



HOBBS OCD
NOV 02 2017
RECEIVED

Lea County, NM (NAD 27 NME)
Calm Breeze 2Fed Com #702H
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



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.61°
Magnetic Field
Strength: 47940.5nT
Dip Angle: 59.94°
Date: 8/2/2016
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.61°
To convert a Magnetic Direction to a True Direction, Add 7.03° East
To convert a True Direction to a Grid Direction, Subtract 6.42°

WELL DETAILS: #702H

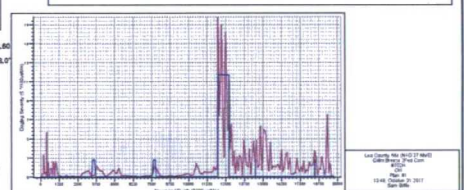
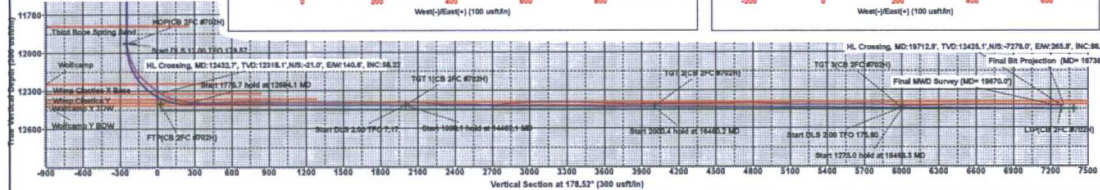
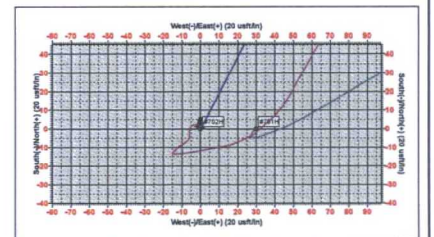
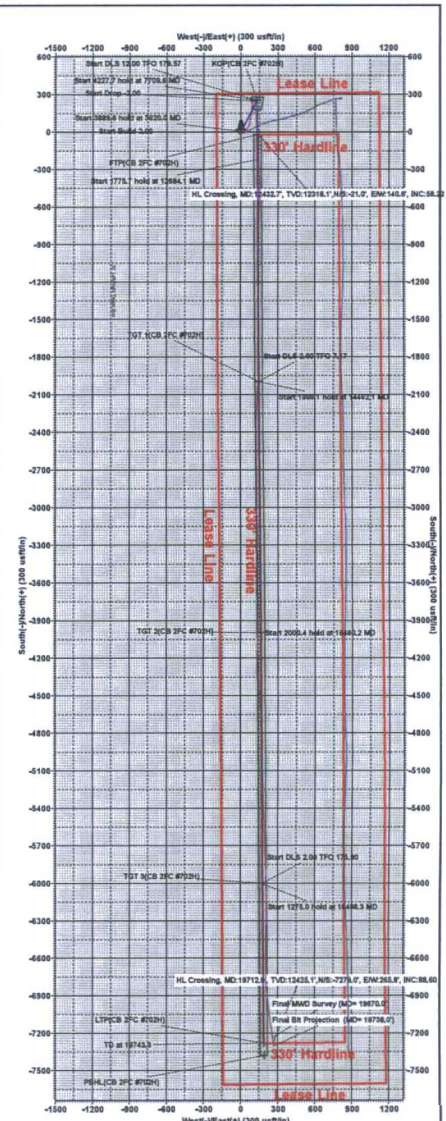
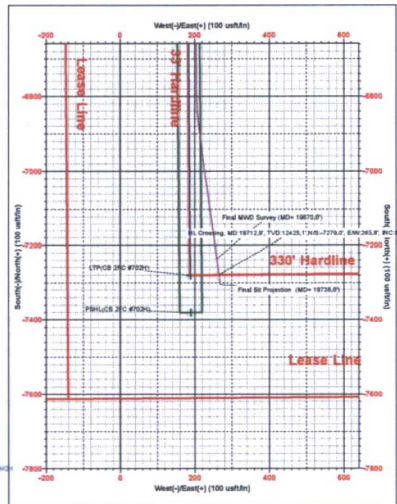
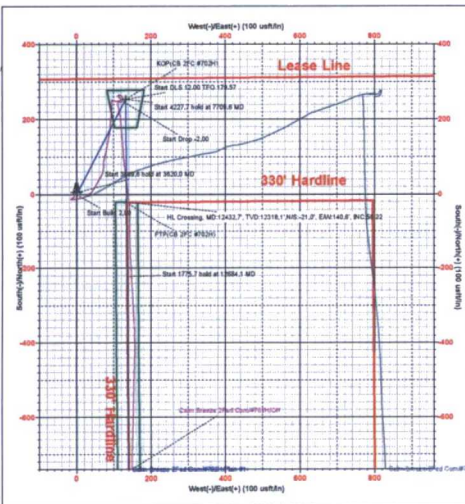
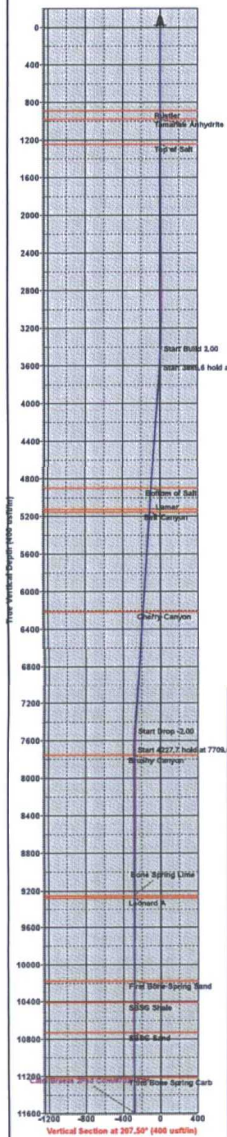
Ground Level: 3324.0
KB = 25 @ 3349.00
Northing: 390631.00
Easting: 743793.00
Latitude: 32° 4' 17.457" N
Longitude: 103° 32' 46.645" W
Slot

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
3420.0	0.00	0.00	3420.0	0.0	0.0	0.00	0.00	0.0	
3620.0	4.00	27.50	3619.8	6.2	3.2	2.00	27.50	-6.1	
7509.6	4.00	27.50	7500.0	246.9	128.5	0.00	0.00	-243.5	
7709.6	0.00	0.00	7699.8	253.1	131.7	2.00	180.00	-249.6	
11937.3	0.00	0.00	11927.5	253.1	131.7	0.00	0.00	-249.6	
12684.1	89.61	179.57	12405.0	-221.2	135.3	12.00	179.57	224.6	
14459.8	89.61	179.57	12417.0	-1996.8	148.8	0.00	0.00	2000.0	TGT 1(CB 2FC #702H)
14462.1	89.66	179.57	12417.0	-1999.1	148.8	2.00	7.17	2002.2	TGT 2(CB 2FC #702H)
16460.2	89.66	179.57	12429.0	-3997.1	163.7	0.00	0.00	4000.0	TGT 3(CB 2FC #702H)
18460.6	89.66	179.57	12441.0	-5997.4	178.7	0.00	0.00	6000.0	
18468.3	89.50	179.58	12441.1	-6005.1	178.7	2.00	175.80	6007.7	
19743.3	89.50	179.58	12452.1	-7280.0	188.0	0.00	0.00	7282.4	LTP(CB 2FC #702H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
KOP(CB 2FC #702H)	11927.5	253.1	131.7	390894.05	743924.73	Polygon
FTPCB 2FC #702H	12405.0	-21.0	134.0	390810.00	743927.00	Point
TGT 1(CB 2FC #702H)	12417.0	-1996.8	148.8	390834.20	743941.77	Point
TGT 2(CB 2FC #702H)	12429.0	-3997.1	163.7	390833.90	743956.72	Point
TGT 3(CB 2FC #702H)	12441.0	-5997.4	178.7	390833.60	743971.67	Point
LTP(CB 2FC #702H)	12452.1	-7280.0	188.0	390361.00	743981.00	Point
PBL(CB 2FC #702H)	12453.0	-7380.0	189.0	390251.00	743982.00	Rectangle (Sides: L0.0 W60.0)





EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Calm Breeze 2Fed Com

#702H

OH

Design: OH

PVA Report

31 October, 2017

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NOV 02 2017
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Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Calm Breeze 2Fed Com
Well: #702H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3349.0usft
MD Reference: KB = 25 @ 3349.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

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 Calm Breeze 2Fed Com

Site Position:		Northing:	390,631.00 usft	Latitude:	32° 4' 17.455 N
From:	Map	Easting:	743,823.00 usft	Longitude:	103° 32' 46.296 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well #702H

Well Position	+N/-S	0.0 usft	Northing:	390,631.00 usft	Latitude:	32° 4' 17.457 N
	+E/-W	0.0 usft	Easting:	743,793.00 usft	Longitude:	103° 32' 46.645 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,324.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/2/2016	7.03	59.94	47,940.46323027

Design OH

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:**

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	178.53



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3349.0usft
Site:	Calm Breeze 2Fed Com	MD Reference:	KB = 25 @ 3349.0usft
Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey Program		Date 10/31/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
161.0	1,023.0	Invictus MWD (OH)	MWD	MWD - Standard
1,168.0	19,738.0	Intrepid MWD (OH)	MWD	MWD - Standard

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	0.0
161.0	0.80	4.53	161.0	1.1	0.1	0.50	0.50	0.00	-1.1	0.0	
190.0	0.30	295.53	190.0	1.4	0.0	2.58	-1.72	-237.93	-0.6	-1.2	
275.0	0.60	313.53	275.0	1.8	-0.5	0.39	0.35	21.18	-1.6	-0.9	
364.0	0.70	262.53	364.0	2.0	-1.4	0.64	0.11	-57.30	-1.1	-2.2	
386.0	0.70	259.53	386.0	2.0	-1.6	0.17	0.00	-13.64	-1.2	-2.2	
396.0	1.00	289.53	396.0	2.0	-1.8	5.27	3.00	300.00	-2.3	-1.3	
427.0	0.40	280.53	427.0	2.1	-2.1	1.96	-1.94	-29.03	-2.5	-1.7	
457.0	0.40	285.53	457.0	2.1	-2.3	0.12	0.00	16.67	-2.8	-1.4	
488.0	0.80	298.53	488.0	2.3	-2.6	1.35	1.29	41.94	-3.4	-0.7	
520.0	0.40	259.53	520.0	2.4	-2.9	1.72	-1.25	-121.87	-2.5	-2.9	
552.0	0.50	257.53	552.0	2.3	-3.2	0.32	0.31	-6.25	-2.6	-2.9	
583.0	0.50	259.53	583.0	2.3	-3.4	0.06	0.00	6.45	-3.0	-2.8	
645.0	0.30	281.53	645.0	2.2	-3.9	0.40	-0.32	35.48	-4.2	-1.4	
672.0	0.50	250.53	672.0	2.2	-4.1	1.07	0.74	-114.81	-3.1	-3.4	
703.0	0.20	272.53	703.0	2.2	-4.2	1.04	-0.97	70.97	-4.3	-2.0	
798.0	0.20	209.53	798.0	2.0	-4.5	0.22	0.00	-66.32	-0.4	-4.9	
829.0	0.70	250.53	829.0	1.9	-4.7	1.82	1.61	132.26	-3.8	-3.4	
860.0	0.40	200.53	860.0	1.8	-4.9	1.74	-0.97	-161.29	-0.1	-5.2	
954.0	0.60	199.53	954.0	1.0	-5.2	0.21	0.21	-1.06	-0.8	-5.2	
985.0	0.60	249.53	985.0	0.8	-5.4	1.64	0.00	161.29	-4.8	-2.6	

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Calm Breeze 2Fed Com
Well: #702H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3349.0usft
MD Reference: KB = 25 @ 3349.0usft
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)
1,023.0	0.70	185.53	1,023.0	0.5	-5.6	1.83	0.26	-168.42	-0.1	-5.6
1,168.0	0.50	206.00	1,168.0	-1.0	-6.0	0.20	-0.14	14.12	-3.5	-4.9
1,355.0	0.50	169.30	1,354.9	-2.5	-6.2	0.17	0.00	-19.63	-1.3	-6.5
1,539.0	0.50	173.80	1,538.9	-4.1	-5.9	0.02	0.00	2.45	-3.4	-6.3
1,726.0	0.60	222.70	1,725.9	-5.6	-6.5	0.25	0.05	26.15	-8.5	-1.0
1,913.0	0.60	225.30	1,912.9	-7.0	-7.9	0.01	0.00	1.39	-10.5	-0.5
2,100.0	0.80	244.20	2,099.9	-8.3	-9.7	0.16	0.11	10.11	-12.4	3.2
2,288.0	0.70	231.70	2,287.9	-9.6	-11.8	0.10	-0.05	-6.65	-15.2	0.2
2,476.0	0.60	225.10	2,475.9	-11.0	-13.4	0.07	-0.05	-3.51	-17.3	-1.7
2,663.0	0.70	225.40	2,662.9	-12.5	-14.9	0.05	0.05	0.16	-19.4	-1.6
2,851.0	0.40	112.40	2,850.9	-13.5	-15.1	0.50	-0.16	-60.11	8.8	-18.3
3,037.0	1.50	83.80	3,036.8	-13.5	-12.1	0.63	0.59	-15.38	13.5	-12.1
3,226.0	2.90	81.10	3,225.7	-12.5	-4.9	0.74	0.74	-1.43	6.8	-11.6
3,413.0	3.20	78.60	3,412.4	-10.7	4.9	0.18	0.16	-1.34	-2.6	-11.5
3,600.0	3.40	82.10	3,599.1	-8.9	15.5	0.15	0.11	1.87	-10.8	-15.6
3,787.0	5.00	57.20	3,785.6	-3.8	27.8	1.28	0.86	-13.32	-5.2	-27.4
3,973.0	5.10	40.60	3,970.9	6.9	40.0	0.78	0.05	-8.92	-0.5	-33.0
4,159.0	4.10	29.80	4,156.3	18.9	48.7	0.71	-0.54	-5.81	3.8	-34.6
4,346.0	4.20	27.70	4,342.8	30.8	55.2	0.10	0.05	-1.12	4.6	-34.7
4,533.0	3.90	32.90	4,529.4	42.2	61.8	0.25	-0.16	2.78	1.2	-35.6
4,721.0	4.50	24.20	4,716.9	54.3	68.3	0.46	0.32	-4.63	6.0	-35.2
4,908.0	3.70	6.00	4,903.4	67.0	72.0	0.81	-0.43	-9.73	15.8	-29.1
5,093.0	3.60	354.40	5,088.0	78.7	72.0	0.40	-0.05	-6.27	20.5	-19.5
5,281.0	4.70	16.60	5,275.5	92.0	73.6	1.03	0.59	11.81	11.3	-21.1
5,468.0	4.70	12.60	5,461.9	106.8	77.5	0.18	0.00	-2.14	10.1	-17.4
5,655.0	4.40	13.20	5,648.3	121.3	80.8	0.16	-0.16	0.32	7.7	-14.2
5,842.0	4.30	9.80	5,834.8	135.1	83.6	0.15	-0.05	-1.82	6.8	-10.2

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Calm Breeze 2Fed Com
Well: #702H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3349.0usft
MD Reference: KB = 25 @ 3349.0usft
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)	
6,028.0	4.10	11.40	6,020.3	148.5	86.1	0.12	-0.11	0.86	5.3	-6.6	
6,217.0	4.00	8.30	6,208.8	161.7	88.4	0.13	-0.05	-1.64	4.8	-2.3	
6,405.0	4.00	5.00	6,396.3	174.7	90.0	0.12	0.00	-1.76	3.9	2.6	
6,591.0	4.00	5.60	6,581.9	187.6	91.2	0.02	0.00	0.32	3.0	7.4	
6,777.0	4.10	6.40	6,767.4	200.7	92.5	0.06	0.05	0.43	2.1	12.2	
6,965.0	4.00	2.80	6,955.0	213.9	93.6	0.15	-0.05	-1.91	0.0	17.3	
7,152.0	3.60	3.30	7,141.5	226.3	94.3	0.21	-0.21	0.27	-0.4	22.7	
7,339.0	3.40	1.20	7,328.2	237.7	94.7	0.13	-0.11	-1.12	-0.9	28.3	
7,526.0	2.90	356.80	7,514.9	248.0	94.6	0.30	-0.27	-2.35	-2.1	34.3	
7,712.0	0.40	9.10	7,700.8	253.3	94.4	1.35	-1.34	6.61	5.7	36.9	
7,897.0	0.90	139.60	7,885.8	252.8	95.4	0.65	0.27	70.54	23.3	-27.8	
8,083.0	0.90	117.30	8,071.8	251.0	97.7	0.19	0.00	-11.99	29.3	-17.4	
8,270.0	1.00	109.10	8,258.8	249.8	100.5	0.09	0.05	-4.39	28.4	-13.2	
8,456.0	1.10	105.60	8,444.7	248.8	103.8	0.06	0.05	-1.88	25.8	-11.6	
8,643.0	1.10	88.50	8,631.7	248.4	107.3	0.17	0.00	-9.14	24.5	-4.0	
8,827.0	1.20	72.90	8,815.7	249.0	110.9	0.18	0.05	-8.48	21.1	2.3	
9,013.0	1.10	71.30	9,001.6	250.2	114.5	0.06	-0.05	-0.86	17.3	2.8	
9,200.0	0.80	71.50	9,188.6	251.1	117.4	0.16	-0.16	0.11	14.2	2.7	
9,387.0	0.50	75.50	9,375.6	251.8	119.4	0.16	-0.16	2.14	12.2	1.8	
9,575.0	0.20	12.80	9,563.6	252.3	120.3	0.24	-0.16	-33.35	3.3	11.0	
9,761.0	0.80	345.20	9,749.6	253.9	120.0	0.34	0.32	-14.84	-3.8	11.1	
9,948.0	1.30	311.90	9,936.5	256.5	118.1	0.41	0.27	-17.81	-12.4	6.5	
10,135.0	1.00	319.40	10,123.5	259.2	115.5	0.18	-0.16	4.01	-15.2	8.3	
10,321.0	1.60	314.80	10,309.5	262.3	112.6	0.33	0.32	-2.47	-20.1	7.0	
10,499.0	1.80	70.00	10,487.4	265.0	113.5	1.61	0.11	64.72	13.1	17.4	
10,687.0	1.10	111.40	10,675.4	265.3	117.9	0.65	-0.37	22.02	17.3	6.4	
10,874.0	1.50	132.00	10,862.3	263.0	121.4	0.33	0.21	11.02	14.3	0.5	

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Well: #702H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3349.0usft
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
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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)
11,062.0	2.20	162.70	11,050.2	257.9	124.3	0.63	0.37	16.33	6.9	-5.6
11,249.0	1.20	180.10	11,237.1	252.5	125.4	0.60	-0.53	9.30	-0.5	-6.4
11,435.0	1.70	217.30	11,423.1	248.4	123.7	0.56	0.27	20.00	-8.6	-3.6
11,622.0	1.70	257.60	11,610.0	245.6	119.3	0.63	0.00	21.55	-13.7	4.6
11,680.0	1.70	280.60	11,668.0	245.6	117.6	1.17	0.00	39.66	-12.5	10.0
11,819.0	2.00	314.20	11,806.9	247.6	113.8	0.80	0.22	24.17	-9.0	16.3
11,913.0	1.30	270.00	11,900.9	248.8	111.6	1.49	-0.74	-47.02	-20.1	4.3
11,939.1	4.84	184.08	11,926.9	247.7	111.2	18.85	13.56	-329.18	-6.8	-20.1
KOP(CB 2FC #702H)										
11,960.0	8.70	177.20	11,947.7	245.2	111.2	18.85	18.48	-32.94	-6.3	-20.8
12,007.0	16.00	168.60	11,993.6	235.3	112.7	15.98	15.53	-18.30	-9.0	-21.2
12,053.0	19.30	168.70	12,037.4	221.6	115.4	7.17	7.17	0.22	-14.6	-19.5
12,101.0	23.80	171.90	12,082.0	204.3	118.4	9.69	9.37	6.67	-19.8	-16.3
12,148.0	29.70	174.70	12,124.0	183.3	120.8	12.83	12.55	5.96	-23.9	-13.3
12,194.0	37.90	176.90	12,162.2	157.8	122.6	18.02	17.83	4.78	-28.5	-11.0
12,241.0	45.50	176.60	12,197.3	126.6	124.4	16.18	16.17	-0.64	-34.4	-9.8
12,287.0	48.80	174.50	12,228.5	93.0	127.0	7.92	7.17	-4.57	-39.5	-8.5
12,334.0	50.70	172.50	12,258.9	57.3	131.1	5.19	4.04	-4.26	-42.2	-5.5
12,381.0	51.70	171.90	12,288.3	21.0	136.1	2.35	2.13	-1.28	-41.1	-0.5
12,428.0	57.50	175.30	12,315.6	-17.0	140.3	13.67	12.34	7.23	-37.7	5.2
12,432.7	58.22	175.71	12,318.1	-21.0	140.6	17.07	15.42	8.63	-37.3	5.6
HL Crossing, MD:12432.7', TVD:12318.1', N/S:-21.0', E/W:140.6', INC:58.22										
12,474.0	64.64	179.02	12,337.8	-57.2	142.2	17.07	15.54	8.04	-34.4	8.0
FTP(CB 2FC #702H)										
12,475.0	64.80	179.10	12,338.2	-58.1	142.2	17.07	15.64	7.57	-34.4	8.1
12,522.0	71.80	179.50	12,355.6	-101.7	142.8	14.91	14.89	0.85	-32.1	8.3
12,568.0	76.40	178.00	12,368.2	-146.0	143.7	10.48	10.00	-3.26	-29.9	8.9
12,615.0	78.80	177.00	12,378.3	-191.8	145.7	5.51	5.11	-2.13	-25.5	10.6

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Calm Breeze 2Fed Com
Well: #702H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3349.0usft
MD Reference: KB = 25 @ 3349.0usft
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)
12,677.0	82.60	176.30	12,388.3	-252.9	149.3	6.23	6.13	-1.13	-16.9	13.8
12,708.0	86.00	176.90	12,391.4	-283.7	151.1	11.14	10.97	1.94	-14.0	15.3
12,771.0	88.10	177.20	12,394.6	-346.5	154.4	3.37	3.33	0.48	-11.2	18.1
12,864.0	92.70	180.70	12,394.0	-439.4	156.1	6.21	4.95	3.76	-12.4	19.1
12,957.0	93.30	181.80	12,389.1	-532.3	154.1	1.35	0.65	1.18	-17.9	16.4
13,050.0	90.50	181.50	12,386.0	-625.2	151.4	3.03	-3.01	-0.32	-21.7	13.0
13,143.0	90.20	181.80	12,385.5	-718.1	148.7	0.46	-0.32	0.32	-22.9	9.6
13,237.0	88.20	180.80	12,386.8	-812.1	146.6	2.38	-2.13	-1.06	-22.2	6.8
13,331.0	87.50	180.80	12,390.3	-906.0	145.3	0.74	-0.74	0.00	-19.3	4.8
13,425.0	89.40	182.30	12,392.8	-1,000.0	142.7	2.57	2.02	1.60	-17.4	1.5
13,519.0	91.10	181.10	12,392.4	-1,093.9	139.9	2.21	1.81	-1.28	-18.4	-2.0
13,612.0	91.30	181.10	12,390.5	-1,186.9	138.2	0.22	0.22	0.00	-21.0	-4.5
13,706.0	87.80	179.10	12,391.2	-1,280.8	138.0	4.29	-3.72	-2.13	-20.9	-5.4
13,799.0	90.10	179.40	12,392.9	-1,373.8	139.2	2.49	2.47	0.32	-19.8	-4.8
13,892.0	89.00	178.70	12,393.7	-1,466.8	140.7	1.40	-1.18	-0.75	-19.7	-4.0
13,986.0	87.90	178.50	12,396.2	-1,560.7	143.0	1.19	-1.17	-0.21	-17.8	-2.4
14,081.0	90.90	179.40	12,397.2	-1,655.7	144.8	3.30	3.16	0.95	-17.5	-1.4
14,175.0	90.90	179.10	12,395.7	-1,749.7	146.0	0.32	0.00	-0.32	-19.6	-0.9
14,268.0	88.70	179.20	12,396.1	-1,842.7	147.4	2.37	-2.37	0.11	-19.9	-0.2
14,361.0	91.20	182.20	12,396.1	-1,935.6	146.3	4.20	2.69	3.23	-20.5	-2.0
14,421.5	91.20	183.29	12,394.9	-1,996.0	143.4	1.81	0.00	1.81	-22.1	-5.4
TGT 1(CB 2FC #702H)										
14,455.0	91.20	183.90	12,394.2	-2,029.5	141.3	1.81	0.00	1.81	-23.0	-7.7
14,547.0	87.30	183.20	12,395.4	-2,121.3	135.6	4.31	-4.24	-0.76	-22.4	-14.1
14,641.0	86.30	182.90	12,400.6	-2,215.0	130.6	1.11	-1.06	-0.32	-17.7	-19.8
14,734.0	85.70	181.70	12,407.1	-2,307.7	126.8	1.44	-0.65	-1.29	-11.8	-24.2
14,827.0	91.10	180.30	12,409.7	-2,400.6	125.2	6.00	5.81	-1.51	-9.7	-26.6

Company: EOG Resources - Midland
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Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25 @ 3349.0usft
MD Reference: KB = 25 @ 3349.0usft
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)
14,920.0	90.70	179.70	12,408.2	-2,493.6	125.2	0.78	-0.43	-0.65	-11.7	-27.3
15,013.0	85.70	178.20	12,411.2	-2,586.5	126.9	5.61	-5.38	-1.61	-9.3	-26.3
15,106.0	90.70	179.00	12,414.1	-2,679.4	129.2	5.44	5.38	0.86	-7.0	-24.7
15,199.0	94.90	180.70	12,409.5	-2,772.3	129.4	4.87	4.52	1.83	-12.0	-25.2
15,293.0	93.40	179.70	12,402.7	-2,866.0	129.1	1.92	-1.60	-1.06	-19.5	-26.2
15,395.0	94.10	179.50	12,396.1	-2,967.8	129.8	0.71	0.69	-0.20	-26.7	-26.2
15,489.0	90.30	179.00	12,392.5	-3,061.7	131.1	4.08	-4.04	-0.53	-30.9	-25.7
15,583.0	89.60	178.50	12,392.5	-3,155.7	133.1	0.92	-0.74	-0.53	-31.4	-24.3
15,676.0	90.50	179.30	12,392.5	-3,248.7	134.9	1.29	0.97	0.86	-32.1	-23.2
15,770.0	89.40	179.30	12,392.5	-3,342.6	136.0	1.17	-1.17	0.00	-32.5	-22.8
15,864.0	88.40	179.60	12,394.3	-3,436.6	136.9	1.11	-1.06	0.32	-31.3	-22.6
15,957.0	87.10	179.90	12,398.0	-3,529.6	137.3	1.43	-1.40	0.32	-28.2	-22.9
16,051.0	88.40	179.70	12,401.7	-3,623.5	137.7	1.40	1.38	-0.21	-25.1	-23.3
16,145.0	87.60	179.50	12,405.0	-3,717.4	138.3	0.88	-0.85	-0.21	-22.3	-23.3
16,238.0	90.40	180.50	12,406.6	-3,810.4	138.3	3.20	3.01	1.08	-21.3	-24.0
16,331.0	90.40	181.10	12,405.9	-3,903.4	137.0	0.65	0.00	0.65	-22.5	-26.0
16,424.2	89.41	181.30	12,406.1	-3,996.5	135.1	1.08	-1.06	0.21	-22.9	-28.6
TGT 2(CB 2FC #702H)										
16,425.0	89.40	181.30	12,406.1	-3,997.4	135.1	1.08	-1.06	0.21	-22.9	-28.6
16,518.0	90.90	179.40	12,405.9	-4,090.3	134.5	2.60	1.61	-2.04	-23.7	-29.9
16,611.0	89.70	177.00	12,405.4	-4,183.3	137.4	2.89	-1.29	-2.58	-24.8	-27.7
16,705.0	89.10	176.30	12,406.4	-4,277.1	142.9	0.98	-0.64	-0.74	-24.3	-22.9
16,798.0	91.10	177.00	12,406.2	-4,370.0	148.3	2.28	2.15	0.75	-25.1	-18.2
16,892.0	91.00	177.30	12,404.5	-4,463.8	153.0	0.34	-0.11	0.32	-27.3	-14.2
16,986.0	90.70	177.40	12,403.1	-4,557.7	157.4	0.34	-0.32	0.11	-29.3	-10.5
17,079.0	90.40	177.60	12,402.2	-4,650.6	161.4	0.39	-0.32	0.22	-30.7	-7.2
17,172.0	90.70	178.00	12,401.3	-4,743.6	165.0	0.54	0.32	0.43	-32.2	-4.3

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TVD Reference: KB = 25 @ 3349.0usft
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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)
17,265.0	88.70	177.80	12,401.8	-4,836.5	168.4	2.16	-2.15	-0.22	-32.3	-1.6
17,358.0	87.90	178.20	12,404.5	-4,929.4	171.6	0.96	-0.86	0.43	-30.1	0.9
17,452.0	87.40	178.50	12,408.4	-5,023.3	174.3	0.62	-0.53	0.32	-26.8	3.0
17,545.0	88.50	178.20	12,411.7	-5,116.2	177.0	1.23	1.18	-0.32	-24.0	4.9
17,639.0	88.50	177.60	12,414.2	-5,210.1	180.5	0.64	0.00	-0.64	-22.1	7.7
17,732.0	90.20	178.00	12,415.2	-5,303.0	184.0	1.88	1.83	0.43	-21.6	10.5
17,826.0	90.20	178.40	12,414.9	-5,396.9	187.0	0.43	0.00	0.43	-22.5	12.8
17,920.0	90.90	178.10	12,414.0	-5,490.9	189.9	0.81	0.74	-0.32	-24.0	15.0
18,014.0	90.70	178.70	12,412.7	-5,584.9	192.5	0.67	-0.21	0.64	-25.8	16.9
18,107.0	89.20	178.10	12,412.8	-5,677.8	195.1	1.74	-1.61	-0.65	-26.3	18.8
18,201.0	88.50	177.10	12,414.7	-5,771.7	199.0	1.30	-0.74	-1.06	-25.0	22.0
18,294.0	87.60	176.30	12,417.8	-5,864.5	204.4	1.29	-0.97	-0.86	-22.4	26.6
18,388.0	87.60	177.90	12,421.8	-5,958.3	209.1	1.70	0.00	1.70	-19.0	30.7
18,427.1	88.31	178.90	12,423.2	-5,997.4	210.2	3.13	1.81	2.55	-17.9	31.5
TGT 3(CB 2FC #702H)										
18,482.0	89.30	180.30	12,424.3	-6,052.2	210.6	3.13	1.81	2.55	-17.2	31.5
18,575.0	91.20	181.00	12,423.9	-6,145.2	209.5	2.18	2.04	0.75	-18.4	29.8
18,669.0	91.40	181.10	12,421.8	-6,239.2	207.8	0.24	0.21	0.11	-21.3	27.4
18,763.0	90.50	181.00	12,420.2	-6,333.2	206.1	0.96	-0.96	-0.11	-23.7	25.0
18,856.0	90.50	181.80	12,419.4	-6,426.1	203.8	0.86	0.00	0.86	-25.3	22.0
18,950.0	89.20	180.00	12,419.6	-6,520.1	202.3	2.36	-1.38	-1.91	-25.9	19.9
19,043.0	90.00	179.10	12,420.3	-6,613.1	203.1	1.29	0.86	-0.97	-26.1	19.9
19,137.0	89.80	179.10	12,420.5	-6,707.1	204.5	0.21	-0.21	0.00	-26.7	20.7
19,230.0	90.60	179.20	12,420.1	-6,800.1	205.9	0.87	0.86	0.11	-27.8	21.4
19,324.0	90.50	172.30	12,419.2	-6,893.8	212.9	7.34	-0.11	-7.34	-29.7	27.6
19,416.0	90.00	172.20	12,418.8	-6,984.9	225.3	0.55	-0.54	-0.11	-30.9	39.3
19,509.0	88.50	172.20	12,420.0	-7,077.0	237.9	1.61	-1.61	0.00	-30.7	51.2

Company: EOG Resources - Midland
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TVD Reference: KB = 25 @ 3349.0usft
MD Reference: KB = 25 @ 3349.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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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)
19,602.0	88.60	172.10	12,422.4	-7,169.1	250.6	0.15	0.11	-0.11	-29.2	63.2
19,670.0	88.60	172.10	12,424.1	-7,236.5	260.0	0.00	0.00	0.00	-28.1	72.1
Final MWD Survey (MD= 19670.0')										
19,703.9	88.60	172.10	12,424.9	-7,270.0	264.6	0.00	0.00	0.00	-27.6	76.5
LTP(CB 2FC #702H)										
19,712.9	88.60	172.10	12,425.1	-7,279.0	265.8	0.00	0.00	0.00	-27.5	77.7
HL Crossing, MD:19712.9', TVD:12425.1',N/S:-7279.0', E/W:265.8', INC:88.60										
19,738.0	88.60	172.10	12,425.7	-7,303.8	269.3	0.00	0.00	0.00	-29.5	83.7
Final Bit Projection (MD= 19738.0') - PBHL(CB 2FC #702H)										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,432.7	12,318.1	-21.0	140.6	HL Crossing, MD:12432.7', TVD:12318.1',N/S:-21.0', E/W:140.6', INC:58.22
19,670.0	12,424.1	-7,236.5	260.0	Final MWD Survey (MD= 19670.0')
19,712.9	12,425.1	-7,279.0	265.8	HL Crossing, MD:19712.9', TVD:12425.1',N/S:-7279.0', E/W:265.8', INC:88.60
19,738.0	12,425.7	-7,303.8	269.3	Final Bit Projection (MD= 19738.0')

Checked By: _____ Approved By: _____ Date: _____