



Lea County, NM (NAD 83 NME)

Dogwood 23 Fed Com #710H

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: #710H

Ground Level: 3287.0
KB= 25' @ 3312.0ust
Northing: 372708.00 Easting: 784411.00
Latitude: 32° 1' 20.025 N Longitude: 103° 32' 58.400 W



To convert a Magnetic Direction to a Grid Direction, Add 6.55°
To convert a Magnetic Direction to a True Direction, Add 6.98° East
To convert a True Direction to a Grid Direction, Subtract 0.43°

SECTION DETAILS

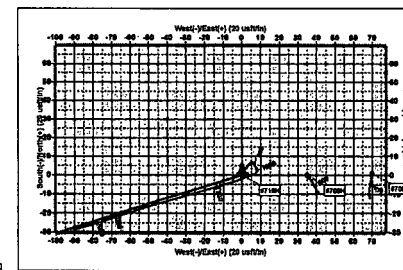
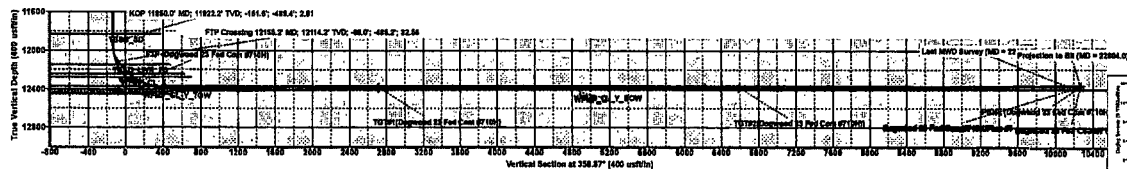
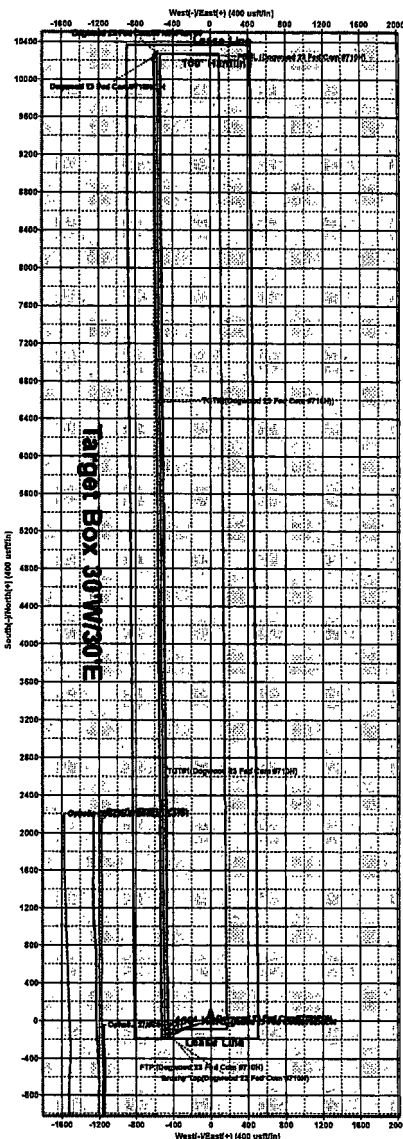
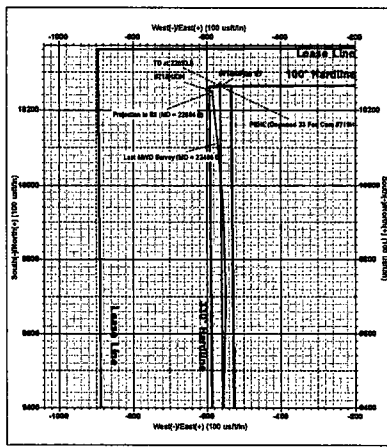
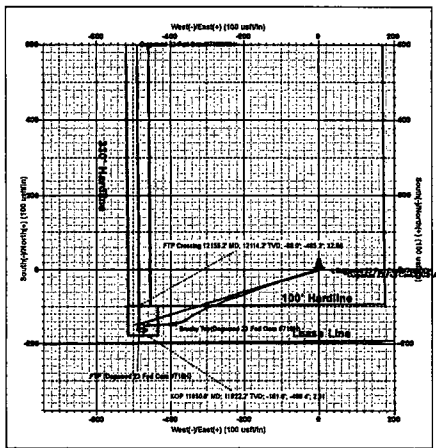
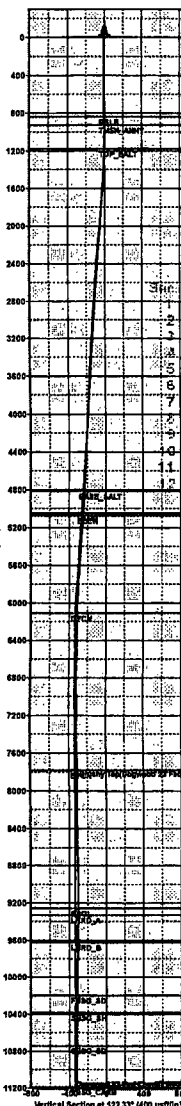
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
1499.8	6.00	252.93	1499.3	-4.6	-15.0	2.00	252.93	-3.8	
6026.0	6.00	252.93	6000.7	-143.4	-467.0	0.00	0.00	-117.7	
6325.9	0.00	0.00	6300.0	-148.0	-482.0	2.00	180.00	-121.5	
11970.4	0.00	0.00	11944.5	-148.0	-482.0	0.00	0.00	-121.5	
12728.0	90.92	359.58	12421.9	337.1	-485.6	12.00	359.58	363.1	
15088.9	90.92	359.58	12384.0	2697.6	-502.9	0.00	0.00	2721.0	TGT#1(Dogwood 23 Fed Com #710H)
15135.2	89.99	359.56	12383.6	2743.9	-503.3	2.00	-178.82	2767.3	TGT#2(Dogwood 23 Fed Com #710H)
18971.1	89.99	359.56	12384.0	6579.7	-532.7	0.00	0.00	6599.0	
18979.9	90.17	359.56	12384.0	6588.5	-532.8	2.00	0.04	6607.8	
22653.5	90.17	359.56	12373.0	10262.0	-561.0	0.00	0.00	10277.3	PBHL (Dogwood 23 Fed Com #710H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Brushy Top(Dogwood 23 Fed Com #710H)	7781.0	-148.0	-482.0	372660.00	783929.00
PBHL (Dogwood 23 Fed Com #710H)	12373.0	10262.0	-561.0	372979.00	783880.00
TGT#1(Dogwood 23 Fed Com #710H)	12384.0	2697.6	-502.9	376405.60	783908.09
TGT#2(Dogwood 23 Fed Com #710H)	12384.0	6579.7	-532.7	376287.70	783878.28
FTP (Dogwood 23 Fed Com #710H)	12422.0	-88.0	-482.0	372910.00	783929.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Dogwood 23 Fed Com

#710H

OH

Design: OH

Midland PVA

24 September, 2018

HOBBS OCD

DEC 11 2018

RECEIVED



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
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:	#710H	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	Dogwood 23 Fed Com		
Site Position:		Northing:	372,741.00 usft
From:	Map	Easting:	788,311.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 20.069 N
		Longitude:	103° 32' 11.158 W
		Grid Convergence:	0.42 °

Well	#710H		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 1' 20.025 N
		Longitude:	103° 32' 56.460 W
		Ground Level:	3,287.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	2/23/2017	6.96
			Dip Angle
			59.88
			Field Strength
			47,853.47490185

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
			356.87

Survey Program	Date 9/24/2018		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
147.0	22,604.0	Driltech MWD (OH)	MWD
			Description
			OWSG MWD - Standard



Midland PVA

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Site:	Dogwood 23 Fed Com	MD Reference:	KB= 25' @ 3312.0usft
	#710H	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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.0	0.0
147.0	1.93	32.84	147.0	2.1	1.3	1.31	1.31	0.00	-2.5	0.0	
235.0	2.11	36.26	234.9	4.6	3.1	0.25	0.20	3.89	-5.6	0.2	
323.0	0.88	61.14	322.9	6.3	4.7	1.55	-1.40	28.27	-7.1	3.2	
411.0	0.70	106.49	410.9	6.4	5.8	0.72	-0.20	51.53	-3.7	7.8	
498.0	0.18	105.08	497.9	6.3	6.4	0.60	-0.60	-1.62	-4.6	7.7	
586.0	0.35	153.25	585.9	6.0	6.7	0.30	0.19	54.74	2.3	8.6	
678.0	1.06	161.68	677.9	4.9	7.1	0.78	0.77	9.16	2.5	8.2	
771.0	0.70	158.52	770.9	3.6	7.5	0.39	-0.39	-3.40	0.6	8.3	
865.0	1.14	129.43	864.8	2.4	8.5	0.67	0.47	-30.95	-5.0	7.3	
909.0	0.53	333.25	908.8	2.3	8.7	3.72	-1.39	-354.95	1.8	-8.8	
1,064.0	0.35	153.16	1,063.8	2.6	8.6	0.57	-0.12	116.07	-1.6	8.8	
1,250.0	1.32	230.85	1,249.8	0.7	7.2	0.69	0.52	41.77	6.4	4.2	
1,437.0	6.42	253.44	1,436.3	-3.6	-4.5	2.79	2.73	12.08	4.4	2.1	
1,624.0	7.65	254.67	1,621.9	-9.9	-26.5	0.66	0.66	0.66	0.3	1.7	
1,814.0	7.65	253.16	1,810.2	-16.9	-50.8	0.10	0.00	-0.78	-5.2	1.3	
2,003.0	7.74	252.83	1,997.5	-24.3	-75.0	0.05	0.05	-0.19	-10.8	1.2	
2,193.0	7.83	253.09	2,185.8	-31.9	-99.6	0.05	0.05	0.14	-16.7	1.2	
2,383.0	7.39	252.03	2,374.1	-39.4	-123.6	0.24	-0.23	-0.56	-22.1	1.0	
2,572.0	7.12	251.16	2,561.8	-46.9	-146.3	0.15	-0.14	-0.46	-26.3	1.1	
2,762.0	6.60	248.17	2,750.2	-54.8	-167.6	0.33	-0.27	-1.57	-29.2	0.8	
2,952.0	5.98	245.71	2,939.1	-62.9	-186.7	0.36	-0.33	-1.29	-30.3	1.6	
3,140.0	5.72	255.20	3,126.1	-69.3	-204.7	0.53	-0.14	5.05	-29.1	7.3	
3,328.0	5.89	252.12	3,313.2	-74.7	-223.0	0.19	0.09	-1.64	-28.8	5.6	
3,516.0	6.07	249.75	3,500.1	-81.1	-241.5	0.16	0.10	-1.26	-28.9	5.1	
3,704.0	3.78	243.25	3,687.4	-87.3	-256.3	1.25	-1.22	-3.46	-26.0	3.9	
3,892.0	5.45	249.22	3,874.8	-93.3	-270.2	0.92	0.89	3.18	-20.9	8.5	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
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:	#710H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Adt (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
4,081.0	5.19	248.52	4,063.0	-99.6	-286.6	0.14	-0.14	-0.37	-18.9	9.7	
4,269.0	4.92	246.67	4,250.3	-105.9	-301.9	0.17	-0.14	-0.98	-16.2	10.9	
4,457.0	5.63	241.75	4,437.5	-113.5	-317.4	0.45	0.38	-2.62	-15.0	12.6	
4,646.0	5.72	244.85	4,625.5	-121.9	-334.1	0.16	0.05	1.53	-13.5	16.7	
4,834.0	5.80	232.17	4,812.6	-131.7	-350.0	0.67	0.04	-6.64	-17.1	18.3	
4,951.0	7.12	244.39	4,928.9	-138.5	-361.2	1.62	1.13	10.44	-13.8	24.6	
5,025.0	6.33	244.65	5,002.4	-142.2	-369.1	1.07	-1.07	0.35	-14.7	25.8	
5,100.0	5.98	261.53	5,076.9	-144.6	-376.7	2.45	-0.47	22.51	-6.7	28.9	
5,290.0	6.07	264.78	5,265.9	-146.9	-396.5	0.19	0.05	1.71	-5.6	25.8	
5,480.0	6.33	263.99	5,454.8	-148.9	-416.9	0.14	0.14	-0.42	-7.0	21.7	
5,670.0	4.75	268.38	5,643.9	-150.3	-435.2	0.86	-0.83	2.31	-4.5	17.7	
5,860.0	3.69	262.84	5,833.4	-151.2	-449.1	0.60	-0.56	-2.92	-0.5	13.0	
6,050.0	2.20	269.79	6,023.1	-152.0	-458.8	0.80	-0.78	3.66	10.3	8.0	
6,239.0	2.02	265.04	6,212.0	-152.3	-465.8	0.13	-0.10	-2.51	14.5	6.0	
6,428.0	0.26	255.37	6,400.9	-152.7	-469.5	0.93	-0.93	-5.12	10.9	7.7	
6,618.0	0.26	278.93	6,590.9	-152.8	-470.3	0.06	0.00	12.40	12.3	2.9	
6,807.0	0.09	55.77	6,779.9	-152.6	-470.6	0.18	-0.09	72.40	-6.8	-10.2	
6,997.0	0.09	201.94	6,969.9	-152.7	-470.6	0.09	0.00	76.93	0.0	12.3	
7,187.0	0.44	203.34	7,159.9	-153.5	-470.9	0.18	0.18	0.74	-0.6	12.3	
7,377.0	0.70	182.34	7,349.9	-155.3	-471.2	0.17	0.14	-11.05	-6.8	11.0	
7,566.0	0.70	191.74	7,538.9	-157.6	-471.5	0.06	0.00	4.97	-7.2	12.2	
7,755.0	0.26	292.46	7,727.9	-158.5	-472.2	0.42	-0.23	53.29	13.1	6.0	
7,944.0	0.44	191.92	7,916.9	-159.1	-472.7	0.29	0.10	-53.20	-8.9	11.4	
8,134.0	0.88	156.85	8,106.9	-161.1	-472.3	0.30	0.23	-18.46	-15.9	3.8	
8,324.0	0.97	53.31	8,296.9	-161.5	-470.4	0.77	0.05	-54.49	-1.2	-17.8	
8,513.0	1.06	77.13	8,485.8	-160.2	-467.4	0.23	0.05	12.60	-11.5	-15.1	
8,702.0	0.88	105.17	8,674.8	-160.2	-464.3	0.27	-0.10	14.84	-20.2	-7.1	



Midland PVA

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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: #710H		North Reference:				Grid	
Wellbore: OH		Survey Calculation Method:				Minimum Curvature	
Design: OH		Database:				EDM 5000.14	

Survey											
MD (usft)	Inc (°)	Asd (azimuth) (°)	TVD (usft)	NPS (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
8,892.0	0.62	159.22	8,864.8	-161.5	-462.6	0.38	-0.14	28.45	-19.5	13.4	
9,082.0	0.53	200.62	9,054.8	-163.3	-462.5	0.22	-0.05	21.79	-7.5	23.6	
9,271.0	0.62	218.28	9,243.8	-164.9	-463.4	0.10	0.05	9.34	-1.8	25.0	
9,461.0	1.06	235.25	9,433.8	-166.7	-465.5	0.26	0.23	8.93	2.9	24.8	
9,651.0	0.97	257.86	9,623.7	-168.1	-468.5	0.21	-0.05	11.79	8.9	22.5	
9,840.0	1.41	248.78	9,812.7	-169.3	-472.3	0.25	0.23	-4.70	1.4	23.3	
10,030.0	0.18	338.69	10,002.7	-169.8	-474.6	0.75	-0.65	47.32	23.0	1.0	
10,219.0	1.49	30.11	10,191.6	-167.4	-473.4	0.73	0.69	27.21	12.5	-17.2	
10,409.0	0.79	6.91	10,381.6	-164.0	-472.0	0.43	-0.37	-12.21	14.7	-11.8	
10,599.0	1.23	21.59	10,571.6	-160.8	-471.1	0.27	0.23	7.73	7.9	-14.8	
10,788.0	0.53	315.05	10,760.6	-158.3	-471.0	0.60	-0.37	-35.21	15.0	-0.5	
10,978.0	0.70	265.66	10,950.5	-157.7	-472.8	0.28	0.09	-25.99	8.5	10.4	
11,167.0	1.58	223.91	11,139.5	-159.7	-475.7	0.61	0.47	-22.09	-4.1	12.6	
11,357.0	0.53	19.48	11,329.5	-160.8	-477.3	1.09	-0.55	81.88	10.5	-8.7	
11,546.0	2.64	249.75	11,518.4	-161.5	-481.1	1.59	1.12	-68.64	-3.8	13.0	
11,703.0	2.11	236.74	11,675.3	-164.3	-486.9	0.48	-0.34	-8.29	-13.0	11.0	
11,867.0	1.23	341.51	11,839.3	-164.3	-489.9	1.65	-0.54	63.88	12.9	12.7	
11,950.0	2.81	22.74	11,922.2	-161.6	-489.4	2.47	1.90	49.67	15.4	1.6	
KOP 11950.0 MD; 11922.2 TVD; -161.6°; -489.4°; 2.81											
11,962.0	3.08	24.92	11,934.2	-161.0	-489.2	2.47	2.28	18.18	14.8	1.0	
11,993.0	8.27	18.22	11,965.0	-158.1	-488.2	16.92	16.74	-28.06	11.8	3.0	
12,056.0	19.96	6.73	12,026.0	-143.0	-485.7	18.85	18.56	-15.06	2.4	3.4	
12,103.0	27.70	0.23	12,069.0	-124.1	-484.7	17.37	16.47	-13.83	-7.1	2.7	
12,151.0	31.92	357.85	12,110.6	-100.2	-485.1	9.13	8.79	-4.96	-16.8	2.3	
12,155.2	32.56	357.94	12,114.2	-98.0	-485.2	15.19	15.14	2.20	-17.6	2.4	
FTP Crossing 12155.2 MD; 12114.2 TVD; -98.0°; -485.2°; 32.56											
12,198.0	39.04	358.73	12,148.9	-73.0	-485.9	15.19	15.15	1.84	-26.1	3.1	

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	#710H	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)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,246.0	43.70	359.61	12,184.9	-41.3	-486.4	9.78	9.71	1.83	-35.6	3.7	
12,293.0	47.66	0.14	12,217.7	-7.7	-486.4	8.46	8.43	1.13	-43.5	3.8	
12,340.0	51.35	1.81	12,248.2	28.1	-485.8	8.30	7.85	3.55	-49.5	3.9	
12,387.0	53.99	2.42	12,276.7	65.4	-484.4	5.71	5.62	1.30	-53.0	2.5	
12,435.0	58.65	0.40	12,303.4	105.3	-483.5	10.32	9.71	-4.21	-54.4	0.0	
12,482.0	63.31	359.26	12,326.1	146.4	-483.6	10.14	9.91	-2.43	-54.2	-0.7	
12,530.0	67.01	358.29	12,346.3	190.0	-484.5	7.92	7.71	-2.02	-52.1	-0.3	
12,578.0	70.79	358.91	12,363.6	234.7	-485.6	7.97	7.87	1.29	-47.8	0.7	
12,624.0	75.18	359.79	12,377.0	278.7	-486.1	9.72	9.54	1.91	-42.0	1.0	
12,671.0	79.58	0.40	12,387.3	324.5	-486.0	9.45	9.36	1.30	-34.6	0.6	
12,719.0	85.30	0.05	12,393.6	372.1	-485.9	11.94	11.92	-0.73	-27.7	0.0	
12,751.0	88.81	0.14	12,395.3	404.1	-485.8	10.97	10.97	0.28	-25.6	-0.3	
12,814.0	91.19	359.96	12,395.3	467.0	-485.8	3.79	3.78	-0.29	-24.5	-0.8	
12,909.0	92.24	358.21	12,392.4	562.0	-487.3	2.16	1.11	-1.84	-25.9	0.1	
13,003.0	88.37	355.75	12,391.9	655.8	-492.2	4.88	-4.12	-2.62	-24.9	4.3	
13,098.0	89.16	357.42	12,394.0	750.6	-497.9	1.94	0.83	1.76	-21.3	9.3	
13,193.0	91.45	359.26	12,393.5	845.6	-500.6	3.09	2.41	1.94	-20.3	11.3	
13,288.0	88.90	358.91	12,393.2	940.6	-502.1	2.71	-2.68	-0.37	-19.0	12.2	
13,383.0	89.78	359.26	12,394.3	1,035.5	-503.7	1.00	0.93	0.37	-16.4	13.0	
13,478.0	90.84	359.88	12,393.8	1,130.5	-504.4	1.29	1.12	0.65	-15.4	13.0	
13,573.0	88.72	358.38	12,394.1	1,225.5	-505.8	2.73	-2.23	-1.58	-13.5	13.7	
13,667.0	90.13	358.91	12,395.1	1,319.5	-508.0	1.60	1.50	0.56	-11.1	15.3	
13,762.0	91.80	1.72	12,393.5	1,414.5	-507.5	3.44	1.76	2.96	-11.2	14.0	
13,857.0	88.64	359.52	12,393.1	1,509.4	-506.5	4.05	-3.33	-2.32	-10.0	12.3	
13,952.0	90.40	0.67	12,393.9	1,604.4	-506.3	2.21	1.85	1.21	-7.7	11.5	
14,047.0	90.40	2.95	12,393.2	1,699.4	-503.3	2.40	0.00	2.40	-6.8	7.8	
14,142.0	89.25	359.09	12,393.5	1,794.3	-501.6	4.24	-1.21	-4.06	-5.0	5.4	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB= 25' @ 3312.0usft
	#710H	North Reference:	Grid
Design:	OH	Survey Calculation Method:	Minimum Curvature
	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)	
14,236.0	90.57	0.40	12,393.7	1,888.3	-502.1	1.98	1.40	1.39	-3.3		5.1
14,331.0	90.13	356.62	12,393.1	1,983.3	-504.5	4.01	-0.46	-3.98	-2.4		6.9
14,425.0	89.78	355.31	12,393.2	2,077.0	-511.1	1.44	-0.37	-1.39	-0.8		12.8
14,520.0	90.92	358.91	12,392.6	2,171.9	-515.9	3.97	1.20	3.79	0.1		16.9
14,615.0	90.13	0.32	12,391.7	2,266.9	-516.6	1.70	-0.83	1.48	0.8		16.8
14,709.0	88.64	0.40	12,392.7	2,360.9	-516.0	1.59	-1.59	0.09	3.3		15.5
14,804.0	91.80	2.34	12,392.4	2,455.8	-513.7	3.90	3.33	2.04	4.5		12.6
14,898.0	89.69	0.58	12,391.1	2,549.8	-511.3	2.92	-2.24	-1.87	4.8		9.5
14,993.0	88.81	1.11	12,392.4	2,644.8	-509.9	1.08	-0.93	0.56	7.5		7.4
15,087.0	87.85	359.35	12,395.1	2,738.7	-509.5	2.13	-1.02	-1.87	11.5		6.3
15,182.0	90.40	0.40	12,396.6	2,833.7	-509.7	2.90	2.68	1.11	12.9		5.8
15,276.0	90.31	1.37	12,396.0	2,927.7	-508.3	1.04	-0.10	1.03	12.3		3.6
15,371.0	90.22	1.28	12,395.5	3,022.7	-506.1	0.13	-0.09	-0.09	11.9		0.7
15,465.0	89.34	359.79	12,395.9	3,116.7	-505.2	1.84	-0.94	-1.59	12.2		-0.9
15,560.0	91.10	0.67	12,395.5	3,211.7	-504.8	2.07	1.85	0.93	11.9		-2.0
15,653.0	86.88	355.13	12,397.2	3,304.5	-508.2	7.49	-4.54	-5.96	13.5		0.7
15,731.0	87.93	354.69	12,400.7	3,382.1	-515.2	1.46	1.35	-0.56	17.0		7.0
15,778.0	89.34	354.69	12,401.8	3,428.9	-519.5	3.00	3.00	0.00	18.1		11.0
15,872.0	92.51	356.36	12,400.3	3,522.6	-526.8	3.81	3.37	1.78	16.6		17.6
15,967.0	92.24	359.88	12,396.4	3,617.5	-529.9	3.71	-0.28	3.71	12.6		20.0
16,061.0	91.54	1.81	12,393.3	3,711.4	-528.6	2.18	-0.74	2.05	9.5		17.9
16,155.0	90.22	1.37	12,391.8	3,805.3	-526.0	1.48	-1.40	-0.47	8.1		14.5
16,249.0	90.31	359.96	12,391.4	3,899.3	-524.9	1.50	0.10	-1.50	7.7		12.7
16,344.0	90.31	358.38	12,390.9	3,994.3	-526.2	1.66	0.00	-1.66	7.1		13.4
16,438.0	89.25	358.73	12,381.2	4,088.3	-528.6	1.19	-1.13	0.37	7.5		15.0
16,532.0	88.81	359.88	12,392.8	4,182.3	-529.8	1.31	-0.47	1.22	9.1		15.4
16,626.0	90.66	0.58	12,393.3	4,276.2	-529.4	2.10	1.97	0.74	9.5		14.3



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
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:	#710H	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)	
16,720.0	90.31	1.28	12,392.5	4,370.2	-527.8	0.83	-0.37	0.74	8.7	12.1	
16,814.0	88.64	359.96	12,393.3	4,464.2	-528.8	2.26	-1.78	-1.40	9.5	10.4	
16,908.0	89.87	1.11	12,394.6	4,558.2	-528.0	1.79	1.31	1.22	10.8	8.8	
17,002.0	90.13	1.99	12,394.6	4,652.2	-523.4	0.98	0.28	0.94	10.7	5.5	
17,096.0	90.84	3.83	12,393.8	4,746.0	-518.6	2.10	0.76	1.96	9.9	0.0	
17,190.0	90.40	2.78	12,392.7	4,839.9	-513.2	1.21	-0.47	-1.12	8.9	-6.1	
17,285.0	88.64	0.58	12,393.5	4,934.8	-510.4	2.97	-1.85	-2.32	9.7	-9.7	
17,380.0	88.90	0.40	12,395.6	5,029.8	-509.6	0.33	0.27	-0.19	11.7	-11.2	
17,475.0	91.10	1.19	12,395.6	5,124.8	-508.3	2.46	2.32	0.83	11.7	-13.2	
17,570.0	90.48	1.90	12,394.3	5,219.7	-505.7	0.99	-0.65	0.75	10.4	-16.5	
17,665.0	89.25	1.37	12,394.5	5,314.7	-503.0	1.41	-1.29	-0.56	10.6	-20.0	
17,760.0	90.04	357.68	12,395.1	5,409.7	-503.8	3.97	0.83	-3.88	11.2	-19.9	
17,855.0	91.45	356.01	12,393.8	5,504.5	-509.0	2.30	1.48	-1.76	9.9	-15.4	
17,950.0	90.48	357.50	12,392.2	5,599.3	-514.4	1.87	-1.02	1.57	8.3	-10.8	
18,045.0	89.43	358.91	12,392.3	5,694.3	-517.4	1.85	-1.11	1.48	8.4	-8.5	
18,139.0	89.78	359.52	12,393.0	5,788.3	-518.7	0.75	0.37	0.65	9.0	-8.0	
18,234.0	90.84	359.44	12,392.5	5,883.3	-519.6	1.12	1.12	-0.08	8.5	-7.8	
18,329.0	90.57	0.32	12,391.3	5,978.3	-519.7	0.97	-0.28	0.93	7.3	-8.4	
18,424.0	89.78	1.28	12,391.0	6,073.3	-518.4	1.31	-0.83	1.01	7.0	-10.4	
18,519.0	90.04	2.07	12,391.1	6,168.2	-515.6	0.88	0.27	0.83	7.2	-13.9	
18,614.0	90.48	0.32	12,390.7	6,263.2	-513.7	1.90	0.46	-1.84	6.7	-16.6	
18,708.0	90.92	359.61	12,389.6	6,357.2	-513.7	0.89	0.47	-0.78	5.6	-17.3	
18,803.0	90.40	0.14	12,388.5	6,452.2	-513.9	0.78	-0.55	0.56	4.5	-17.8	
18,898.0	89.52	357.68	12,388.5	6,547.1	-515.7	2.75	-0.93	-2.59	4.5	-16.7	
18,991.0	89.16	357.33	12,389.3	6,610.1	-518.5	0.80	-0.57	-0.56	5.3	-14.5	
19,086.0	90.22	357.59	12,389.9	6,735.0	-524.0	0.87	0.85	0.21	6.4	-9.9	
19,181.0	91.01	357.68	12,388.9	6,829.9	-527.9	0.84	0.83	0.09	5.7	-6.7	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB= 25' @ 3312.0usft
	#710H	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)	EW (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
19,276.0	88.46	356.54	12,389.4	6,924.7	-532.7	2.94	-2.68	-1.20	6.4	-2.6
19,370.0	89.25	356.54	12,391.2	7,018.5	-538.4	0.84	0.84	0.00	8.5	2.3
19,465.0	91.28	357.77	12,390.8	7,113.4	-543.1	2.50	2.14	1.29	8.4	6.3
19,560.0	92.24	357.15	12,387.9	7,208.3	-547.3	1.20	1.01	-0.65	5.8	9.8
19,654.0	93.56	358.38	12,383.1	7,302.1	-551.0	1.92	1.40	1.31	1.3	12.7
19,749.0	91.28	0.05	12,379.1	7,397.0	-552.3	2.97	-2.40	1.76	-2.5	13.3
19,843.0	87.93	0.40	12,379.8	7,491.0	-551.9	3.58	-3.56	0.37	-1.5	12.2
19,938.0	88.90	0.14	12,382.4	7,585.9	-551.5	1.08	1.02	-0.27	1.4	11.0
20,033.0	91.28	0.58	12,382.2	7,680.9	-550.9	2.55	2.51	0.46	1.5	9.7
20,128.0	91.28	0.05	12,380.1	7,775.9	-550.3	0.56	0.00	-0.56	-0.3	8.4
20,223.0	92.15	359.52	12,377.3	7,870.9	-550.7	1.07	0.92	-0.56	-2.9	8.1
20,318.0	89.69	358.82	12,375.7	7,965.8	-552.1	2.69	-2.59	-0.74	-4.1	8.7
20,412.0	88.64	358.29	12,377.1	8,059.8	-554.4	1.25	-1.12	-0.56	-2.5	10.4
20,507.0	90.84	358.29	12,377.5	8,154.7	-557.3	2.32	2.32	0.00	-1.7	12.5
20,602.0	90.13	359.09	12,376.7	8,249.7	-559.5	1.13	-0.75	0.84	-2.3	13.9
20,696.0	90.04	358.91	12,376.6	8,343.7	-561.1	0.21	-0.10	-0.19	-2.1	14.8
20,791.0	90.84	359.61	12,375.9	8,438.7	-562.3	1.12	0.84	0.74	-2.6	15.3
20,885.0	89.96	2.78	12,375.2	8,532.6	-560.4	3.50	-0.94	3.37	-3.0	12.6
20,950.0	90.75	2.95	12,374.8	8,597.6	-557.1	1.24	1.22	0.26	-3.2	8.9
21,045.0	89.25	0.14	12,374.8	8,692.5	-554.6	3.35	-1.58	-2.96	-2.9	5.6
21,139.0	90.04	2.34	12,375.4	8,786.5	-552.5	2.49	0.84	2.34	-2.0	2.8
21,234.0	89.87	0.67	12,375.5	8,881.4	-550.0	1.77	-0.18	-1.76	-1.7	-0.4
21,329.0	90.48	1.63	12,375.2	8,976.4	-548.1	1.20	0.64	1.01	-1.7	-3.0
21,424.0	89.43	357.15	12,375.3	9,071.4	-549.1	4.84	-1.11	-4.72	-1.3	-2.7
21,519.0	90.40	358.91	12,375.4	9,166.3	-552.4	2.12	1.02	1.85	-0.9	-0.2
21,614.0	89.78	359.00	12,375.3	9,261.3	-554.1	0.66	-0.65	0.09	-0.7	0.8
21,709.0	90.31	0.14	12,375.2	9,356.3	-554.8	1.32	0.56	1.20	-0.5	0.8

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3312.0usft
Site:	Dogwood 23 Fed Com	MD Reference:	KB= 25' @ 3312.0usft
Wellbore:	#710H	North Reference:	Grid
	OH	Survey Calculation Method:	Minimum Curvature
	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Adj (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
21,803.0	91.01	1.90	12,374.1	9,450.3	-553.2	2.01	0.74	1.87	-1.3	-1.6
21,898.0	90.75	1.02	12,372.6	9,545.2	-550.7	0.97	-0.27	-0.93	-2.5	-4.7
21,992.0	91.54	1.63	12,370.8	9,639.2	-548.6	1.06	0.84	0.65	-4.1	-7.6
22,087.0	87.76	358.56	12,371.3	9,734.2	-548.4	5.13	-3.98	-3.23	-3.2	-8.5
22,181.0	90.31	358.65	12,372.9	9,828.1	-550.7	2.71	2.71	0.10	-1.4	-7.0
22,276.0	91.01	357.59	12,371.8	9,923.1	-553.8	1.34	0.74	-1.12	-2.2	-4.6
22,371.0	90.22	355.31	12,370.8	10,017.9	-559.7	2.54	-0.83	-2.40	-2.9	0.6
22,466.0	90.13	353.90	12,370.5	10,112.4	-568.6	1.49	-0.09	-1.48	-2.9	8.8
Last MWD Survey (MD = 22466.0)										
22,604.0	90.13	353.90	12,370.2	10,249.7	-583.3	0.00	0.00	0.00	-2.8	22.4
Projection to Bit (MD = 22604.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,950.0	11,922.2	-161.6	-489.4	KOP 11950.0' MD; 11922.2' TVD; -161.6'; -489.4'; 2.81
12,155.2	12,114.2	-88.0	-485.2	FTP Crossing 12155.2' MD; 12114.2' TVD; -88.0'; -485.2'; 32.56
22,466.0	12,370.5	10,112.4	-568.6	Last MWD Survey (MD = 22466.0)
22,604.0	12,370.2	10,249.7	-583.3	Projection to Bit (MD = 22604.0)

Checked By: _____	Approved By: _____	Date: _____
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