1.2
500.0	0.40	247.40	500.0	-1.8	-1.0	0.07	0.07	3.14	-1.6	1.3
654.0	0.60	233.00	654.0	-2.5	-2.1	0.15	0.13	-9.35	-3.2	0.7
840.0	0.80	224.30	840.0	-4.0	-3.8	0.12	0.11	-4.68	-5.5	0.1
933.0	0.30	213.50	933.0	-4.7	-4.4	0.55	-0.54	-11.61	-6.3	-1.1
1,049.0	0.70	133.80	1,049.0	-5.4	-4.0	0.61	0.34	-68.71	-0.8	-6.7
1,233.0	0.50	2.20	1,233.0	-5.4	-3.2	0.60	-0.11	-71.52	5.5	2.9
1,420.0	2.50	318.40	1,419.9	-1.5	-5.9	1.16	1.07	-23.42	-0.4	4.7
1,606.0	4.40	324.20	1,605.5	7.3	-12.8	1.04	1.02	3.12	-5.4	2.7
1,794.0	6.30	313.60	1,792.7	20.3	-24.4	1.14	1.01	-5.64	-13.7	-1.7
1,981.0	8.10	300.70	1,978.3	34.1	-43.2	1.29	0.96	-6.90	-22.7	-6.8
2,168.0	8.10	303.40	2,163.4	48.1	-65.5	0.20	0.00	1.44	-32.3	-5.7
2,356.0	8.00	304.30	2,349.5	62.7	-87.4	0.09	-0.05	0.48	-37.9	-6.1
2,543.0	8.00	305.00	2,534.7	77.5	-108.8	0.05	0.00	0.37	-39.8	-7.0
2,730.0	7.60	306.20	2,720.0	92.3	-129.4	0.23	-0.21	0.64	-40.0	-8.0
2,918.0	8.40	297.50	2,906.2	106.0	-151.7	0.77	0.43	-4.63	-39.0	-14.0
3,105.0	8.30	297.40	3,091.2	118.5	-175.8	0.05	-0.05	-0.05	-40.9	-12.3
3,293.0	7.00	299.30	3,277.5	130.3	-197.8	0.70	-0.69	1.01	-40.8	-9.6
3,480.0	8.00	297.10	3,462.9	141.8	-219.3	0.56	0.53	-1.18	-39.6	-9.6
3,668.0	5.50	323.80	3,649.6	155.1	-236.3	2.10	-1.33	14.20	-36.9	5.2
3,857.0	6.80	302.20	3,837.6	168.4	-251.1	1.39	0.69	-11.43	-30.2	-12.3
4,045.0	7.90	296.00	4,024.0	179.9	-272.1	0.72	0.59	-3.30	-27.3	-14.2
4,232.0	6.90	297.70	4,209.5	190.8	-293.6	0.55	-0.53	0.91	-26.5	-11.4
4,419.0	6.80	297.50	4,395.1	201.1	-313.4	0.05	-0.05	-0.11	-23.5	-9.8
4,607.0	6.70	292.60	4,581.8	210.5	-333.4	0.31	-0.05	-2.61	-19.5	-8.8



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Rattlesnake 28 Fed Com
Well: #709H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3252.0usft (H&P 653)
MD Reference: KB = 25' @ 3252.0usft (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)
4,795.0	10.30	299.10	4,767.7	222.9	-358.2	1.98	1.91	3.46	-22.6	-4.3
4,983.0	9.10	300.60	4,953.0	238.6	-385.7	0.65	-0.64	0.80	-29.0	-2.9
5,170.0	9.30	301.70	5,137.6	254.1	-411.3	0.14	0.11	0.59	-33.7	-2.1
5,357.0	9.60	303.20	5,322.1	270.6	-437.2	0.21	0.16	0.80	-39.2	-1.6
5,546.0	9.80	302.90	5,508.4	287.9	-463.9	0.11	0.11	-0.16	-45.5	-2.6
5,733.0	10.50	302.90	5,692.5	305.8	-491.5	0.37	0.37	0.00	-53.2	-3.2
5,921.0	9.80	302.20	5,877.5	323.7	-519.5	0.38	-0.37	-0.37	-60.9	-4.4
6,109.0	9.80	301.00	6,062.8	340.4	-546.7	0.11	0.00	-0.64	-67.4	-5.8
6,296.0	9.80	300.30	6,247.0	356.7	-574.1	0.06	0.00	-0.37	-73.9	-6.3
6,483.0	9.70	300.10	6,431.3	372.6	-601.5	0.06	-0.05	-0.11	-80.3	-6.1
6,671.0	10.00	300.80	6,616.6	388.9	-629.2	0.17	0.16	0.37	-87.2	-4.6
6,858.0	9.70	298.10	6,800.8	404.6	-657.0	0.29	-0.16	-1.44	-93.6	-8.0
7,044.0	8.70	297.70	6,984.4	418.5	-683.3	0.54	-0.54	-0.22	-98.2	-7.1
7,232.0	8.00	298.70	7,170.4	431.4	-707.4	0.38	-0.37	0.53	-100.2	-3.9
7,420.0	6.00	297.00	7,357.0	442.2	-727.6	1.07	-1.06	-0.90	-97.6	-5.3
7,608.0	5.00	299.20	7,544.2	450.6	-743.5	0.54	-0.53	1.17	-90.2	-0.2
7,796.0	4.40	288.20	7,731.5	456.9	-757.5	0.57	-0.32	-5.85	-79.0	-13.0
7,984.0	4.00	283.30	7,919.0	460.6	-770.8	0.29	-0.21	-2.61	-67.0	-12.4
8,171.0	3.40	306.80	8,105.6	465.5	-781.5	0.86	-0.32	12.57	-52.7	15.5
8,359.0	1.90	309.90	8,293.4	470.8	-788.4	0.80	-0.80	1.65	-35.7	14.9
8,546.0	1.80	278.50	8,480.3	473.2	-793.7	0.54	-0.05	-16.79	-25.5	0.3
8,733.0	2.00	249.70	8,667.2	472.5	-799.6	0.52	0.11	-15.40	-19.7	-2.5
8,921.0	0.90	245.10	8,855.2	470.8	-804.1	0.59	-0.59	-2.45	-19.9	2.1
9,109.0	3.30	227.30	9,043.0	466.5	-809.4	1.31	1.28	-9.47	-25.9	-2.8
9,296.0	0.40	303.30	9,229.9	463.2	-813.9	1.73	-1.55	40.64	-10.9	29.7
9,483.0	0.70	315.50	9,416.9	464.4	-815.2	0.17	0.16	6.52	-6.2	31.4
9,670.0	0.70	348.70	9,603.9	466.3	-816.3	0.21	0.00	17.75	10.0	30.3



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Rattlesnake 28 Fed Com
Well: #709H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3252.0usft (H&P 653)
MD Reference: KB = 25' @ 3252.0usft (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)
9,857.0	0.40	294.60	9,790.9	467.7	-817.1	0.30	-0.16	-28.93	-20.0	24.9
10,044.0	0.40	48.20	9,977.9	468.4	-817.2	0.36	0.00	60.75	30.4	9.0
10,231.0	0.90	0.50	10,164.9	470.3	-816.7	0.37	0.27	-25.51	11.9	28.1
10,419.0	0.90	68.10	10,352.9	472.3	-815.3	0.53	0.00	35.96	28.5	1.0
10,608.0	0.30	70.60	10,541.9	473.0	-813.5	0.32	-0.32	1.32	26.5	-0.2
10,796.0	1.00	189.80	10,729.8	471.6	-813.3	0.63	0.37	63.40	-14.5	-22.6
10,984.0	1.40	84.00	10,917.8	470.2	-811.3	1.03	0.21	-56.28	23.9	-9.3
11,170.0	1.50	176.50	11,103.8	468.0	-808.9	1.13	0.05	49.73	-12.7	-21.2
11,358.0	1.80	227.40	11,291.7	463.6	-810.9	0.77	0.16	27.07	-28.9	-1.6
11,546.0	1.10	235.90	11,479.7	460.6	-814.5	0.39	-0.37	4.52	-33.6	3.2
11,640.0	1.10	234.00	11,573.6	459.5	-816.0	0.04	0.00	-2.02	-35.5	2.0
11,751.0	1.50	241.20	11,684.6	458.2	-818.2	0.39	0.36	6.49	-37.5	6.6
11,845.0	6.00	186.10	11,778.4	452.7	-819.8	5.62	4.79	-58.62	-32.3	-28.0
11,892.0	16.00	181.90	11,824.5	443.8	-820.2	21.33	21.28	-8.94	-36.2	-30.9
11,938.0	24.60	179.20	11,867.6	427.8	-820.3	18.80	18.70	-5.87	-44.2	-33.1
11,985.0	26.00	179.50	11,910.1	407.8	-820.1	2.99	2.98	0.64	-54.5	-32.6
12,033.0	27.20	178.90	11,953.0	386.3	-819.8	2.56	2.50	-1.25	-61.2	-32.8
12,080.0	31.00	178.50	11,994.1	363.4	-819.3	8.10	8.09	-0.85	-65.6	-32.8
12,127.0	34.30	179.70	12,033.6	338.1	-818.9	7.15	7.02	2.55	-69.3	-31.3
12,174.0	37.40	180.30	12,071.7	310.5	-818.9	6.64	6.60	1.28	-70.9	-30.9
12,220.0	42.90	176.90	12,106.9	280.9	-818.1	12.87	11.96	-7.39	-69.9	-33.5
12,267.0	48.40	174.40	12,139.7	247.4	-815.5	12.30	11.70	-5.32	-69.8	-33.0
12,314.0	49.20	173.90	12,170.7	212.2	-811.9	1.88	1.70	-1.06	-68.7	-29.6
12,361.0	52.60	176.00	12,200.3	175.9	-808.7	8.02	7.23	4.47	-65.7	-24.8
12,407.0	55.30	178.10	12,227.4	138.8	-806.8	6.93	5.87	4.57	-60.7	-21.8
12,454.0	58.60	178.90	12,253.0	99.4	-805.8	7.16	7.02	1.70	-53.5	-20.7
12,501.0	62.20	178.40	12,276.2	58.6	-804.8	7.72	7.66	-1.06	-44.8	-20.1



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Rattlesnake 28 Fed Com
Well: #709H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3252.0usft (H&P 653)
MD Reference: KB = 25' @ 3252.0usft (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)
12,548.0	68.40	177.90	12,295.8	15.9	-803.4	13.23	13.19	-1.06	-36.1	-18.9
12,594.0	74.90	179.30	12,310.3	-27.7	-802.4	14.42	14.13	3.04	-28.8	-17.9
12,641.0	83.60	180.50	12,319.1	-73.9	-802.3	18.68	18.51	2.55	-23.6	-18.0
12,689.0	88.50	179.60	12,322.4	-121.7	-802.4	10.38	10.21	-1.87	-20.7	-18.4
12,782.0	88.70	179.50	12,324.7	-214.7	-801.6	0.24	0.22	-0.11	-18.8	-18.3
12,875.0	90.90	179.60	12,325.0	-307.7	-800.9	2.37	2.37	0.11	-18.8	-18.3
12,995.0	88.10	178.80	12,326.0	-427.7	-799.2	2.43	-2.33	-0.67	-18.2	-17.5
13,089.0	88.60	178.40	12,328.7	-521.6	-796.9	0.68	0.53	-0.43	-15.9	-15.9
13,183.0	90.40	178.10	12,329.6	-615.5	-794.1	1.94	1.91	-0.32	-15.4	-13.7
13,276.0	90.60	178.10	12,328.7	-708.5	-791.0	0.22	0.22	0.00	-16.6	-11.4
13,370.0	92.80	176.00	12,326.0	-802.3	-786.1	3.23	2.34	-2.23	-19.7	-7.2
13,464.0	94.90	178.10	12,319.6	-896.0	-781.3	3.16	2.23	2.23	-26.4	-3.1
13,558.0	94.70	177.80	12,311.8	-989.6	-778.0	0.38	-0.21	-0.32	-34.6	-0.4
13,652.0	91.60	177.90	12,306.6	-1,083.3	-774.4	3.30	-3.30	0.11	-40.1	2.4
13,746.0	92.60	177.40	12,303.2	-1,177.2	-770.6	1.19	1.06	-0.53	-43.9	5.5
13,840.0	91.40	176.40	12,299.9	-1,271.0	-765.5	1.66	-1.28	-1.06	-47.6	9.9
13,935.0	89.60	177.30	12,299.1	-1,365.9	-760.3	2.12	-1.89	0.95	-48.8	14.4
14,028.0	85.80	176.60	12,302.8	-1,458.6	-755.3	4.15	-4.09	-0.75	-45.4	18.7
14,121.0	84.90	176.40	12,310.3	-1,551.1	-749.7	0.99	-0.97	-0.22	-38.2	23.6
14,187.0	86.90	176.10	12,315.1	-1,616.8	-745.4	3.06	3.03	-0.45	-33.8	27.4
14,280.0	90.50	179.80	12,317.2	-1,709.7	-742.1	5.55	3.87	3.98	-32.0	30.1
14,375.0	90.40	180.30	12,316.4	-1,804.7	-742.1	0.54	-0.11	0.53	-33.1	29.3
14,468.0	90.30	180.20	12,315.8	-1,897.7	-742.5	0.15	-0.11	-0.11	-34.0	28.2
14,562.0	90.60	182.50	12,315.1	-1,991.7	-744.8	2.47	0.32	2.45	-34.9	25.2
14,656.0	90.20	183.20	12,314.5	-2,085.6	-749.4	0.86	-0.43	0.74	-35.6	19.9
14,750.0	89.50	182.40	12,314.7	-2,179.4	-754.0	1.13	-0.74	-0.85	-35.3	14.6
14,844.0	87.90	181.70	12,316.8	-2,273.4	-757.4	1.86	-1.70	-0.74	-33.2	10.5



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Rattlesnake 28 Fed Com
Well: #709H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3252.0usft (H&P 653)
MD Reference: KB = 25' @ 3252.0usft (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)
14,938.0	88.30	181.20	12,319.9	-2,367.3	-759.8	0.68	0.43	-0.53	-30.1	7.5
15,031.0	89.50	183.20	12,321.7	-2,460.2	-763.3	2.51	1.29	2.15	-28.3	3.2
15,124.0	90.60	182.10	12,321.7	-2,553.1	-767.6	1.67	1.18	-1.18	-28.4	-1.8
15,218.0	88.40	179.10	12,322.5	-2,647.1	-768.6	3.96	-2.34	-3.19	-27.5	-3.5
15,311.0	89.50	179.50	12,324.2	-2,740.0	-767.5	1.26	1.18	0.43	-25.8	-3.1
15,404.0	90.50	179.80	12,324.2	-2,833.0	-766.9	1.12	1.08	0.32	-25.8	-3.2
15,509.0	91.30	178.90	12,322.5	-2,938.0	-765.7	1.15	0.76	-0.86	-27.5	-2.8
15,603.0	89.70	179.80	12,321.7	-3,032.0	-764.7	1.95	-1.70	0.96	-28.3	-2.4
15,697.0	90.40	180.10	12,321.6	-3,126.0	-764.6	0.81	0.74	0.32	-28.4	-3.1
15,792.0	90.30	180.20	12,321.0	-3,221.0	-764.8	0.15	-0.11	0.11	-29.0	-4.0
15,886.0	88.90	179.70	12,321.7	-3,315.0	-764.7	1.58	-1.49	-0.53	-28.3	-4.6
15,978.0	91.30	180.70	12,321.5	-3,407.0	-765.1	2.83	2.61	1.09	-28.5	-5.6
16,072.0	91.20	180.80	12,319.5	-3,500.9	-766.3	0.15	-0.11	0.11	-30.5	-7.6
16,165.0	89.90	179.50	12,318.6	-3,593.9	-766.5	1.98	-1.40	-1.40	-31.4	-8.5
16,259.0	88.80	179.20	12,319.7	-3,687.9	-765.5	1.21	-1.17	-0.32	-30.3	-8.2
16,352.0	89.70	178.40	12,320.9	-3,780.9	-763.5	1.29	0.97	-0.86	-29.1	-6.9
16,446.0	89.90	178.40	12,321.2	-3,874.9	-760.9	0.21	0.21	0.00	-28.8	-5.0
16,539.0	89.20	178.00	12,321.9	-3,967.8	-758.0	0.87	-0.75	-0.43	-28.1	-2.8
16,632.0	91.00	177.70	12,321.8	-4,060.7	-754.5	1.96	1.94	-0.32	-28.2	0.0
16,726.0	88.90	178.60	12,321.9	-4,154.7	-751.5	2.43	-2.23	0.96	-28.1	2.3
16,820.0	89.10	180.50	12,323.5	-4,248.7	-750.7	2.03	0.21	2.02	-26.5	2.4
16,914.0	91.30	181.00	12,323.2	-4,342.6	-751.9	2.40	2.34	0.53	-26.8	0.4
17,008.0	88.70	179.80	12,323.2	-4,436.6	-752.6	3.05	-2.77	-1.28	-26.8	-0.9
17,102.0	91.80	179.10	12,322.8	-4,530.6	-751.7	3.38	3.30	-0.74	-26.9	-0.7
17,196.0	88.40	178.00	12,322.6	-4,624.6	-749.3	3.80	-3.62	-1.17	-26.7	1.0
17,289.0	90.50	178.10	12,323.5	-4,717.5	-746.2	2.26	2.26	0.11	-25.5	3.4
17,383.0	89.20	178.60	12,323.7	-4,811.5	-743.5	1.48	-1.38	0.53	-24.9	5.4



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Rattlesnake 28 Fed Com
 Well: #709H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #709H
 TVD Reference: KB = 25' @ 3252.0usft (H&P 653)
 MD Reference: KB = 25' @ 3252.0usft (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)
17,478.0	88.50	178.30	12,325.6	-4,906.4	-740.9	0.80	-0.74	-0.32	-22.6	7.3
17,571.0	88.80	178.00	12,327.8	-4,999.3	-737.9	0.46	0.32	-0.32	-20.1	9.6
17,665.0	90.70	178.50	12,328.2	-5,093.3	-735.0	2.09	2.02	0.53	-19.3	11.7
17,759.0	89.40	179.20	12,328.2	-5,187.3	-733.1	1.57	-1.38	0.74	-19.0	12.9
17,852.0	90.40	180.70	12,328.3	-5,280.3	-733.0	1.94	1.08	1.61	-18.5	12.3
17,946.0	90.30	181.70	12,327.7	-5,374.2	-735.0	1.07	-0.11	1.06	-18.7	9.6
18,050.0	88.00	181.00	12,329.3	-5,478.2	-737.5	2.31	-2.21	-0.67	-16.8	6.4
18,143.0	87.80	180.80	12,332.7	-5,571.1	-738.9	0.30	-0.22	-0.22	-13.0	4.3
18,237.0	89.50	179.70	12,334.9	-5,665.1	-739.3	2.15	1.81	-1.17	-10.4	3.1
18,331.0	89.50	179.50	12,335.7	-5,759.1	-738.7	0.21	0.00	-0.21	-9.3	3.1
18,424.0	91.20	178.50	12,335.2	-5,852.1	-737.1	2.12	1.83	-1.08	-9.5	4.0
18,518.0	88.40	178.20	12,335.5	-5,946.0	-734.3	3.00	-2.98	-0.32	-8.8	6.0
18,612.0	89.30	178.20	12,337.4	-6,039.9	-731.4	0.96	0.96	0.00	-6.5	8.3
18,705.0	88.60	179.60	12,339.1	-6,132.9	-729.6	1.68	-0.75	1.51	-4.5	9.3
18,798.0	90.10	179.60	12,340.1	-6,225.9	-729.0	1.61	1.61	0.00	-3.1	9.3
18,893.0	89.50	178.10	12,340.5	-6,320.9	-727.1	1.70	-0.63	-1.58	-2.4	10.5
18,986.0	90.70	178.70	12,340.3	-6,413.8	-724.5	1.44	1.29	0.65	-2.2	12.4
19,080.0	92.70	179.00	12,337.5	-6,507.8	-722.6	2.15	2.13	0.32	-4.6	13.6
19,173.0	88.00	179.90	12,337.0	-6,600.7	-721.7	5.15	-5.05	0.97	-4.8	13.8
19,266.0	93.10	180.10	12,336.1	-6,693.7	-721.7	5.49	5.48	0.22	-5.3	13.1
19,360.0	93.90	180.60	12,330.3	-6,787.5	-722.3	1.00	0.85	0.53	-10.7	11.8
19,453.0	94.50	181.00	12,323.5	-6,880.3	-723.5	0.77	0.65	0.43	-17.2	9.8
Last MWD Survey										
19,521.0	94.50	181.00	12,318.2	-6,948.0	-724.7	0.00	0.00	0.00	-22.2	8.1
Projection To Bit										



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Rattlesnake 28 Fed Com
Well: #709H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3252.0usft (H&P 653)
MD Reference: KB = 25' @ 3252.0usft (H&P 653)
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)	
19,453.0	12,323.5	-6,880.3	-723.5	Last MWD Survey
19,521.0	12,318.2	-6,948.0	-724.7	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____