

HOBBS OCD

OCT 22 2018

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Hearns 34 State Com

#710H

OH

Design: OH

Midland PVA

01 August, 2018





Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3507.0usft (H&P 620)
Site:	Hearns 34 State Com	MD Reference:	KB = 25' @ 3507.0usft (H&P 620)
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	Hearns 34 State Com		
Site Position:		Northing:	425,568.00 usft
From:	Map	Easting:	780,745.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 3.355 N
		Longitude:	103° 33' 34.635 W
		Grid Convergence:	0.41 °

Well	#710H		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/14/2017	6.94	60.01	47,806.74346485

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)	Direction (°)
	0.0	0.0	0.0	356.24



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Survey Program		Date	8/1/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
210.0	1,161.0	Cartel 41 8' KB +17' (OH)	MWD	OWSG MWD - Standard	
1,342.0	22,725.0	Driltech MWD #1 (OH)	EOG MWD+IFR1+MS	MWD + IFR1 + Multi-Station Correction	

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
210.0	0.59	156.27	210.0	-1.0	0.4	0.28	0.28	0.00	0.0	0.0
337.0	0.66	136.93	337.0	-2.1	1.2	0.17	0.06	-15.23	0.0	0.0
528.0	0.33	192.22	528.0	-3.5	1.8	0.29	-0.17	28.95	0.0	0.0
686.0	0.48	132.89	686.0	-4.4	2.2	0.27	0.09	-37.55	0.0	0.0
844.0	0.42	98.09	844.0	-4.9	3.3	0.17	-0.04	-22.03	0.0	0.0
1,003.0	0.31	208.12	1,003.0	-5.4	3.7	0.38	-0.07	69.20	0.0	0.0
1,161.0	0.33	250.66	1,161.0	-5.9	3.0	0.15	0.01	26.92	0.0	0.0
1,342.0	0.25	28.24	1,342.0	-5.7	2.7	0.30	-0.04	76.01	-0.8	-0.4
1,529.0	0.19	184.02	1,529.0	-5.7	2.9	0.23	-0.03	83.30	1.1	1.8
1,716.0	1.44	234.29	1,715.9	-7.3	1.0	0.71	0.67	26.88	0.5	0.9
1,906.0	4.03	238.94	1,905.7	-12.2	-6.7	1.37	1.36	2.45	-7.4	1.2
2,096.0	4.63	236.18	2,095.2	-19.9	-18.8	0.33	0.32	-1.45	-19.1	0.8
2,285.0	5.69	233.57	2,283.4	-29.7	-32.7	0.57	0.56	-1.38	-23.3	0.4
2,475.0	5.78	237.84	2,472.4	-40.4	-48.3	0.23	0.05	2.25	-26.7	2.5
2,664.0	5.71	240.30	2,660.5	-50.1	-64.6	0.14	-0.04	1.30	-30.1	3.1
2,854.0	5.56	242.00	2,849.6	-59.1	-80.9	0.12	-0.08	0.89	-33.2	2.9
3,044.0	5.40	243.49	3,038.7	-67.4	-97.0	0.11	-0.08	0.78	-35.9	2.2
3,234.0	5.26	233.34	3,227.9	-76.6	-112.0	0.50	-0.07	-5.34	-37.8	-4.8
3,424.0	5.15	229.18	3,417.1	-87.4	-125.5	0.21	-0.06	-2.19	-39.2	-6.1
3,613.0	4.80	226.81	3,605.4	-98.3	-137.6	0.21	-0.19	-1.25	-40.1	-5.4



Midland PVA



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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)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
3,803.0	5.25	227.78	3,794.7	-109.6	-149.9	0.24	0.24	0.51	-41.5	-2.1	
3,992.0	4.29	223.73	3,983.0	-120.5	-161.2	0.54	-0.51	-2.14	-41.9	-2.2	
4,182.0	4.02	222.32	4,172.5	-130.6	-170.6	0.15	-0.14	-0.74	-40.6	0.5	
4,372.0	4.70	230.09	4,362.0	-140.5	-181.0	0.47	0.36	4.09	-39.2	8.7	
4,562.0	3.78	207.70	4,551.5	-151.1	-189.9	0.99	-0.48	-11.78	-39.4	-2.3	
4,751.0	4.93	219.64	4,739.9	-162.8	-198.0	0.77	0.61	6.32	-38.5	11.8	
4,940.0	5.71	211.11	4,928.1	-177.1	-208.0	0.59	0.41	-4.51	-43.4	11.4	
5,045.0	5.57	226.30	5,032.6	-185.1	-214.4	1.42	-0.13	14.47	-40.6	25.3	
5,210.0	5.39	237.75	5,196.8	-194.8	-226.7	0.67	-0.11	6.94	-37.0	34.2	
5,399.0	5.27	250.35	5,385.0	-202.5	-242.4	0.62	-0.06	6.67	-31.0	39.7	
5,589.0	5.25	249.35	5,574.2	-208.5	-258.8	0.05	-0.01	-0.53	-34.0	35.7	
5,778.0	4.89	246.85	5,762.5	-214.7	-274.3	0.22	-0.19	-1.32	-37.0	31.1	
5,968.0	4.78	246.77	5,951.8	-221.0	-289.0	0.06	-0.06	-0.04	-37.8	28.3	
6,158.0	4.22	246.91	6,141.2	-226.8	-302.7	0.29	-0.29	0.07	-37.4	25.7	
6,347.0	4.10	246.76	6,329.7	-232.2	-315.3	0.06	-0.06	-0.08	-36.0	22.9	
6,536.0	3.88	247.12	6,518.3	-237.4	-327.4	0.12	-0.12	0.19	-33.8	20.5	
6,725.0	2.58	255.03	6,707.0	-241.0	-337.4	0.73	-0.69	4.19	-26.6	21.0	
6,914.0	2.32	259.62	6,895.8	-242.8	-345.3	0.17	-0.14	2.43	-18.7	17.4	
7,104.0	2.23	256.10	7,085.6	-244.3	-352.7	0.09	-0.05	-1.85	-12.6	10.8	
7,293.0	0.70	203.63	7,274.6	-246.3	-356.7	1.00	-0.81	-27.76	-6.7	2.2	
7,483.0	0.84	204.90	7,464.6	-248.6	-357.7	0.07	0.07	0.67	3.9	10.5	
7,672.0	1.31	313.07	7,653.5	-248.4	-359.9	0.93	0.25	57.23	9.3	-14.7	
7,862.0	0.84	295.89	7,843.5	-246.3	-362.7	0.30	-0.25	-9.04	9.9	-12.3	
8,051.0	1.01	286.35	8,032.5	-245.2	-365.6	0.12	0.09	-5.05	8.8	-10.7	
8,241.0	0.93	73.49	8,222.5	-244.3	-365.7	0.98	-0.04	77.44	-13.3	5.1	
8,430.0	0.73	85.83	8,411.5	-243.8	-363.0	0.14	-0.11	6.53	-14.6	8.2	
8,619.0	0.70	97.61	8,600.4	-243.9	-360.7	0.08	-0.02	6.23	-15.0	11.2	



Midland PVA



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Site: Hearn 34 State Com
Well: #710H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #710H
TVD Reference: KB = 25' @ 3507.0usft (H&P 620)
MD Reference: KB = 25' @ 3507.0usft (H&P 620)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey											
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)	
8,809.0	0.59	103.91	8,790.4	-244.2	-358.6	0.07	-0.06	3.32	-15.8	12.9	
8,999.0	0.60	133.24	8,980.4	-245.2	-356.9	0.16	0.01	15.44	-9.3	19.5	
9,188.0	0.62	113.60	9,169.4	-246.3	-355.3	0.11	0.01	-10.39	-17.2	14.9	
9,378.0	0.29	39.32	9,359.4	-246.3	-354.0	0.32	-0.17	-39.09	-19.8	-13.5	
9,568.0	0.92	342.61	9,549.4	-244.5	-354.2	0.42	0.33	-29.85	-1.3	-24.3	
9,758.0	2.01	328.41	9,739.3	-240.2	-356.4	0.60	0.57	-7.47	-0.1	-24.3	
9,948.0	0.34	272.28	9,929.3	-237.3	-358.7	0.97	-0.88	-29.54	17.7	-16.4	
10,138.0	0.91	211.03	10,119.3	-238.6	-360.0	0.42	0.30	-32.24	21.1	7.1	
10,328.0	1.17	213.22	10,309.2	-241.5	-361.9	0.14	0.14	1.15	17.9	6.4	
10,517.0	1.26	217.42	10,498.2	-244.8	-364.2	0.07	0.05	2.22	14.3	5.2	
10,707.0	1.05	245.60	10,688.2	-247.1	-367.0	0.31	-0.11	14.83	11.5	-1.2	
10,896.0	1.48	248.22	10,877.1	-248.8	-370.9	0.23	0.23	1.39	7.3	-1.7	
11,085.0	2.07	256.50	11,066.0	-250.5	-376.5	0.34	0.31	4.38	1.1	-2.3	
11,275.0	1.25	42.71	11,256.0	-249.7	-378.4	1.68	-0.43	76.95	-1.5	3.2	
11,465.0	1.67	62.45	11,445.9	-246.9	-374.5	0.34	0.22	10.39	-5.0	4.2	
11,654.0	1.10	88.66	11,634.9	-245.6	-370.3	0.44	-0.30	13.87	-6.9	7.2	
11,800.0	0.83	105.96	11,780.8	-245.9	-367.9	0.27	-0.18	11.85	-6.8	9.4	
11,885.0	0.78	106.96	11,865.8	-246.2	-366.7	0.06	-0.06	1.18	-7.9	9.5	
11,980.0	0.83	99.31	11,960.8	-246.5	-365.4	0.12	0.05	-8.05	-10.4	8.3	
12,060.0	7.02	7.24	12,040.6	-241.8	-364.2	8.87	7.73	-115.05	-12.7	-11.3	
KOP 12060.0 MD; 12040.6 TVD; -241.8; -364.2; 7.02											
12,122.0	12.49	4.27	12,101.7	-231.3	-363.3	8.87	8.83	-4.80	-18.3	-13.3	
12,170.0	21.90	2.32	12,147.5	-217.2	-362.5	19.64	19.60	-4.06	-23.2	-16.3	
12,217.0	27.01	1.87	12,190.3	-197.7	-361.8	10.88	10.87	-0.96	-29.5	-19.7	
12,265.0	30.66	1.69	12,232.3	-174.6	-361.1	7.61	7.60	-0.38	-34.8	-23.9	
12,312.0	34.89	356.94	12,271.8	-149.2	-361.4	10.53	9.00	-10.11	-36.1	-30.6	
12,359.0	40.34	348.07	12,309.1	-120.8	-365.3	16.32	11.60	-18.87	-34.1	-36.4	



Midland PVA



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Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #710H
TVD Reference: KB = 25' @ 3507.0usft (H&P 620)
MD Reference: KB = 25' @ 3507.0usft (H&P 620)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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Survey

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)
12,406.0	44.90	344.70	12,343.7	-89.9	-372.8	10.85	9.70	-7.17	-34.1	-36.1
12,420.6	45.23	344.51	12,354.0	-79.9	-375.6	2.46	2.29	-1.29	-34.2	-35.3
FTP Crossing 12420.6' MD; 12354.0' TVD; -79.9°; -375.6'; 45.23										
12,454.0	46.00	344.09	12,377.3	-57.0	-382.0	2.46	2.29	-1.26	-32.8	-33.2
12,501.0	47.20	344.18	12,409.6	-24.1	-391.4	2.56	2.55	0.19	-27.6	-29.7
12,549.0	50.68	345.60	12,441.1	10.8	-400.8	7.59	7.25	2.96	-19.6	-26.0
12,596.0	57.99	346.63	12,468.5	47.9	-409.9	15.65	15.55	2.19	-11.4	-23.3
12,644.0	64.78	348.27	12,491.5	89.0	-419.1	14.46	14.15	3.42	-4.1	-21.5
12,691.0	70.62	349.30	12,509.3	131.6	-427.5	12.59	12.43	2.19	2.8	-21.0
12,739.0	76.37	349.38	12,523.0	176.8	-436.0	11.98	11.98	0.17	9.8	-21.0
12,786.0	86.14	346.85	12,530.1	222.2	-445.6	21.46	20.79	-5.38	15.1	-19.9
12,834.0	92.10	347.06	12,530.8	268.9	-456.4	12.42	12.42	0.44	16.6	-17.9
12,928.0	91.01	347.76	12,528.3	360.7	-476.9	1.38	-1.16	0.74	15.6	-14.6
13,023.0	92.68	347.44	12,525.2	453.4	-497.3	1.79	1.76	-0.34	14.2	-11.6
13,117.0	93.79	350.53	12,519.9	545.5	-515.2	3.49	1.18	3.29	10.5	-10.9
13,212.0	96.35	350.55	12,511.5	638.8	-530.8	2.69	2.69	0.02	3.7	-12.7
13,307.0	94.05	350.78	12,502.9	732.2	-546.1	2.43	-2.42	0.24	-3.3	-14.8
13,401.0	92.10	352.49	12,497.9	825.0	-559.8	2.76	-2.07	1.82	-6.7	-16.4
13,496.0	89.63	353.41	12,496.4	919.3	-571.4	2.77	-2.60	0.97	-6.5	-17.1
13,591.0	90.49	354.64	12,496.3	1,013.8	-581.3	1.58	0.91	1.29	-5.0	-16.4
13,685.0	90.87	357.33	12,495.2	1,107.5	-587.9	2.89	0.40	2.86	-4.4	-15.8
13,780.0	91.24	357.50	12,493.5	1,202.4	-592.2	0.43	0.39	0.18	-4.6	-14.4
13,874.0	90.90	357.80	12,491.7	1,296.3	-596.0	0.48	-0.36	0.32	-4.7	-11.3
13,969.0	91.93	358.69	12,489.4	1,391.2	-598.9	1.43	1.08	0.94	-5.4	-9.1
14,063.0	91.52	359.41	12,486.6	1,485.2	-600.5	0.88	-0.44	0.77	-6.6	-8.2
14,158.0	91.50	359.43	12,484.0	1,580.2	-601.5	0.03	-0.02	0.02	-7.5	-7.9
14,253.0	90.64	0.13	12,482.3	1,675.1	-601.8	1.17	-0.91	0.74	-7.7	-8.2



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14,348.0	91.40	0.63	12,480.6	1,770.1	-601.2	0.96	0.80	0.53	-7.7	-9.5	
14,443.0	88.29	0.23	12,480.8	1,865.1	-600.5	3.30	-3.27	-0.42	-5.8	-10.9	
14,538.0	88.68	0.73	12,483.4	1,960.1	-599.7	0.67	0.41	0.53	-1.7	-12.4	
14,633.0	87.25	359.33	12,486.7	2,055.0	-599.6	2.11	-1.51	-1.47	3.1	-13.1	
14,728.0	89.78	357.40	12,489.2	2,149.9	-602.3	3.35	2.66	-2.03	7.0	-11.0	
14,824.0	92.66	359.19	12,487.1	2,245.8	-605.2	3.53	3.00	1.86	6.4	-8.8	
14,919.0	93.22	358.82	12,482.3	2,340.7	-606.9	0.71	0.59	-0.39	2.9	-7.8	
15,013.0	92.64	359.33	12,477.5	2,434.6	-608.4	0.82	-0.62	0.54	-0.5	-6.9	
15,108.0	90.88	359.26	12,474.5	2,529.5	-609.5	1.85	-1.85	-0.07	-2.0	-6.4	
15,203.0	91.02	358.92	12,473.0	2,624.5	-611.0	0.39	0.15	-0.36	-2.1	-5.6	
15,298.0	90.92	358.87	12,471.4	2,719.4	-612.9	0.12	-0.11	-0.05	-2.3	-4.4	
15,393.0	90.21	358.93	12,470.4	2,814.4	-614.7	0.75	-0.75	0.06	-1.8	-3.2	
15,487.0	91.67	357.01	12,468.9	2,908.3	-618.0	2.57	1.55	-2.04	-2.0	-0.5	
15,582.0	91.56	357.97	12,466.2	3,003.2	-622.2	1.02	-0.12	1.01	-3.2	3.0	
15,677.0	93.18	359.15	12,462.3	3,098.1	-624.6	2.11	1.71	1.24	-5.7	4.7	
15,772.0	90.90	359.14	12,458.9	3,193.0	-626.0	2.40	-2.40	-0.01	-7.7	5.5	
15,867.0	90.86	359.09	12,457.4	3,288.0	-627.5	0.07	-0.04	-0.05	-7.7	6.3	
15,962.0	90.37	358.91	12,456.4	3,383.0	-629.1	0.55	-0.52	-0.19	-7.3	7.3	
16,056.0	90.85	358.51	12,455.4	3,476.9	-631.2	0.66	0.51	-0.43	-6.9	8.8	
16,151.0	90.87	358.69	12,454.0	3,571.9	-633.6	0.19	0.02	0.19	-6.9	10.5	
16,246.0	91.50	358.55	12,452.0	3,666.9	-635.8	0.68	0.66	-0.16	-7.5	12.1	
16,341.0	91.06	358.22	12,449.9	3,761.8	-638.5	0.58	-0.46	-0.35	-8.2	14.2	
16,436.0	91.20	357.25	12,448.0	3,856.7	-642.3	1.03	0.15	-1.02	-8.6	17.3	
16,530.0	92.84	0.59	12,444.7	3,950.6	-644.0	3.96	1.74	3.55	-10.5	18.4	
16,624.0	90.48	0.85	12,442.0	4,044.6	-642.9	2.53	-2.51	0.28	-11.4	16.9	
16,719.0	90.41	0.37	12,441.3	4,139.5	-641.8	0.51	-0.07	-0.51	-10.1	15.7	
16,814.0	89.31	2.02	12,441.5	4,234.5	-639.9	2.09	-1.16	1.74	-7.8	13.6	



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #710H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3507.0usft (H&P 620)
Site:	Hearns 34 State Com	MD Reference:	KB = 25' @ 3507.0usft (H&P 620)
Well:	#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)	E/W (usft)	DLeg (°/100usft)	Buikd (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
16,908.0	88.22	1.42	12,443.5	4,328.5	-637.0	1.32	-1.16	-0.64	-3.8	10.6
17,003.0	89.34	1.30	12,445.5	4,423.4	-634.8	1.19	1.18	-0.13	0.3	8.2
17,098.0	92.50	2.31	12,444.0	4,518.3	-631.8	3.49	3.33	1.06	0.8	5.0
17,192.0	92.07	2.78	12,440.3	4,612.2	-627.6	0.68	-0.46	0.50	-0.9	0.7
17,287.0	89.79	2.24	12,438.7	4,707.1	-623.5	2.47	-2.40	-0.57	-0.4	-3.7
17,382.0	90.47	2.16	12,438.5	4,802.0	-619.8	0.72	0.72	-0.08	1.4	-7.5
17,477.0	89.81	1.23	12,438.3	4,896.9	-617.0	1.20	-0.69	-0.98	3.2	-10.5
17,571.0	93.79	3.65	12,435.3	4,990.8	-613.0	4.95	4.23	2.57	2.3	-14.6
17,666.0	92.41	1.92	12,430.2	5,085.5	-608.4	2.33	-1.45	-1.82	-0.8	-19.4
17,761.0	92.96	2.98	12,425.7	5,180.3	-604.4	1.26	0.58	1.12	-3.2	-23.6
17,856.0	92.32	3.08	12,421.4	5,275.1	-599.3	0.68	-0.67	0.11	-5.5	-28.8
17,951.0	88.94	1.28	12,420.3	5,370.0	-595.7	4.03	-3.56	-1.89	-4.6	-32.6
18,046.0	89.88	0.68	12,421.3	5,465.0	-594.1	1.17	0.99	-0.63	-1.6	-34.4
18,141.0	89.19	359.47	12,422.1	5,560.0	-594.0	1.47	-0.73	-1.27	1.2	-34.7
18,236.0	90.83	359.76	12,422.0	5,655.0	-594.6	1.75	1.73	0.31	3.3	-34.2
18,330.0	90.77	0.84	12,420.7	5,749.0	-594.1	1.15	-0.06	1.15	4.0	-34.9
18,425.0	92.87	0.49	12,417.7	5,843.9	-593.0	2.24	2.21	-0.37	3.0	-36.2
18,520.0	91.48	0.59	12,414.1	5,938.8	-592.1	1.47	-1.46	0.11	1.4	-37.2
18,614.0	90.45	359.44	12,412.5	6,032.8	-592.1	1.64	-1.10	-1.22	1.7	-36.7
18,709.0	89.79	359.40	12,412.3	6,127.8	-593.1	0.70	-0.69	-0.04	2.8	-32.4
18,803.0	88.35	1.91	12,413.9	6,221.8	-592.0	3.08	-1.53	2.67	5.0	-27.5
18,898.0	87.86	0.53	12,417.0	6,316.7	-590.0	1.54	-0.52	-1.45	8.7	-23.3
18,993.0	92.11	0.40	12,417.0	6,411.7	-589.2	4.48	4.47	-0.14	9.3	-17.8
19,087.0	90.75	0.85	12,414.7	6,505.6	-588.2	1.52	-1.45	0.48	7.5	-12.7
19,182.0	89.83	359.22	12,414.1	6,600.6	-588.1	1.92	-0.86	-1.72	7.6	-6.5
19,277.0	89.69	1.90	12,414.4	6,695.6	-587.2	2.83	-0.25	2.82	8.5	-1.1
19,371.0	90.27	2.32	12,414.5	6,789.6	-583.7	0.76	0.62	0.45	9.1	1.6



Midland PVA



Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Heams 34 State Com
Well: #710H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #710H
TVD Reference: KB = 25' @ 3507.0usft (H&P 620)
MD Reference: KB = 25' @ 3507.0usft (H&P 620)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey											
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)	
19,466.0	90.81	3.20	12,413.6	6,884.4	-579.2	1.09	0.57	0.93	8.8	3.1	
19,561.0	89.40	2.32	12,413.4	6,979.3	-574.6	1.75	-1.48	-0.93	8.5	2.1	
19,655.0	90.31	3.49	12,413.6	7,073.2	-569.8	1.58	0.97	1.24	8.0	-2.0	
19,750.0	89.25	0.94	12,414.0	7,168.1	-566.1	2.91	-1.12	-2.68	6.9	-7.9	
19,845.0	91.11	358.80	12,413.7	7,263.1	-566.4	2.98	1.96	-2.25	5.0	-10.5	
19,940.0	89.67	358.51	12,413.1	7,358.1	-568.6	1.55	-1.52	-0.31	2.7	-11.0	
20,034.0	87.70	357.79	12,415.2	7,452.0	-571.6	2.23	-2.10	-0.77	3.3	-10.7	
20,129.0	87.28	357.57	12,419.4	7,546.8	-575.5	0.50	-0.44	-0.23	5.8	-9.6	
20,224.0	88.35	358.77	12,423.0	7,641.6	-580.1	1.41	1.13	-0.84	7.8	-7.7	
20,318.0	88.84	358.95	12,425.3	7,735.5	-585.3	0.56	0.52	0.19	8.5	-5.3	
20,413.0	89.77	357.54	12,426.4	7,830.4	-589.9	1.16	0.98	0.62	8.0	-3.5	
20,508.0	90.43	357.49	12,426.3	7,925.3	-594.0	0.70	0.69	-0.05	6.2	-2.1	
20,603.0	89.78	356.75	12,426.1	8,020.1	-598.8	1.04	-0.68	-0.78	4.4	-0.1	
20,698.0	88.42	356.23	12,427.6	8,114.9	-604.6	1.53	-1.43	-0.55	4.3	3.0	
20,793.0	86.31	358.87	12,432.0	8,209.7	-608.6	3.56	-2.22	2.78	7.1	4.3	
20,888.0	90.41	359.71	12,434.7	8,304.7	-609.8	4.41	4.32	0.88	8.2	2.7	
20,983.0	90.60	359.03	12,433.8	8,399.7	-610.8	0.74	0.20	-0.72	5.7	1.0	
21,077.0	89.27	357.96	12,434.0	8,493.6	-613.3	1.82	-1.41	-1.14	4.2	0.7	
21,172.0	89.52	358.37	12,435.0	8,588.6	-616.4	0.51	0.26	0.43	3.6	1.0	
21,267.0	87.79	357.52	12,437.2	8,683.5	-619.8	2.03	-1.82	-0.89	4.2	1.6	
21,361.0	89.33	359.60	12,439.6	8,777.4	-622.1	2.75	1.64	2.21	5.0	1.2	
21,456.0	88.40	359.14	12,441.4	8,872.4	-623.2	1.09	-0.98	-0.48	5.2	-0.5	
21,551.0	85.46	357.32	12,446.5	8,967.2	-626.1	3.84	-3.09	-1.92	8.7	-0.3	
21,646.0	90.34	357.67	12,450.0	9,062.0	-630.2	5.15	5.14	0.37	10.6	1.1	
21,741.0	90.67	356.97	12,449.2	9,156.9	-634.7	0.81	0.35	-0.74	8.1	2.8	
21,836.0	89.81	356.96	12,448.8	9,251.8	-639.7	0.91	-0.91	-0.01	6.1	5.0	
21,931.0	89.62	357.30	12,449.2	9,346.7	-644.5	0.41	-0.20	0.36	4.9	7.0	



Midland PVA



Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Hearn 34 State Com
Well: #710H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #710H
TVD Reference: KB = 25' @ 3507.0usft (H&P 620)
MD Reference: KB = 25' @ 3507.0usft (H&P 620)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey											
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)	
22,026.0	90.93	357.26	12,448.8	9,441.5	-649.0	1.38	1.38	-0.04	2.9	8.6	
22,120.0	91.58	357.19	12,446.7	9,535.4	-653.5	0.70	0.69	-0.07	-0.3	9.5	
22,215.0	89.50	357.19	12,445.8	9,630.3	-658.2	2.19	-2.19	0.00	-2.4	10.4	
22,310.0	88.40	356.49	12,447.6	9,725.1	-663.4	1.37	-1.16	-0.74	-1.9	12.0	
22,405.0	88.14	359.76	12,450.4	9,820.0	-666.5	3.45	-0.27	3.44	-0.3	11.4	
22,500.0	86.43	358.63	12,454.9	9,914.9	-667.9	2.16	-1.80	-1.19	3.0	9.1	
22,594.0	87.80	359.17	12,459.7	10,008.8	-669.7	1.57	1.46	0.57	6.5	7.2	
22,666.0	89.12	358.29	12,461.6	10,080.8	-671.3	2.20	1.83	-1.22	7.5	6.0	
Last MWD Survey (MD = 22666.0)											
22,725.0	89.12	358.29	12,462.5	10,139.7	-673.0	0.00	0.00	0.00	7.7	5.5	
Projection to Bit (MD = 22725.0)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,060.0	12,040.6	-241.8	-364.2	KOP 12060.0' MD; 12040.6' TVD; -241.8'; -364.2'; 7.02
12,420.6	12,354.0	-79.9	-375.6	FTP Crossing 12420.6' MD; 12354.0' TVD; -79.9'; -375.6'; 45.23
22,666.0	12,461.6	10,080.8	-671.3	Last MWD Survey (MD = 22666.0)
22,725.0	12,462.5	10,139.7	-673.0	Projection to Bit (MD = 22725.0)

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Hearns 34 State Com #710H

H&P 620

Plan #2

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

KB = 25' @ 3607.0usft (H&P 620) 3482.0
Northing 425599.00 Easting 781939.00 Latitude 32° 10' 3.577 N Longitude 103° 33' 20.742 W

SECTION DETAILS

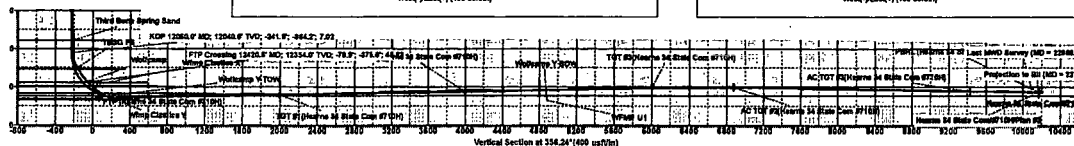
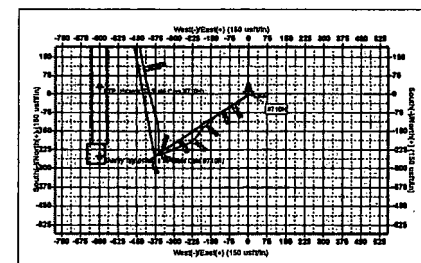
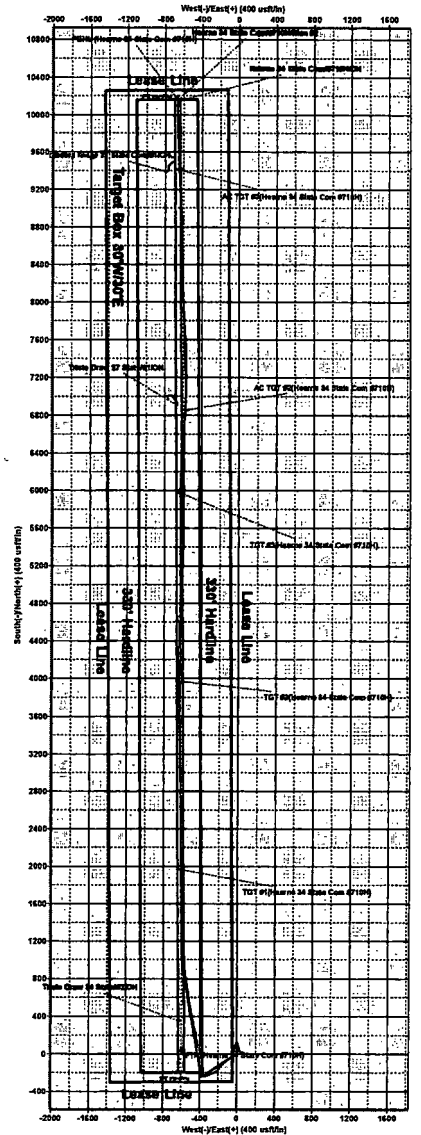
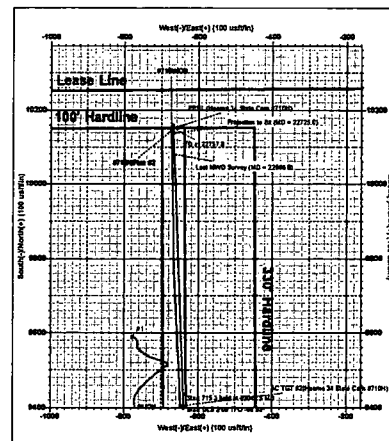
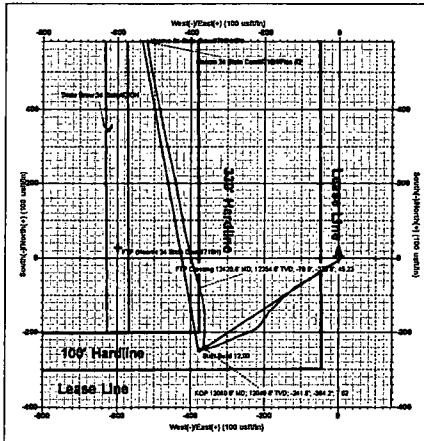
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VSeal	Target
1	1181.0	0.33	250.66	1181.0	-6.9	0.00	0.00	0.00	-6.1	
2	2000.0	0.33	250.66	2000.0	-7.5	-1.5	0.00	0.00	-7.4	
3	2219.0	4.68	236.80	2217.7	-12.6	-9.8	2.00	-14.90	-11.9	
4	7483.1	4.68	236.80	7485.3	-247.8	-369.0	0.00	0.00	-223.0	
5	7717.1	0.00	0.00	7639.0	-253.0	-377.0	2.00	180.00	-227.7	
6	12055.7	0.00	0.00	12037.6	-263.0	-377.0	0.00	0.00	-227.7	
7	12813.9	90.98	349.41	12515.0	224.4	-468.2	12.00	349.41	254.6	
8	13313.9	90.98	349.41	12506.4	716.8	-558.1	0.00	0.00	760.9	
9	13923.0	90.98	359.59	12497.7	1221.8	-406.8	2.00	89.91	1259.0	
10	14568.0	90.98	359.59	12485.0	1963.7	-612.1	0.00	0.00	1999.7	TGT #1(Hearns 34 State Com #710H)
11	14871.3	90.98	359.61	12484.9	1969.9	-612.1	2.00	172.40	2005.9	
12	16068.8	90.98	359.61	12455.0	3967.2	-425.8	0.00	0.00	3999.7	TGT #2(Hearns 34 State Com #710H)
13	16592.4	91.23	359.90	12454.6	3990.8	-425.9	2.00	37.58	4023.3	
14	16572.8	91.23	359.90	12412.0	6970.7	-429.4	0.00	0.00	5999.1	TGT #3(Hearns 34 State Com #710H)
15	18771.3	90.36	3.77	12409.2	6169.1	-823.0	2.00	102.67	6196.7	
16	19454.8	90.36	3.77	12405.0	6850.8	-878.1	0.00	0.00	6874.0	AC TGT #2(Hearns 34 State Com #710H)
17	19734.8	89.02	358.33	12406.5	7130.7	-103.80	2.00	-103.80	7152.9	AC TGT #3(Hearns 34 State Com #710H)
18	22012.1	89.02	358.33	12445.3	9407.0	-439.2	0.00	0.00	9428.8	
19	22042.6	89.26	357.77	12445.8	9437.3	-640.2	2.00	-66.80	9468.9	
20	22767.8	89.26	357.77	12455.0	10152.0	-688.0	0.00	0.00	10174.0	PBHL (Hearns 34 State Com #710H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
AC TGT #2(Hearns 34 State Com #710H)	12405.0	6850.8	-878.1	432449.80	781380.90
TGT #3(Hearns 34 State Com #710H)	12412.0	6970.7	-829.4	431569.70	781309.80
AC TGT #3(Hearns 34 State Com #710H)	12445.3	9407.0	-439.2	435005.08	781299.80
PBHL (Hearns 34 State Com #710H)	12455.0	10162.0	-688.0	435781.00	781271.00
TGT #2(Hearns 34 State Com #710H)	12455.0	3967.2	-425.8	429568.20	781313.25
TGT #1(Hearns 34 State Com #710H)	12485.0	1963.7	-612.1	427662.70	781328.90
FTP (Hearns 34 State Com #710H)	12515.0	27.0	-597.0	425626.00	781342.00



1:10 Scale (100' = 1 inch)