



30-025-44060

Lea County, NM (NAD 83 NME)

Ruby 2 State Com #602H

Plan #1

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

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GR83
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #602H

KB = 25' @ 3329.0usft
Northing 353648.00 Easting 816434.00 Latitude 32° 4' 44.77" N Longitude 103° 28' 42.516" W

Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.38°

Magnetic Field
Strength: 47838.0nT
Dip Angle: 59.95°
Date: 9/25/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.38°
To convert a Magnetic Direction to a True Direction, Add 6.85° East
To convert a True Direction to a Grid Direction, Subtract 0.47°

SECTION DETAILS

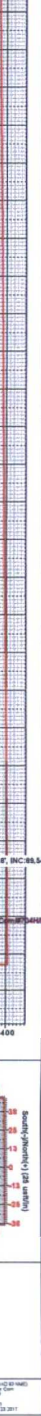
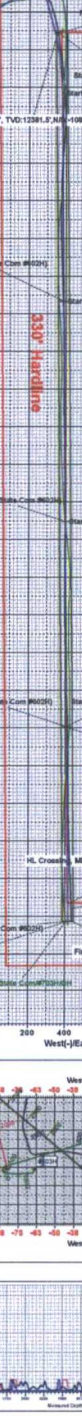
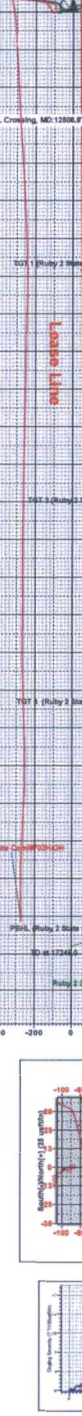
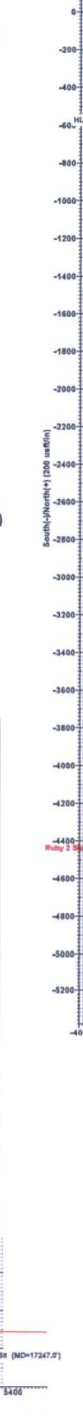
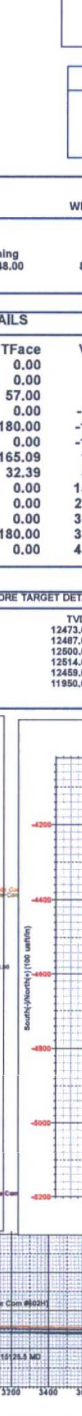
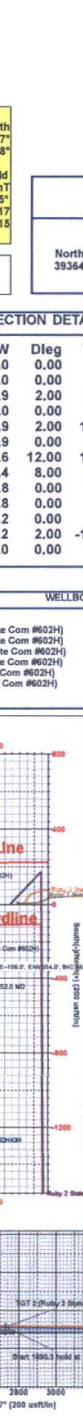
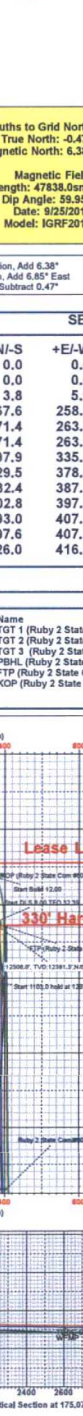
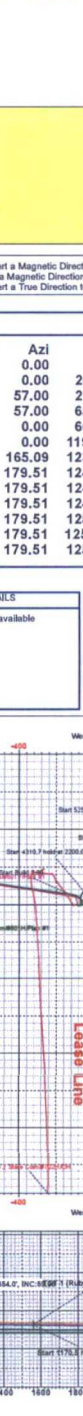
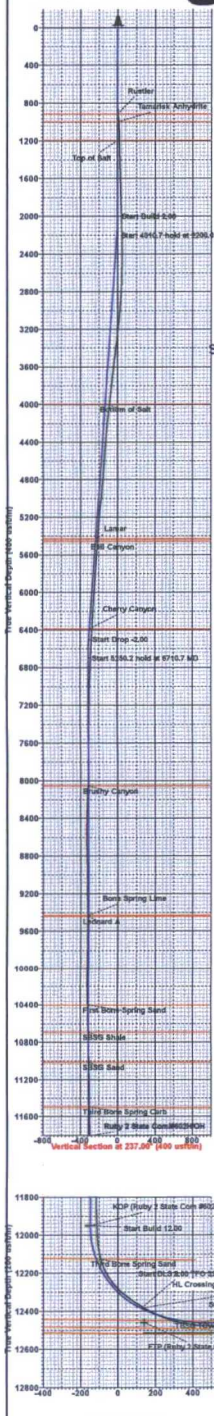
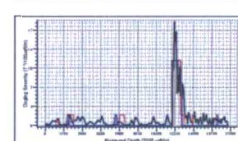
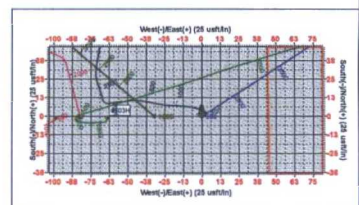
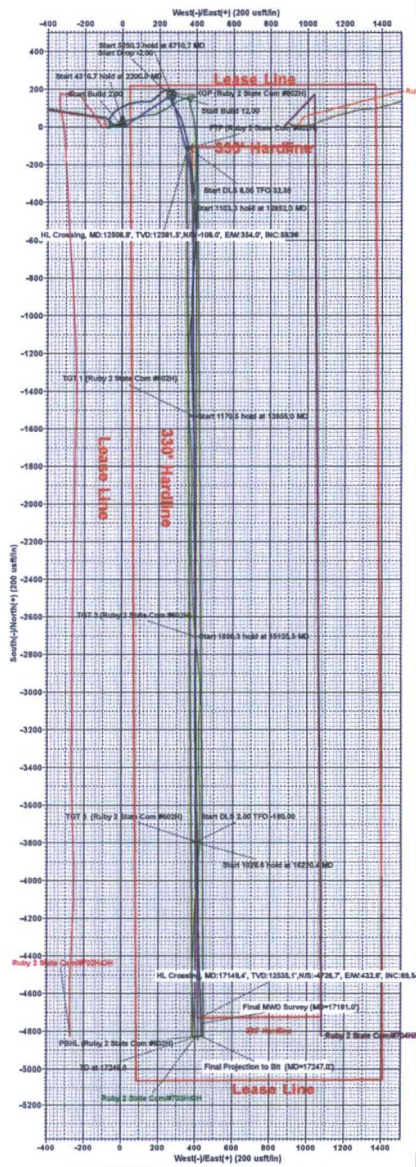
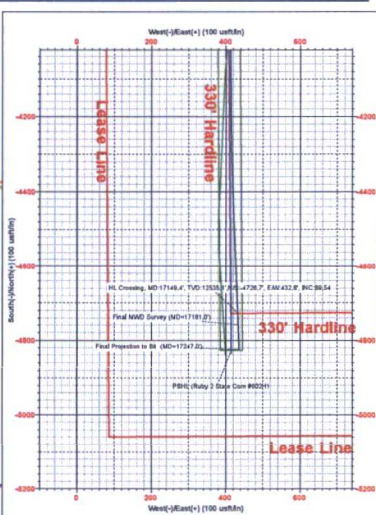
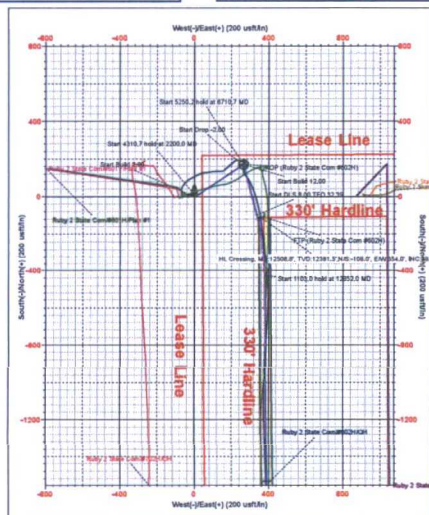
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
3	2200.0	4.00	57.00	2199.8	3.8	5.9	2.00	57.00	-3.3	
4	6510.7	4.00	57.00	6500.0	167.6	258.0	0.00	0.00	-144.8	
5	6710.7	0.00	0.00	6699.8	171.4	263.9	2.00	180.00	-148.1	
6	11960.8	0.00	0.00	11950.0	171.4	263.9	0.00	0.00	-148.1	
7	12505.8	65.38	165.09	12384.2	-97.9	335.6	12.00	165.09	126.3	
8	12852.0	89.31	179.51	12459.8	-429.5	378.4	8.00	32.39	460.4	
9	13955.0	89.31	179.51	12473.0	-1532.4	387.8	0.00	0.00	1560.0	TGT 1 (Ruby 2 State Com #602H)
10	15125.5	89.31	179.51	12487.0	-2702.8	397.8	0.00	0.00	2727.0	TGT 2 (Ruby 2 State Com #602H)
11	16215.8	89.31	179.51	12500.0	-3793.0	407.2	0.00	0.00	3814.0	TGT 3 (Ruby 2 State Com #602H)
12	16220.4	89.22	179.51	12500.1	-3797.6	407.2	2.00	-180.00	3818.5	
13	17249.0	89.22	179.51	12514.0	-4826.0	416.0	0.00	0.00	4843.9	PBHL (Ruby 2 State Com #602H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
TGT 1 (Ruby 2 State Com #602H)	12473.0	-1532.4	387.8	392115.60	816821.83
TGT 2 (Ruby 2 State Com #602H)	12487.0	-2702.8	397.8	380845.20	816831.84
TGT 3 (Ruby 2 State Com #602H)	12500.0	-3793.0	407.2	380855.00	816841.17
PBHL (Ruby 2 State Com #602H)	12514.0	-4826.0	416.0	388822.00	816850.00
FTP (Ruby 2 State Com #602H)	12459.0	-108.0	376.0	393540.00	816810.00
KOP (Ruby 2 State Com #602H)	11950.0	171.4	263.9	393819.37	816687.89



30-025-44060

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Ruby 2 State Com

#602H

OH

Design: OH

PVA Report

23 October, 2017

HOBBS OCD
FEB 01 2018
RECEIVED

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #602H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3329.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3329.0usft
Well:	#602H	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	Ruby 2 State Com		
Site Position:		Northing:	393,589.99 usft
From:	Map	Easting:	775,148.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 4' 47.315 N
		Longitude:	103° 34' 42.355 W
		Grid Convergence:	0.40 °

Well	#602H		
Well Position	+N/-S	0.0 usft	Northing: 393,648.00 usft
	+E/-W	0.0 usft	Easting: 816,434.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 4' 44.777 N
		Longitude:	103° 26' 42.516 W
		Ground Level:	3,304.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	9/25/2017	6.85
			59.95
			47,837.95545298

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)
	0.0	0.0	0.0
			Direction (°)
			175.07

Survey Program	Date 10/23/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
138.0	17,247.0	Intrepid MWD (OH)	MWD
			Description
			MWD - Standard

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #602H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3329.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3329.0usft
Well:	#602H	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
138.0	0.50	57.20	138.0	0.3	0.5	0.36	0.36	0.00	-0.6	0.0
322.0	0.70	65.40	322.0	1.2	2.2	0.12	0.11	4.46	-2.5	0.2
497.0	0.60	348.80	497.0	2.6	3.0	0.46	-0.06	-43.77	-1.9	-3.4
668.0	1.70	292.00	667.9	4.4	0.5	0.85	0.64	-33.22	-1.2	-4.3
857.0	3.40	279.10	856.8	6.3	-7.7	0.94	0.90	-6.83	-8.6	-5.1
1,004.0	4.50	272.10	1,003.4	7.2	-17.7	0.82	0.75	-4.76	-18.0	-6.6
1,223.0	1.60	284.70	1,222.1	8.3	-29.3	1.35	-1.32	5.75	-30.4	-0.6
1,409.0	1.80	278.40	1,408.0	9.4	-34.7	0.15	0.11	-3.39	-35.7	-4.3
1,595.0	2.00	281.30	1,593.9	10.5	-40.7	0.12	0.11	1.56	-42.0	-2.3
1,783.0	2.20	264.60	1,781.8	10.8	-47.6	0.34	0.11	-8.88	-46.3	-15.2
1,970.0	2.60	262.30	1,968.6	9.9	-55.3	0.22	0.21	-1.23	-53.5	-17.2
2,158.0	2.30	262.70	2,156.4	8.8	-63.3	0.16	-0.16	0.21	-65.4	-15.1
2,345.0	2.70	353.90	2,343.3	12.7	-67.5	1.92	0.21	48.77	-12.1	80.8
2,533.0	2.50	333.30	2,531.1	20.8	-69.8	0.51	-0.11	-10.96	-46.5	82.9
2,721.0	4.10	358.90	2,718.8	31.2	-71.8	1.14	0.85	13.62	-9.5	107.8
2,909.0	4.90	18.60	2,906.2	45.5	-69.3	0.92	0.43	10.48	23.3	115.1
3,096.0	7.30	38.10	3,092.2	62.4	-59.5	1.68	1.28	10.43	53.1	107.7
3,284.0	5.60	41.70	3,279.0	78.7	-46.0	0.93	-0.90	1.91	51.3	108.3
3,471.0	8.30	56.10	3,464.6	93.0	-28.7	1.71	1.44	7.70	67.1	94.8
3,658.0	6.30	66.40	3,650.1	104.7	-8.1	1.27	-1.07	5.51	72.2	81.6
3,845.0	6.30	63.40	3,836.0	113.4	10.5	0.18	0.00	-1.60	60.3	83.2
4,032.0	6.80	69.90	4,021.7	121.8	30.0	0.48	0.27	3.48	60.7	74.1
4,220.0	6.00	81.20	4,208.6	127.1	50.2	0.79	-0.43	6.01	65.3	57.6
4,407.0	4.90	80.60	4,394.7	129.9	67.7	0.59	-0.59	-0.32	58.9	52.9
4,595.0	4.40	82.70	4,582.1	132.1	82.8	0.28	-0.27	1.12	57.3	45.3
4,783.0	5.50	85.00	4,769.4	133.8	98.9	0.59	0.59	1.22	54.5	37.2

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #602H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3329.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3329.0usft
Well:	#602H	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)
4,970.0	7.30	91.20	4,955.2	134.4	119.8	1.03	0.96	3.32	48.1	24.8
5,157.0	6.00	86.30	5,141.0	134.7	141.4	0.76	-0.70	-2.62	35.6	21.3
5,344.0	3.70	57.00	5,327.3	138.7	156.2	1.77	-1.23	-15.67	19.1	31.2
5,531.0	3.20	45.10	5,514.0	145.6	165.0	0.47	-0.27	-6.36	13.9	35.9
5,719.0	3.80	52.50	5,701.6	153.1	173.6	0.40	0.32	3.94	20.1	35.5
5,906.0	3.90	50.10	5,888.2	161.0	183.4	0.10	0.05	-1.28	19.0	37.7
6,093.0	3.60	49.60	6,074.8	168.9	192.8	0.16	-0.16	-0.27	19.3	39.4
6,280.0	3.60	47.20	6,261.4	176.6	201.5	0.08	0.00	-1.28	18.8	42.2
6,469.0	2.90	49.30	6,450.1	183.8	209.5	0.38	-0.37	1.11	22.7	43.5
6,657.0	2.80	50.80	6,637.9	189.8	216.7	0.07	-0.05	0.80	24.3	44.0
6,845.0	2.00	63.20	6,825.7	194.2	223.2	0.50	-0.43	6.60	26.1	38.7
7,031.0	1.90	110.70	7,011.6	194.6	229.0	0.85	-0.05	25.54	40.9	9.3
7,218.0	1.50	80.80	7,198.6	193.9	234.3	0.51	-0.21	-15.99	25.6	26.9
7,405.0	1.30	90.00	7,385.5	194.2	238.8	0.16	-0.11	4.92	25.1	22.9
7,592.0	1.30	104.80	7,572.5	193.7	243.0	0.18	0.00	7.91	25.9	16.2
7,780.0	1.70	111.20	7,760.4	192.1	247.6	0.23	0.21	3.40	22.7	13.5
7,967.0	1.50	123.50	7,947.3	189.8	252.3	0.21	-0.11	6.58	19.9	8.9
8,155.0	3.20	104.60	8,135.2	187.1	259.4	0.98	0.90	-10.05	8.3	14.1
8,342.0	3.60	102.40	8,321.8	184.5	270.2	0.22	0.21	-1.18	-3.3	14.2
8,530.0	0.60	88.40	8,509.7	183.3	276.9	1.61	-1.60	-7.45	-13.4	11.6
8,717.0	1.20	274.20	8,696.7	183.5	276.0	0.96	0.32	-93.16	11.1	-12.9
8,904.0	1.00	266.20	8,883.6	183.5	272.4	0.13	-0.11	-4.28	9.3	-11.5
9,092.0	0.60	214.90	9,071.6	182.6	270.2	0.42	-0.21	-27.29	12.8	-1.3
9,279.0	0.60	197.10	9,258.6	180.8	269.3	0.10	0.00	-9.52	10.7	2.4
9,466.0	1.00	168.80	9,445.6	178.3	269.4	0.29	0.21	-15.13	5.7	6.7
9,653.0	0.80	160.20	9,632.6	175.5	270.1	0.13	-0.11	-4.60	1.8	7.2
9,841.0	1.60	123.60	9,820.5	172.8	272.7	0.57	0.43	-19.47	-6.6	6.1

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #602H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3329.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3329.0usft
Well:	#602H	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)	
10,027.0	2.20	119.20	10,006.4	169.6	278.0	0.33	0.32	-2.37	-13.2	5.4	
10,220.0	1.50	233.80	10,199.4	166.3	279.2	1.63	-0.36	59.38	9.4	13.1	
10,408.0	1.70	208.60	10,387.3	162.4	275.9	0.39	0.11	-13.40	-2.1	14.8	
10,596.0	0.70	253.50	10,575.3	159.6	273.5	0.69	-0.53	23.88	5.8	14.0	
10,783.0	1.30	249.90	10,762.2	158.6	270.4	0.32	0.32	-1.93	1.7	14.2	
10,970.0	1.30	255.50	10,949.2	157.3	266.3	0.07	0.00	2.99	-1.2	14.2	
11,158.0	0.70	259.90	11,137.2	156.6	263.1	0.32	-0.32	2.34	-3.3	14.4	
11,345.0	0.70	327.40	11,324.1	157.4	261.4	0.42	0.00	36.10	10.5	9.7	
11,531.0	2.90	164.50	11,510.1	153.8	262.0	1.92	1.18	-87.58	-16.5	-6.5	
11,713.0	2.70	182.60	11,691.9	145.1	263.1	0.50	-0.11	9.95	-26.3	0.4	
11,839.0	2.30	187.30	11,817.7	139.6	262.6	0.36	-0.32	3.73	-31.7	2.8	
11,933.0	2.00	193.10	11,911.7	136.1	262.0	0.39	-0.32	6.17	-34.8	6.2	
12,026.0	2.50	153.30	12,004.6	132.7	262.6	1.72	0.54	-42.80	-30.6	-17.9	
12,073.0	7.30	148.90	12,051.4	129.2	264.6	10.24	10.21	-9.36	-25.3	-17.8	
12,120.0	12.40	147.90	12,097.7	122.4	268.8	10.86	10.85	-2.13	-20.6	-14.3	
12,168.0	21.50	144.60	12,143.6	110.9	276.6	19.06	18.96	-6.87	-16.9	-9.1	
12,215.0	28.70	146.30	12,186.1	94.4	287.9	15.39	15.32	3.62	-16.0	-1.1	
12,261.0	36.10	151.60	12,224.9	73.3	300.5	17.22	16.09	11.52	-15.6	7.3	
12,308.0	42.60	156.80	12,261.3	46.4	313.4	15.50	13.83	11.06	-15.2	14.1	
12,355.0	49.50	162.70	12,293.9	14.7	325.0	17.23	14.68	12.55	-14.8	18.3	
12,402.0	54.10	165.00	12,323.0	-20.8	335.2	10.51	9.79	4.89	-15.1	19.5	
12,448.0	56.30	167.00	12,349.2	-57.4	344.3	5.97	4.78	4.35	-13.6	19.1	
12,495.0	58.70	170.40	12,374.5	-96.3	352.1	7.96	5.11	7.23	-9.1	16.8	
12,508.8	59.96	170.73	12,381.5	-108.0	354.0	9.37	9.14	2.41	-7.6	15.7	
HL Crossing, MD:12508.8', TVD:12381.5', N/S:-108.0', E/W:354.0', INC:59.96											
12,542.0	63.00	171.50	12,397.4	-136.8	358.5	9.37	9.15	2.31	-4.3	13.1	
12,589.0	65.90	172.10	12,417.6	-178.8	364.6	6.28	6.17	1.28	0.2	10.3	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #602H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3329.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3329.0usft
Well:	#602H	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)	
12,636.0	70.10	173.50	12,435.2	-222.0	370.0	9.35	8.94	2.98	4.5	8.3	
12,683.0	73.70	173.60	12,449.8	-266.4	375.0	7.66	7.66	0.21	8.1	7.2	
12,729.0	78.60	173.00	12,460.8	-310.7	380.3	10.73	10.65	-1.30	10.8	7.8	
12,776.0	81.20	173.20	12,469.1	-356.7	385.8	5.55	5.53	0.43	13.2	9.9	
12,823.0	85.80	176.30	12,474.4	-403.1	390.1	11.78	9.79	6.60	15.3	12.2	
12,870.0	87.80	176.90	12,477.0	-450.0	392.9	4.44	4.26	1.28	17.0	14.3	
12,964.0	93.20	179.00	12,476.2	-543.9	396.2	6.16	5.74	2.23	15.0	16.9	
12,986.0	92.30	180.40	12,475.1	-565.8	396.3	7.56	-4.09	6.36	13.7	16.8	
13,066.0	89.00	184.20	12,474.2	-645.8	393.1	6.29	-4.12	4.75	11.9	12.9	
13,160.0	86.90	184.50	12,477.6	-739.4	386.0	2.26	-2.23	0.32	14.1	4.9	
13,254.0	87.40	183.30	12,482.3	-833.1	379.6	1.38	0.53	-1.28	17.6	-2.2	
13,348.0	88.40	181.80	12,485.7	-926.9	375.4	1.92	1.06	-1.60	20.0	-7.2	
13,441.0	88.40	181.40	12,488.3	-1,019.8	372.9	0.43	0.00	-0.43	21.4	-10.6	
13,535.0	87.80	179.20	12,491.4	-1,113.8	372.4	2.42	-0.64	-2.34	23.4	-11.9	
13,629.0	89.60	178.50	12,493.6	-1,207.7	374.2	2.05	1.91	-0.74	24.4	-10.8	
13,723.0	88.80	178.10	12,494.9	-1,301.7	377.0	0.95	-0.85	-0.43	24.6	-8.8	
13,817.0	89.30	177.90	12,496.4	-1,395.6	380.3	0.57	0.53	-0.21	25.1	-6.3	
13,911.0	89.50	178.40	12,497.4	-1,489.6	383.3	0.57	0.21	0.53	24.9	-4.1	
14,004.0	88.30	177.90	12,499.2	-1,582.5	386.3	1.40	-1.29	-0.54	25.6	-1.9	
14,097.0	90.20	179.30	12,500.4	-1,675.5	388.6	2.54	2.04	1.51	25.7	-0.4	
14,191.0	90.40	179.80	12,499.9	-1,769.4	389.4	0.57	0.21	0.53	24.1	-0.5	
14,284.0	89.70	179.30	12,499.8	-1,862.4	390.1	0.92	-0.75	-0.54	22.9	-0.6	
14,378.0	90.30	180.30	12,499.8	-1,956.4	390.4	1.24	0.64	1.06	21.8	-1.0	
14,472.0	90.20	180.00	12,499.4	-2,050.4	390.2	0.34	-0.11	-0.32	20.2	-2.1	
14,565.0	89.30	179.30	12,499.8	-2,143.4	390.7	1.23	-0.97	-0.75	19.5	-2.3	
14,658.0	88.00	178.60	12,502.0	-2,236.4	392.4	1.59	-1.40	-0.75	20.6	-1.4	
14,753.0	87.80	178.80	12,505.5	-2,331.3	394.6	0.30	-0.21	0.21	23.0	-0.1	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #602H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3329.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3329.0usft
Well:	#602H	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)
14,846.0	87.30	178.60	12,509.5	-2,424.2	396.7	0.58	-0.54	-0.22	25.8	1.3
14,940.0	88.90	180.00	12,512.6	-2,518.1	397.9	2.26	1.70	1.49	27.8	1.6
15,033.0	88.70	180.80	12,514.6	-2,611.1	397.2	0.89	-0.22	0.86	28.6	0.1
15,126.0	89.10	179.80	12,516.3	-2,704.1	396.7	1.16	0.43	-1.08	29.3	-1.1
15,220.0	90.80	180.70	12,516.4	-2,798.1	396.3	2.05	1.81	0.96	28.3	-2.4
15,313.0	90.60	180.10	12,515.3	-2,891.1	395.7	0.68	-0.22	-0.65	26.0	-3.8
15,406.0	90.80	180.20	12,514.1	-2,984.1	395.4	0.24	0.22	0.11	23.8	-4.8
15,500.0	89.70	179.60	12,513.7	-3,078.1	395.6	1.33	-1.17	-0.64	22.2	-5.5
15,592.0	89.30	179.20	12,514.5	-3,170.1	396.5	0.61	-0.43	-0.43	22.0	-5.3
15,685.0	89.40	179.30	12,515.6	-3,263.0	397.8	0.15	0.11	0.11	21.9	-4.9
15,778.0	88.40	178.50	12,517.4	-3,356.0	399.5	1.38	-1.08	-0.86	22.6	-3.9
15,872.0	88.70	178.50	12,519.8	-3,449.9	402.0	0.32	0.32	0.00	23.8	-2.2
15,966.0	90.00	178.40	12,520.8	-3,543.9	404.5	1.39	1.38	-0.11	23.8	-0.5
16,060.0	88.90	177.90	12,521.7	-3,637.8	407.6	1.29	-1.17	-0.53	23.5	1.7
16,154.0	89.70	178.40	12,522.9	-3,731.8	410.6	1.00	0.85	0.53	23.6	4.0
16,248.0	90.20	179.90	12,523.0	-3,825.8	412.0	1.68	0.53	1.60	22.5	4.6
16,341.0	89.60	179.30	12,523.1	-3,918.8	412.7	0.91	-0.65	-0.65	21.4	4.4
16,435.0	89.40	179.70	12,523.9	-4,012.8	413.5	0.48	-0.21	0.43	21.0	4.4
16,529.0	88.40	179.30	12,525.7	-4,106.7	414.3	1.15	-1.06	-0.43	21.5	4.4
16,623.0	88.00	179.30	12,528.7	-4,200.7	415.4	0.43	-0.43	0.00	23.2	4.8
16,717.0	89.10	178.80	12,531.1	-4,294.6	417.0	1.29	1.17	-0.53	24.3	5.6
16,810.0	90.00	178.30	12,531.8	-4,387.6	419.4	1.11	0.97	-0.54	23.7	7.1
16,903.0	88.80	177.30	12,532.8	-4,480.5	422.9	1.68	-1.29	-1.08	23.5	9.9
16,997.0	89.30	177.60	12,534.3	-4,574.4	427.1	0.62	0.53	0.32	23.7	13.3
17,090.0	90.00	178.00	12,534.9	-4,667.4	430.7	0.87	0.75	0.43	23.1	16.0
17,149.4	89.54	178.00	12,535.1	-4,726.7	432.8	0.77	-0.77	0.00	22.5	17.6
HL Crossing, MD:17149.4', TVD:12535.1', N/S:-4726.7', E/W:432.8', INC:89.54										

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #602H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3329.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3329.0usft
Well:	#602H	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)
17,181.0	89.30	178.00	12,535.5	-4,758.3	433.9	0.77	-0.77	0.00	22.4	18.4
Final MWD Survey (MD=17181.0')										
17,247.0	89.30	178.00	12,536.3	-4,824.3	436.2	0.00	0.00	0.00	22.3	20.2
Final Projection to Bit (MD=17247.0')										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,508.8	12,381.5	-108.0	354.0	HL Crossing, MD:12508.8', TVD:12381.5', N/S:-108.0', E/W:354.0', INC:59.96
17,149.4	12,535.1	-4,726.7	432.8	HL Crossing, MD:17149.4', TVD:12535.1', N/S:-4726.7', E/W:432.8', INC:89.54
17,181.0	12,535.5	-4,758.3	433.9	Final MWD Survey (MD=17181.0')
17,247.0	12,536.3	-4,824.3	436.2	Final Projection to Bit (MD=17247.0')

Checked By: _____	Approved By: _____	Date: _____
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