



Lea County, NM (NAD 83 NME)

Dogwood 23 Fed Com #709H

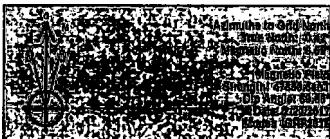
Plan #1

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: #709H

Ground Level: 3287.0
KB = 25' @ 3312.0usft
Northing: 372708.00 Easting: 784446.00 Latitude: 32° 1' 20.022 N Longitude: 103° 32' 58.053 W



To convert a Magnetic Direction to a Grid Direction, Add 8.55°
To convert a Magnetic Direction to a True Direction, Add 8.56° East
To convert a True Direction to a Grid Direction, Subtract 0.01°

SECTION DETAILS

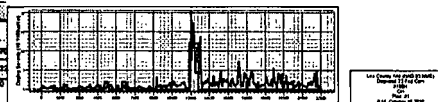
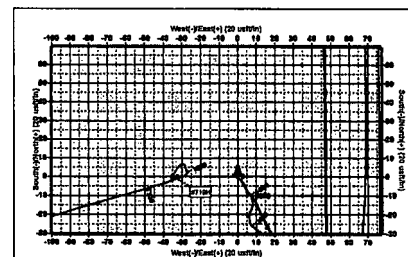
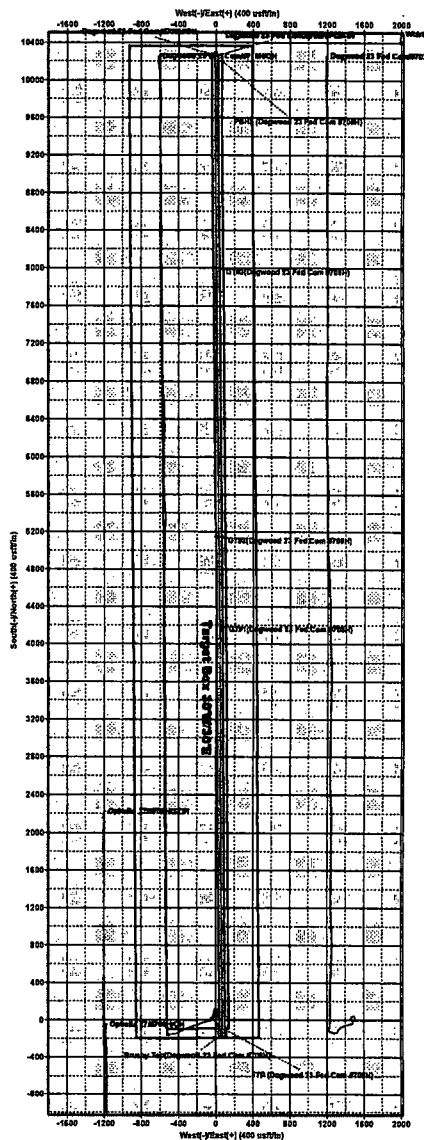
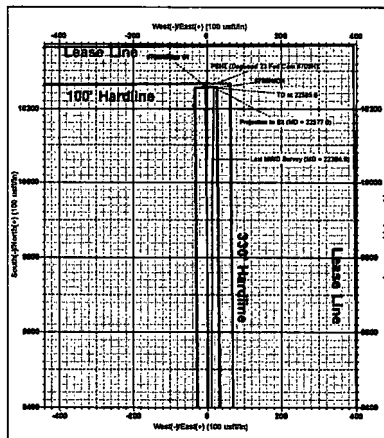
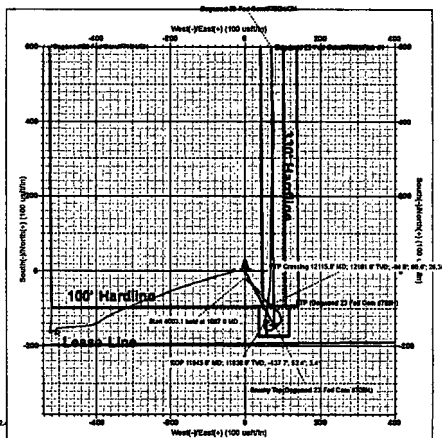
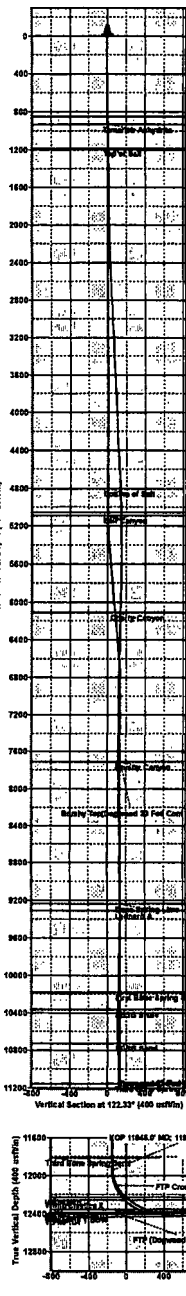
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	909.0	0.88	130.57	908.9	-8.8	6.5	0.00	0.00	-8.8	
2	1009.0	0.88	130.57	1008.9	-9.7	7.7	0.00	0.00	-9.8	
3	1097.0	0.00	0.00	1096.9	-10.2	8.2	1.00	180.00	-10.2	
4	5100.1	0.00	0.00	5100.0	-10.2	8.2	0.00	0.00	-10.2	
5	5399.9	6.00	152.46	5399.2	-24.1	15.5	2.00	152.46	-24.1	
6	6544.7	6.00	152.46	6537.8	-130.1	70.8	0.00	0.00	-130.1	
7	6844.5	0.00	0.00	6837.0	-144.0	78.0	2.00	180.00	-144.0	
8	11923.0	0.00	0.00	11915.5	-144.0	78.0	0.00	0.00	-144.0	
9	12673.0	90.00	359.56	12393.0	333.4	74.4	12.00	359.56	333.4	
10	16539.6	90.00	359.56	12393.0	4200.0	45.0	0.00	0.00	4200.0	TGT#1(Dogwood 23 Fed Com #709H)
11	16542.7	90.06	359.56	12393.0	4203.0	45.0	2.00	0.00	4203.0	TGT#2(Dogwood 23 Fed Com #709H)
12	17489.6	90.06	359.56	12392.0	5160.0	37.8	0.00	0.00	5160.0	TGT#3(Dogwood 23 Fed Com #709H)
13	17496.7	90.20	359.56	12392.0	5167.0	37.7	2.00	0.00	5167.0	
14	20339.7	90.20	359.56	12382.0	8000.0	16.1	0.00	0.00	8000.0	
15	20342.2	90.15	359.56	12382.0	8002.4	16.1	2.00	180.00	8002.4	PBHL (Dogwood 23 Fed Com #709H)
16	22595.8	90.15	359.56	12376.0	10256.0	-1.0	0.00	0.00	10256.0	

CASING DETAILS

No casing data is available

WELLBORE TAYDEY DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Brushy Top(Dogwood 23 Fed Com #709H)	7709.0	-144.0	76.0	372564.00	784524.00
PBHL (Dogwood 23 Fed Com #709H)	12376.0	10256.0	-1.0	382864.00	784445.00
TGT#1(Dogwood 23 Fed Com #709H)	12392.0	8000.0	16.1	390708.00	784452.14
TGT#2(Dogwood 23 Fed Com #709H)	12392.0	5160.0	37.8	377350.00	784453.79
FTP (Dogwood 23 Fed Com #709H)	12393.0	-94.0	76.0	372814.00	784524.00
TGT#3(Dogwood 23 Fed Com #709H)	12393.0	4200.0	45.0	376908.00	784451.00



HOBBS OCD

DEC 11 2018

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Dogwood 23 Fed Com

#709H

OH

Design: OH

Midland PVA

16 October, 2018



Midland PVA

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Dogwood 23 Fed Com Well: #708H Wellbore: OH Design: OH		Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:		Well #708H KB = 25' @ 3312.0usft KB = 25' @ 3312.0usft Grid Minimum Curvature EDM 5000.14													
Project Lea County, NM (NAD 83 NME)																	
Map System: US State Plane 1983 Geo Datum: North American Datum 1983 Map Zone: New Mexico Eastern Zone		System Datum:		Mean Sea Level													
Site Dogwood 23 Fed Com																	
Site Position: From: Map Position Uncertainty: 0.0 usft		Northing: 372,741.00 usft Easting: 788,311.00 usft Slot Radius: 13-3/16 "		Latitude: 32° 1' 20.069 N Longitude: 103° 32' 11.158 W Grid Convergence: 0.42 °													
Well #708H																	
Well Position +N-S 0.0 usft +E-W 0.0 usft Position Uncertainty 0.0 usft		Northing: 372,708.00 usft Easting: 784,446.00 usft Wellhead Elevation: 0.0 usft		Latitude: 32° 1' 20.022 N Longitude: 103° 32' 56.053 W Ground Level: 3,287.0 usft													
Wellbore OH																	
<table border="1"> <thead> <tr> <th>Magnetics</th> <th>Model Name</th> <th>Sample Date</th> <th>Declination (°)</th> <th>Dip Angle (°)</th> <th>Field Strength (nT)</th> </tr> </thead> <tbody> <tr> <td></td> <td>IGRF2015</td> <td>2/23/2017</td> <td>6.96</td> <td>59.88</td> <td>47,853.48642350</td> </tr> </tbody> </table>						Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)		IGRF2015	2/23/2017	6.96	59.88	47,853.48642350
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)												
	IGRF2015	2/23/2017	6.96	59.88	47,853.48642350												
Design OH																	
Audit Notes: Version: 1.0 Phase: ACTUAL Tie On Depth: 0.0																	
Vertical Section:		Depth From (TVD) (usft) 0.0	+N-S (usft) 0.0	+E-W (usft) 0.0	Direction (°) 359.99												
Survey Program Date 10/18/2018																	
From (usft) 147.0	To (usft) 22,577.0	Survey (Wellbore) Drilltech MWD (OH)	Tool Name MWD	Description OWSG MWD - Standard													



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
	#708H	North Reference:	Grid
WellBore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (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
147.0	0.26	133.38	147.0	-0.2	0.2	0.18	0.18	0.00	0.0	0.0	0.0
235.0	0.97	132.50	235.0	-0.9	0.9	0.81	0.81	-1.00	0.0	0.0	0.0
323.0	1.32	134.88	323.0	-2.1	2.2	0.40	0.40	2.70	0.0	0.0	0.0
411.0	1.06	147.80	411.0	-3.5	3.4	0.42	-0.30	14.68	0.0	0.0	0.0
498.0	1.14	149.73	497.9	-4.9	4.2	0.10	0.09	2.22	0.0	0.0	0.0
678.0	0.53	160.72	677.9	-7.3	5.4	0.35	-0.34	6.11	0.0	0.0	0.0
771.0	0.35	184.71	770.9	-7.9	5.5	0.27	-0.19	25.80	0.0	0.0	0.0
865.0	0.70	111.06	864.9	-8.4	6.0	0.73	0.37	-78.35	0.0	0.0	0.0
909.0	0.88	130.57	908.9	-8.8	6.5	0.73	0.41	44.34	0.0	0.0	0.0
1,067.0	0.35	173.28	1,066.9	-10.0	7.5	0.42	-0.34	27.03	0.2	-0.6	-0.6
1,160.0	0.53	182.86	1,159.9	-10.7	7.5	0.21	0.19	10.30	-0.6	-0.7	-0.7
1,254.0	0.70	164.50	1,253.9	-11.7	7.7	0.27	0.18	-19.53	-1.3	-0.9	-0.9
1,347.0	0.70	161.33	1,346.9	-12.8	8.0	0.04	0.00	-3.41	-2.4	-1.0	-1.0
1,440.0	0.79	166.43	1,439.9	-14.0	8.3	0.12	0.10	5.48	-3.7	-0.8	-0.8
1,534.0	1.06	193.24	1,533.9	-15.4	8.3	0.54	0.29	28.52	-5.1	1.3	1.3
1,627.0	1.32	204.13	1,626.8	-17.3	7.6	0.37	0.28	11.71	-6.7	2.4	2.4
1,722.0	1.58	213.63	1,721.8	-19.3	6.5	0.37	0.27	10.00	-8.6	3.6	3.6
1,817.0	1.49	159.84	1,816.8	-21.6	6.2	1.46	-0.09	-56.62	-10.0	-5.9	-5.9
1,912.0	1.67	169.86	1,911.8	-24.1	6.8	0.35	0.19	10.55	-13.5	-3.8	-3.8
2,006.0	1.67	131.54	2,005.7	-26.4	8.1	1.17	0.00	-40.77	-10.6	-12.2	-12.2
2,101.0	1.93	126.53	2,100.7	-28.2	10.4	0.32	0.27	-5.27	-12.5	-13.2	-13.2
2,196.0	1.93	130.48	2,195.6	-30.2	12.9	0.14	0.00	4.16	-16.6	-12.2	-12.2
2,291.0	2.02	129.95	2,290.6	-32.3	15.4	0.10	0.09	-0.56	-19.8	-12.4	-12.4
2,481.0	1.93	134.52	2,480.4	-36.7	20.3	0.10	-0.05	2.41	-27.2	-10.5	-10.5
2,575.0	2.29	137.16	2,574.4	-39.2	22.7	0.40	0.38	2.81	-31.1	-9.1	-9.1
2,670.0	2.46	136.90	2,669.3	-42.1	25.4	0.18	0.18	-0.27	-35.0	-9.3	-9.3



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	EW (usft)	DLeg ("/100usft)	Bofid ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
2,765.0	2.46	135.93	2,764.2	-45.1	28.2	0.04	0.00	-1.02	-38.9	-8.9	
2,859.0	2.73	134.26	2,858.1	-48.1	31.2	0.30	0.29	-1.78	-42.9	-11.1	
2,954.0	2.90	129.43	2,953.0	-51.2	34.7	0.31	0.18	-5.08	-46.5	-14.9	
3,048.0	2.81	145.25	3,046.9	-54.6	37.8	0.84	-0.10	16.83	-53.3	-1.0	
3,143.0	3.08	157.55	3,141.8	-58.9	40.1	0.72	0.28	12.95	-57.2	10.9	
3,237.0	3.08	149.11	3,235.6	-63.4	42.4	0.48	0.00	-8.98	-63.2	2.0	
3,331.0	2.64	147.01	3,329.5	-67.3	44.8	0.48	-0.47	-2.23	-67.9	-0.4	
3,425.0	2.64	142.96	3,423.4	-70.9	47.3	0.20	0.00	-4.31	-72.0	-5.3	
3,519.0	2.64	142.35	3,517.3	-74.3	50.0	0.03	0.00	-0.65	-76.3	-6.1	
3,613.0	2.81	130.04	3,611.2	-77.5	53.0	0.65	0.18	-13.10	-77.6	-22.7	
3,707.0	3.34	131.80	3,705.1	-80.8	56.9	0.57	0.56	1.87	-83.3	-20.3	
3,802.0	3.52	125.74	3,799.9	-84.4	61.3	0.43	0.19	-6.38	-86.4	-29.3	
3,895.0	2.55	140.41	3,892.8	-87.6	64.9	1.33	-1.04	15.77	-95.8	-5.7	
3,989.0	2.20	134.52	3,986.7	-90.5	67.5	0.45	-0.37	-6.27	-98.6	-15.7	
4,083.0	2.02	131.36	4,080.6	-92.9	70.1	0.23	-0.19	-3.36	-101.1	-21.2	
4,178.0	2.11	137.69	4,175.6	-95.3	72.5	0.26	0.09	6.66	-106.2	-9.7	
4,272.0	2.20	140.76	4,269.5	-98.0	74.8	0.16	0.10	3.27	-110.1	-3.9	
4,366.0	2.55	127.49	4,363.4	-100.6	77.6	0.89	0.37	-14.12	-110.1	-29.6	
4,460.0	3.52	120.29	4,457.3	-103.4	81.8	1.11	1.03	-7.66	-110.5	-43.4	
4,554.0	2.73	136.46	4,551.1	-106.4	85.8	1.25	-0.84	17.20	-123.2	-10.1	
4,648.0	2.99	136.28	4,645.0	-109.8	89.0	0.28	0.28	-0.19	-127.9	-10.5	
4,743.0	2.46	156.23	4,739.9	-113.5	91.6	1.14	-0.56	21.00	-128.1	34.7	
4,837.0	2.55	164.23	4,833.8	-117.3	92.9	0.38	0.10	8.51	-126.1	52.5	
4,931.0	2.55	160.28	4,927.7	-121.3	94.2	0.19	0.00	-4.20	-133.6	43.5	
5,024.0	2.46	166.08	5,020.6	-125.2	95.4	0.29	-0.10	6.24	-132.6	57.0	
5,118.0	1.93	169.15	5,114.6	-128.7	96.2	0.58	-0.56	3.27	-132.9	64.1	
5,213.0	1.85	168.19	5,209.5	-131.8	96.8	0.09	-0.08	-1.01	-135.0	61.2	

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
5,308.0	2.55	213.54	5,304.5	-135.1	95.9	1.91	0.74	47.74	-52.2	135.2	
5,402.0	3.52	222.77	5,398.3	-138.9	92.8	1.15	1.03	9.82	-32.2	134.0	
5,497.0	3.89	218.46	5,493.1	-143.4	88.9	0.34	0.18	-4.54	-44.1	121.9	
5,592.0	2.55	227.60	5,588.0	-147.3	85.5	1.31	-1.20	9.82	-26.6	118.3	
5,687.0	2.02	236.21	5,682.9	-149.6	82.5	0.66	-0.56	9.06	-11.2	111.4	
5,782.0	1.93	236.21	5,777.9	-151.4	79.8	0.09	-0.09	0.00	-13.3	101.5	
5,876.0	1.93	234.02	5,871.8	-153.3	77.2	0.08	0.00	-2.33	-18.9	91.1	
6,066.0	1.85	231.82	6,061.7	-157.0	72.2	0.06	-0.04	-1.16	-24.9	70.7	
6,161.0	1.67	266.80	6,156.7	-158.1	69.6	1.13	-0.19	36.82	13.4	64.0	
6,256.0	1.76	270.05	6,251.6	-158.1	66.8	0.14	0.09	3.42	9.6	54.5	
6,351.0	1.76	269.17	6,346.6	-158.2	63.9	0.03	0.00	-0.93	1.4	45.7	
6,445.0	1.67	271.02	6,440.5	-158.1	61.1	0.11	-0.10	1.97	-4.6	37.0	
6,540.0	1.58	269.00	6,535.5	-158.1	58.4	0.11	-0.09	-2.13	-12.9	27.9	
6,635.0	1.85	309.95	6,630.5	-157.2	55.9	1.29	0.28	43.11	-1.7	27.2	
6,730.0	2.02	321.03	6,725.4	-154.9	53.6	0.43	0.18	11.66	-4.7	26.2	
6,825.0	2.02	319.89	6,820.4	-152.3	51.5	0.04	0.00	-1.20	-10.7	25.6	
6,919.0	1.93	13.59	6,914.3	-149.5	50.8	1.90	-0.10	57.13	11.7	25.1	
7,014.0	1.93	25.54	7,009.3	-146.5	51.9	0.42	0.00	12.58	13.5	22.5	
7,109.0	1.67	24.75	7,104.2	-143.8	53.2	0.27	-0.27	-0.83	10.2	22.6	
7,204.0	1.23	26.68	7,199.2	-141.6	54.2	0.47	-0.46	2.03	8.6	22.3	
7,299.0	1.06	38.17	7,294.2	-140.0	55.2	0.27	-0.18	9.99	10.3	20.8	
7,394.0	0.79	31.96	7,389.1	-138.8	56.0	0.29	-0.28	-4.43	7.2	21.4	
7,488.0	0.44	57.01	7,483.1	-138.0	56.7	0.46	-0.37	26.65	14.6	16.6	
7,583.0	0.26	65.71	7,578.1	-137.7	57.2	0.20	-0.19	9.16	16.4	14.3	
7,678.0	0.35	146.92	7,673.1	-137.9	57.5	0.42	0.09	85.48	16.3	-13.8	
7,772.0	0.53	135.93	7,767.1	-138.4	58.0	0.21	0.19	-11.69	17.9	-10.5	
7,867.0	0.88	207.30	7,862.1	-139.4	58.0	0.92	0.37	75.13	-5.1	-19.9	



Midland PVA

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
7,962.0	1.32	194.55	7,957.1	-141.1	57.4	0.53	0.46	-13.42	-2.4	-20.7	
8,057.0	1.76	183.13	8,052.1	-143.6	57.0	0.56	0.46	-12.02	-0.8	-21.0	
8,152.0	2.11	180.05	8,147.0	-146.8	56.9	0.38	0.37	-3.24	-2.8	-21.1	
8,246.0	2.02	177.15	8,241.0	-150.2	57.0	0.15	-0.10	-3.09	-5.2	-21.3	
8,341.0	1.85	173.02	8,335.9	-153.4	57.3	0.23	-0.18	-4.35	-6.8	-21.7	
8,436.0	2.02	171.97	8,430.8	-156.6	57.7	0.18	0.18	-1.11	-9.6	-21.9	
8,531.0	2.11	172.41	8,525.8	-160.0	58.2	0.10	0.09	0.46	-13.2	-21.8	
8,720.0	0.44	151.14	8,714.7	-164.1	59.0	0.90	-0.88	-11.25	-8.4	-26.4	
8,815.0	0.70	163.26	8,809.7	-164.9	59.3	0.30	0.27	12.76	-14.7	-23.9	
8,910.0	0.70	185.15	8,904.7	-166.1	59.4	0.28	0.00	23.04	-23.6	-16.5	
9,005.0	0.88	205.36	8,999.7	-167.3	59.1	0.35	0.19	21.27	-29.2	-7.1	
9,099.0	0.97	208.97	9,093.7	-168.7	58.4	0.11	0.10	3.84	-31.1	-5.2	
9,194.0	0.97	206.77	9,188.7	-170.1	57.6	0.04	0.00	-2.32	-32.5	-6.5	
9,289.0	2.29	0.14	9,283.7	-168.9	57.3	3.35	1.39	161.44	24.9	20.7	
9,383.0	1.67	354.60	9,377.6	-165.7	57.1	0.69	-0.66	-5.89	19.6	22.8	
9,478.0	1.32	326.04	9,472.6	-163.4	56.4	0.85	-0.37	-30.06	4.0	28.7	
9,573.0	1.85	9.19	9,567.5	-160.9	56.0	1.33	0.56	45.42	20.2	19.0	
9,667.0	1.93	359.09	9,661.5	-157.9	56.2	0.36	0.09	-10.74	13.5	22.0	
9,762.0	2.02	11.57	9,756.4	-154.6	56.6	0.46	0.09	13.14	14.7	18.9	
9,857.0	1.85	339.31	9,851.4	-151.6	56.3	1.14	-0.18	-33.96	-0.6	22.9	
9,951.0	1.23	11.48	9,945.4	-149.1	56.0	1.11	-0.66	34.22	9.4	20.5	
10,046.0	1.23	10.34	10,040.3	-147.1	56.4	0.03	0.00	-1.20	7.0	20.7	
10,141.0	1.49	322.26	10,135.3	-145.2	55.8	1.19	0.27	-50.61	-12.7	18.2	
10,236.0	2.20	302.31	10,230.3	-143.2	53.5	1.00	0.75	-21.00	-21.1	12.4	
10,331.0	1.32	351.00	10,325.2	-141.2	51.8	1.74	-0.93	51.25	-6.9	25.4	
10,426.0	1.58	341.07	10,420.2	-138.8	51.2	0.38	0.27	-10.45	-13.6	23.7	
10,520.0	2.37	349.77	10,514.1	-135.7	50.5	0.90	0.84	9.26	-13.1	25.6	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
10,615.0	1.58	51.29	10,509.1	-132.9	51.1	2.24	-0.83	64.76	14.1	25.4
10,710.0	1.93	86.27	10,704.0	-132.0	53.7	1.16	0.37	36.82	23.4	13.5
10,805.0	2.73	112.29	10,799.0	-132.8	57.4	1.38	0.84	27.39	23.3	2.6
10,900.0	2.11	102.88	10,893.9	-134.0	61.2	0.77	-0.65	-9.91	18.6	6.0
10,995.0	0.97	107.01	10,988.8	-134.6	63.7	1.20	-1.20	4.35	16.4	4.8
11,089.0	0.44	190.86	11,082.8	-135.2	64.4	1.09	-0.56	89.20	6.0	-15.0
11,184.0	1.41	150.78	11,177.8	-136.6	64.9	1.17	1.02	-42.19	12.8	-7.8
11,279.0	0.88	238.41	11,272.8	-136.0	64.8	1.72	-0.56	92.24	-8.1	-12.0
11,374.0	2.11	285.78	11,367.8	-137.9	62.5	1.73	1.29	49.86	-16.5	-1.6
11,468.0	0.35	230.59	11,461.8	-137.6	60.7	2.05	-1.87	-58.71	-9.4	-15.9
11,563.0	1.14	244.56	11,556.7	-138.2	59.6	0.85	0.83	14.71	-14.2	-13.1
11,657.0	1.32	243.86	11,650.7	-139.1	57.8	0.19	0.19	-0.74	-16.0	-13.3
11,722.0	1.32	251.68	11,715.7	-139.7	58.4	0.28	0.00	12.03	-19.2	-10.9
11,880.0	1.23	284.29	11,873.7	-139.8	53.0	0.46	-0.06	20.64	-25.2	2.1
11,945.0	3.41	1.43	11,938.6	-137.7	52.4	5.17	3.36	118.68	-5.1	25.7
KOP 11945.0' MD; 11938.6' TVD; -137.7; 52.4; 3.41										
11,974.0	4.84	7.79	11,967.6	-135.6	52.6	5.17	4.93	21.92	-2.0	25.9
12,021.0	14.25	15.78	12,013.9	-128.1	54.4	20.17	20.02	17.00	0.9	24.1
12,069.0	22.77	9.63	12,059.3	-113.2	57.6	18.19	17.75	-12.81	-4.9	21.3
12,115.8	26.36	8.58	12,101.9	-94.0	60.6	7.74	7.68	-2.24	-8.7	18.4
FTP Crossing 12115.8' MD; 12101.9' TVD; -94.0; 60.6; 26.36										
12,116.0	26.38	8.58	12,102.1	-93.9	60.7	7.74	7.69	-1.95	-8.7	18.4
12,163.0	32.10	6.12	12,143.1	-71.2	63.6	12.43	12.17	-5.23	-11.9	15.1
12,210.0	40.19	5.41	12,181.0	-43.6	66.3	17.24	17.21	-1.51	-15.4	12.2
12,258.0	46.87	2.42	12,215.8	-10.6	68.5	14.56	13.92	-6.23	-20.5	9.3
12,305.0	52.14	359.88	12,246.3	25.1	69.2	11.94	11.21	-5.40	-25.2	7.6
12,352.0	56.63	359.44	12,273.6	63.3	69.0	9.58	9.55	-0.94	-28.9	7.4



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLog (°/100usft)	Buidl (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,399.0	58.39	0.67	12,298.9	102.9	69.0	4.35	3.74	2.62	-30.1	7.4	
12,446.0	60.41	1.02	12,322.8	143.4	69.6	4.35	4.30	0.74	-27.9	6.5	
12,493.0	65.51	1.81	12,344.2	185.2	70.7	10.95	10.85	1.68	-23.8	5.2	
12,541.0	69.03	2.07	12,362.7	229.4	72.2	7.35	7.33	0.54	-18.3	3.2	
12,588.0	72.37	2.16	12,378.2	273.8	73.8	7.11	7.11	0.19	-10.9	1.1	
12,635.0	73.69	1.72	12,392.0	318.7	75.3	2.95	2.81	-0.94	-0.8	-0.8	
12,682.0	76.85	0.40	12,403.9	364.1	76.2	7.25	6.72	-2.81	10.9	-2.1	
12,729.0	80.37	358.65	12,413.2	410.2	75.8	8.33	7.49	-3.72	20.2	-2.0	
12,776.0	86.79	358.03	12,418.5	456.9	74.4	13.72	13.66	-1.32	25.5	-1.0	
12,823.0	89.34	357.94	12,420.0	503.8	72.8	5.43	5.43	-0.19	27.1	0.3	
12,918.0	89.25	357.68	12,421.2	598.7	69.1	0.29	-0.09	-0.27	28.2	3.2	
13,012.0	90.75	357.33	12,421.2	692.6	65.0	1.64	1.60	-0.37	28.2	6.6	
13,106.0	90.40	358.82	12,420.3	786.6	61.9	1.63	-0.37	1.59	27.3	9.0	
13,200.0	88.55	359.96	12,421.1	880.5	60.9	2.31	-1.97	1.21	28.2	9.3	
13,294.0	90.22	359.52	12,422.1	974.5	60.5	1.84	1.78	-0.47	29.2	9.0	
13,388.0	87.76	358.82	12,423.8	1,068.5	59.1	2.72	-2.62	-0.74	30.8	9.7	
13,483.0	89.60	358.38	12,426.0	1,163.4	56.8	1.99	1.94	-0.46	33.0	11.3	
13,576.0	90.57	359.70	12,425.8	1,256.4	55.2	1.76	1.04	1.42	32.9	12.1	
13,671.0	90.31	0.67	12,425.1	1,351.4	55.5	1.06	-0.27	1.02	32.1	11.1	
13,764.0	91.10	0.67	12,424.0	1,444.4	56.6	0.85	0.85	0.00	31.0	9.3	
13,859.0	88.81	358.12	12,424.0	1,539.4	55.6	3.61	-2.41	-2.68	31.1	9.6	
13,953.0	89.60	358.56	12,425.3	1,633.3	52.9	0.96	0.84	0.47	32.4	11.6	
14,048.0	90.04	359.96	12,425.6	1,728.3	51.7	1.54	0.46	1.47	32.7	12.1	
14,143.0	89.78	1.80	12,425.8	1,823.3	53.2	2.06	-0.27	2.04	32.8	9.9	
14,238.0	89.16	2.16	12,426.7	1,918.3	56.6	0.71	-0.65	0.27	33.7	5.8	
14,333.0	90.84	0.49	12,426.7	2,013.2	58.8	2.49	1.77	-1.76	33.7	2.9	
14,428.0	86.70	358.73	12,428.7	2,108.2	58.1	4.74	-4.36	-1.85	35.7	2.8	

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (MAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
	#709H	North Reference:	Grid
	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Asl (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
14,523.0	87.49	358.65	12,433.5	2,203.0	55.9	0.84	0.83	-0.08	40.5	4.2
14,618.0	90.13	359.44	12,435.5	2,298.0	54.4	2.90	2.78	0.83	42.5	5.1
14,713.0	92.33	359.61	12,433.5	2,393.0	53.6	2.32	2.32	0.18	40.5	5.2
14,808.0	90.48	0.14	12,431.1	2,487.9	53.4	2.03	-1.95	0.56	38.1	4.6
14,903.0	91.19	2.60	12,429.7	2,582.9	55.6	2.69	0.75	2.59	36.8	1.6
14,998.0	89.69	1.19	12,429.0	2,677.8	58.8	2.17	-1.58	-1.48	36.0	-2.2
15,092.0	88.64	0.32	12,430.4	2,771.8	60.0	1.45	-1.12	-0.93	37.4	-4.2
15,187.0	89.43	0.32	12,432.0	2,866.8	60.5	0.83	0.83	0.00	39.0	-5.4
15,282.0	91.71	1.11	12,431.0	2,961.8	61.7	2.54	2.40	0.83	38.1	-7.3
15,377.0	89.08	0.76	12,430.4	3,056.7	63.3	2.79	-2.77	-0.37	37.4	-9.6
15,471.0	90.04	0.23	12,431.1	3,150.7	64.1	1.17	1.02	-0.56	38.1	-11.1
15,566.0	90.64	0.14	12,430.4	3,245.7	64.4	0.85	0.84	-0.09	37.4	-12.2
15,660.0	90.13	359.09	12,429.6	3,339.7	63.8	1.35	-0.76	-1.12	36.6	-12.2
15,755.0	91.36	358.29	12,428.3	3,434.7	61.6	1.54	1.29	-0.84	35.4	-10.8
15,850.0	84.86	356.01	12,431.5	3,529.5	56.9	7.25	-6.84	-2.40	36.5	-6.8
15,944.0	89.78	357.94	12,435.9	3,623.2	51.9	5.62	5.23	2.05	42.9	-2.5
16,039.0	90.40	358.03	12,435.7	3,718.1	48.6	0.66	0.65	0.09	42.7	0.1
16,134.0	90.84	359.79	12,434.7	3,813.1	46.8	1.91	0.46	1.85	41.7	1.2
16,229.0	90.92	358.91	12,433.2	3,908.1	45.7	0.93	0.08	-0.93	40.2	1.5
16,323.0	87.05	357.42	12,434.9	4,002.0	42.7	4.41	-4.12	-1.59	41.9	3.8
16,417.0	89.78	358.82	12,437.5	4,095.9	39.6	3.26	2.90	1.49	44.5	6.2
16,512.0	92.15	0.49	12,435.9	4,190.9	39.0	3.05	2.49	1.76	42.9	6.0
16,607.0	89.96	359.70	12,434.2	4,285.9	39.2	2.45	-2.31	-0.83	41.2	5.1
16,702.0	89.25	358.91	12,434.8	4,380.8	38.1	1.12	-0.75	-0.83	42.0	5.6
16,797.0	92.07	359.96	12,433.7	4,475.8	37.1	3.17	2.97	1.11	41.0	5.8
16,892.0	87.85	358.47	12,433.8	4,570.8	35.8	4.71	-4.44	-1.57	41.2	6.4
16,986.0	91.10	0.14	12,434.6	4,664.8	34.7	3.89	3.46	1.78	42.1	6.8



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Asl (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
17,081.0	92.15	1.02	12,431.9	4,759.7	35.6	1.44	1.11	0.93	39.5	5.1	
17,175.0	91.10	359.88	12,429.3	4,853.7	36.4	1.65	-1.12	-1.21	37.0	3.7	
17,270.0	91.83	359.86	12,427.0	4,948.6	36.2	0.56	0.56	0.08	34.8	3.1	
17,364.0	90.31	0.23	12,425.4	5,042.6	36.4	1.43	-1.40	0.29	33.3	2.2	
17,459.0	88.72	0.67	12,426.2	5,137.6	37.1	1.74	-1.67	0.46	34.2	0.7	
17,553.0	89.16	0.23	12,428.0	5,231.6	37.9	0.66	0.47	-0.47	36.2	-0.7	
17,648.0	89.60	359.52	12,429.0	5,326.6	37.7	0.88	0.46	-0.75	37.6	-1.2	
17,743.0	90.66	0.05	12,428.8	5,421.6	37.3	1.25	1.12	0.56	37.7	-1.6	
17,838.0	90.22	359.26	12,428.1	5,516.6	36.7	0.95	-0.46	-0.83	37.3	-1.7	
17,933.0	91.28	358.38	12,426.8	5,611.6	34.8	1.45	1.12	-0.93	36.4	-0.5	
18,028.0	93.03	358.56	12,423.2	5,706.4	32.3	1.85	1.84	0.19	33.2	1.3	
18,122.0	90.22	359.70	12,420.6	5,800.4	30.8	3.23	-2.99	1.21	30.8	2.0	
18,217.0	89.34	358.21	12,420.9	5,895.4	29.1	1.82	-0.93	-1.57	31.5	3.0	
18,312.0	90.40	358.29	12,421.2	5,990.3	26.2	1.12	1.12	0.08	32.1	5.2	
18,407.0	90.13	359.26	12,420.7	6,085.3	24.2	1.06	-0.28	1.02	32.0	6.5	
18,501.0	92.59	359.17	12,418.5	6,179.3	22.9	2.62	2.62	-0.10	30.1	7.1	
18,596.0	92.33	358.38	12,414.4	6,274.1	20.8	0.87	-0.27	-0.83	26.3	8.4	
18,690.0	87.14	358.56	12,414.8	6,368.1	18.3	5.52	-5.52	0.19	27.1	10.2	
18,785.0	88.72	358.65	12,418.3	6,463.0	16.0	1.67	1.66	0.09	30.9	11.8	
18,880.0	87.14	359.26	12,421.7	6,557.9	14.3	1.78	-1.66	0.84	34.6	12.8	
18,975.0	87.67	359.35	12,426.0	6,652.8	13.1	0.57	0.56	0.09	39.3	13.2	
19,070.0	90.22	2.51	12,427.8	6,747.8	14.7	4.27	2.68	3.33	41.4	11.0	
19,164.0	86.88	1.63	12,430.1	6,841.8	18.1	3.67	-3.55	-0.94	44.1	6.9	
19,259.0	88.20	2.25	12,434.2	6,936.5	21.3	1.53	1.39	0.65	48.5	2.9	
19,354.0	90.04	358.82	12,435.7	7,031.5	22.2	4.10	1.94	-3.61	50.3	1.3	
19,449.0	90.57	359.17	12,435.2	7,126.5	20.5	0.67	0.56	0.37	50.1	2.3	
19,544.0	90.75	358.65	12,434.1	7,221.4	18.7	0.58	0.19	-0.55	49.3	3.3	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
19,638.0	91.28	0.76	12,432.4	7,315.4	18.2	2.31	0.56	2.24	48.0	3.1	
19,733.0	88.20	359.09	12,432.8	7,410.4	18.1	3.69	-3.24	-1.76	48.8	2.5	
19,828.0	88.37	359.35	12,435.7	7,505.3	16.8	0.33	0.18	0.27	51.9	3.1	
19,922.0	90.04	359.96	12,437.0	7,599.3	16.2	1.89	1.78	0.65	53.6	2.9	
20,017.0	91.36	0.67	12,435.8	7,694.3	16.8	1.58	1.39	0.75	52.7	1.7	
20,112.0	90.66	359.61	12,434.1	7,789.3	17.0	1.34	-0.74	-1.12	51.4	0.7	
20,207.0	89.08	358.21	12,434.4	7,884.3	15.2	2.22	-1.66	-1.47	52.0	1.8	
20,301.0	90.75	359.35	12,434.5	7,978.2	13.2	2.15	1.78	1.21	52.4	3.1	
20,396.0	91.45	0.05	12,432.7	8,073.2	12.7	1.04	0.74	0.74	50.9	2.9	
20,490.0	90.84	359.88	12,430.8	8,167.2	12.6	0.67	-0.65	-0.18	49.2	2.2	
20,585.0	90.31	358.82	12,429.8	8,262.2	11.6	1.25	-0.56	-1.12	48.5	2.6	
20,680.0	91.98	359.52	12,427.9	8,357.2	10.2	1.91	1.76	0.74	46.9	3.2	
20,775.0	91.54	359.26	12,425.0	8,452.1	9.2	0.54	-0.46	-0.27	44.2	3.5	
20,870.0	90.57	0.49	12,423.3	8,547.1	9.0	1.65	-1.02	1.29	42.7	3.0	
20,964.0	89.43	359.96	12,423.3	8,641.1	9.3	1.34	-1.21	-0.56	43.0	1.9	
21,059.0	90.22	0.76	12,423.6	8,736.1	9.9	1.18	0.83	0.84	43.5	0.6	
21,154.0	90.22	359.70	12,423.2	8,831.1	10.3	1.12	0.00	-1.12	43.4	-0.5	
21,249.0	91.01	359.96	12,422.2	8,926.1	10.0	0.88	0.83	0.27	42.6	-0.9	
21,344.0	90.48	359.96	12,420.9	9,021.1	10.0	0.56	-0.56	0.00	41.7	-1.6	
21,439.0	89.78	0.40	12,420.7	9,116.1	10.3	0.87	-0.74	0.46	41.7	-2.6	
21,533.0	91.28	1.37	12,419.9	9,210.0	11.7	1.90	1.80	1.03	41.1	-4.8	
21,628.0	90.84	0.14	12,418.1	9,305.0	13.0	1.37	-0.46	-1.29	39.6	-6.7	
21,723.0	88.90	359.44	12,418.3	9,400.0	12.6	2.17	-2.04	-0.74	40.0	-7.1	
21,817.0	89.96	359.70	12,419.3	9,494.0	11.9	1.16	1.13	0.28	41.2	-7.1	
21,912.0	91.45	1.28	12,418.1	9,589.0	12.7	2.29	1.57	1.66	40.3	-8.6	
22,007.0	87.67	0.14	12,418.8	9,684.0	13.9	4.16	-3.98	-1.20	41.3	-10.6	
22,101.0	86.97	359.96	12,423.2	9,777.9	14.0	0.77	-0.74	-0.19	45.9	-11.4	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB = 25' @ 3312.0usft
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
22,196.0	91.71	0.32	12,424.3	9,872.8	14.2	5.00	4.98	0.38	47.3	-12.3
22,290.0	91.89	0.67	12,421.4	9,866.8	15.0	0.42	0.19	0.37	44.6	-13.8
22,384.0	92.86	1.02	12,417.5	10,060.7	16.4	1.10	1.03	0.37	40.9	-15.9
Last MWD Survey (MD = 22384.0)										
22,577.0	92.86	1.02	12,407.8	10,253.4	19.8	0.00	0.00	0.00	31.8	-20.6
Projection to Bit (MD = 22577.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E/W (usft)	
11,945.0	11,938.6	-137.7	52.4	KOP 11945.0' MD; 11938.6' TVD; -137.7'; 52.4'; 3.41
12,115.8	12,101.9	-94.0	60.6	FTP Crossing 12115.8' MD; 12101.9' TVD; -94.0'; 60.6'; 28.36
22,384.0	12,417.5	10,060.7	16.4	Last MWD Survey (MD = 22384.0)
22,577.0	12,407.8	10,253.4	19.8	Projection to Bit (MD = 22577.0)

Checked By: _____	Approved By: _____	Date: _____
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