



EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Hawk 35 Fed

#8H

OH

Design: OH

EOG PVA

21 April, 2015

117ch-580-06

SEP 15 2015



EOG Resources, Inc.
EOG PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #8H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3544.0usft (H&P 612)
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3544.0usft (H&P 612)
Well:	#8H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Hawk 35 Fed		
Site Position:		Northing:	430,058.00 usft
From:	Map	Easting:	746,582.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 47.408 N
		Longitude:	103° 32' 10.844 W
		Grid Convergence:	0.42 °

Well	#8H		
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° 10' 47.423 N
		Longitude:	103° 32' 25.784 W
		Ground Level:	3,519.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	4/9/2015	7.17
			Dip Angle
			(°)
			60.06
			Field Strength
			(nT)
			48,140

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
			(°)
			5.71

Survey Program	Date	4/21/2015		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
184.0	14,728.0	Driltech MWD #1 (OH)	MWD	MWD - Standard



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 MD Reference: KB = 25 @ 3544.0usft (H&P 612)
 North Reference: Grid
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 Database: EDM 5000.1 Single User Db

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	
184.0	0.40	276.60	184.0	0.1	-0.6	0.22	0.22	0.00	-0.6	0.0	
339.0	0.70	261.50	339.0	0.0	-2.1	0.21	0.19	-9.74	-2.1	-0.3	
435.0	1.20	251.80	435.0	-0.4	-3.6	0.55	0.52	-10.10	-3.6	-0.8	
527.0	1.40	240.20	527.0	-1.3	-5.5	0.36	0.22	-12.61	-5.4	-1.7	
618.0	0.90	187.60	617.9	-2.5	-6.6	1.22	-0.55	-57.80	-3.4	-6.2	
710.0	1.20	136.80	709.9	-3.9	-6.0	1.02	0.33	-55.22	1.3	-7.1	
893.0	2.60	84.80	892.8	-5.0	-0.6	1.14	0.77	-28.42	1.0	-4.9	
982.0	2.10	78.30	981.8	-4.5	3.0	0.64	-0.56	-7.30	-2.1	-5.0	
1,165.0	3.20	54.00	1,164.6	-0.8	10.4	0.85	0.60	-13.28	-8.0	-6.8	
1,258.0	3.30	40.00	1,257.4	2.8	14.3	0.86	0.11	-15.05	-11.3	-9.1	
1,346.0	2.60	38.00	1,345.3	6.3	17.1	0.80	-0.80	-2.27	-15.5	-9.6	
1,439.0	2.30	50.00	1,438.2	9.2	19.8	0.64	-0.32	12.90	-21.1	-5.7	
1,531.0	2.10	72.70	1,530.1	10.9	22.9	0.96	-0.22	24.67	-25.1	3.6	
1,624.0	3.00	83.70	1,623.1	11.6	26.9	1.10	0.97	11.83	-28.0	8.6	
1,716.0	3.50	93.10	1,714.9	11.8	32.1	0.79	0.54	10.22	-31.4	13.5	
1,809.0	3.20	96.90	1,807.7	11.3	37.5	0.40	-0.32	4.09	-35.9	15.7	
1,901.0	3.20	96.00	1,899.6	10.7	42.6	0.05	0.00	-0.98	-41.3	15.1	
1,993.0	3.00	94.10	1,991.5	10.3	47.6	0.24	-0.22	-2.07	-46.7	13.7	
2,086.0	2.80	87.40	2,084.4	10.2	52.3	0.42	-0.22	-7.20	-52.7	7.8	
2,178.0	3.00	82.70	2,176.2	10.6	56.9	0.34	0.22	-5.11	-57.8	3.3	
2,271.0	3.20	75.80	2,269.1	11.6	61.8	0.45	0.22	-7.42	-62.8	-4.0	
2,363.0	2.80	80.10	2,361.0	12.6	66.5	0.50	-0.43	4.67	-67.7	0.9	
2,455.0	2.60	83.70	2,452.9	13.2	70.8	0.28	-0.22	3.91	-71.8	5.3	
2,548.0	2.80	80.60	2,545.8	13.8	75.2	0.27	0.22	-3.33	-76.4	1.3	
2,640.0	2.60	80.80	2,637.7	14.5	79.4	0.22	-0.22	0.22	-80.7	1.6	
2,825.0	2.50	74.10	2,822.5	16.3	87.5	0.17	-0.05	-3.62	-88.6	-8.3	



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2,917.0	2.60	72.00	2,914.4	17.5	91.4	0.15	0.11	-2.28	-92.3	-11.6	
3,010.0	2.30	75.10	3,007.3	18.6	95.2	0.35	-0.32	3.33	-96.8	-6.5	
3,102.0	1.90	77.80	3,099.2	19.4	98.5	0.45	-0.43	2.93	-100.3	-1.9	
3,194.0	2.10	74.10	3,191.2	20.2	101.6	0.26	0.22	-4.02	-103.2	-8.4	
3,287.0	2.60	66.50	3,284.1	21.5	105.1	0.63	0.54	-8.17	-105.0	-22.2	
3,379.0	1.90	91.10	3,376.0	22.3	108.6	1.28	-0.76	26.74	-108.1	24.4	
3,472.0	1.90	105.00	3,469.0	21.9	111.6	0.49	0.00	14.95	-102.1	50.0	
3,564.0	2.30	92.90	3,560.9	21.4	114.9	0.65	0.43	-13.15	-113.7	27.2	
3,656.0	2.50	92.50	3,652.8	21.2	118.8	0.22	0.22	-0.43	-117.7	26.4	
3,841.0	2.10	72.30	3,837.7	22.0	126.0	0.49	-0.22	-10.92	-126.8	-17.3	
3,933.0	2.10	88.50	3,929.6	22.6	129.3	0.64	0.00	17.61	-129.9	19.2	
4,118.0	1.90	94.10	4,114.5	22.5	135.8	0.15	-0.11	3.03	-133.8	32.1	
4,211.0	1.90	92.20	4,207.5	22.3	138.9	0.07	0.00	-2.04	-137.9	27.6	
4,303.0	1.80	100.40	4,299.4	22.0	141.8	0.31	-0.11	8.91	-135.5	47.2	
4,395.0	1.60	103.80	4,391.4	21.4	144.5	0.24	-0.22	3.70	-135.2	55.3	
4,488.0	2.30	110.80	4,484.3	20.4	147.5	0.79	0.75	7.53	-130.6	71.5	
4,673.0	3.50	111.30	4,669.1	17.1	156.2	0.65	0.65	0.27	-136.9	71.8	
4,765.0	4.00	113.80	4,760.9	14.8	161.8	0.57	0.54	2.72	-136.4	76.5	
4,857.0	5.10	118.50	4,852.6	11.5	168.3	1.26	1.20	5.11	-132.5	85.4	
5,042.0	6.00	121.90	5,036.7	2.5	183.7	0.52	0.49	1.84	-132.4	86.1	
5,211.0	5.30	127.30	5,204.9	-6.9	197.4	0.52	-0.41	3.20	-125.0	87.9	
5,304.0	5.50	124.30	5,297.5	-12.0	204.5	0.37	0.22	-3.23	-128.0	74.8	
5,396.0	7.20	107.50	5,388.9	-16.3	213.7	2.72	1.85	-18.26	-142.6	30.6	
5,488.0	7.70	104.10	5,480.2	-19.5	225.2	0.72	0.54	-3.70	-144.5	19.4	
5,581.0	8.30	104.10	5,572.3	-22.6	237.7	0.65	0.65	0.00	-145.8	17.0	
5,673.0	8.80	97.10	5,663.2	-25.1	251.1	1.25	0.54	-7.61	-148.6	-2.6	
5,765.0	9.30	94.80	5,754.1	-26.6	265.5	0.67	0.54	-2.50	-151.1	-9.3	



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5,858.0	9.70	95.00	5,845.8	-27.9	280.8	0.43	0.43	0.22	-154.6	-9.3	
5,950.0	9.10	89.50	5,936.6	-28.5	295.8	1.17	-0.65	-5.98	-156.2	-24.1	
6,043.0	9.10	87.10	6,028.4	-28.1	310.5	0.41	0.00	-2.58	-158.0	-29.7	
6,135.0	9.50	87.60	6,119.2	-27.4	325.4	0.44	0.43	0.54	-161.3	-27.3	
6,227.0	7.90	88.70	6,210.1	-27.0	339.3	1.75	-1.74	1.20	-164.0	-23.3	
6,412.0	8.40	84.60	6,393.3	-25.4	365.4	0.41	0.27	-2.22	-164.6	-32.6	
6,504.0	9.00	81.60	6,484.2	-23.7	379.2	0.82	0.65	-3.26	-165.0	-39.2	
6,597.0	9.10	82.20	6,576.1	-21.7	393.7	0.15	0.11	0.65	-168.3	-35.3	
6,689.0	9.90	81.30	6,666.8	-19.5	408.8	0.88	0.87	-0.98	-171.3	-35.8	
6,782.0	8.60	80.60	6,758.6	-17.1	423.5	1.40	-1.40	-0.75	-174.2	-35.5	
6,874.0	7.60	79.70	6,849.7	-14.9	436.3	1.10	-1.09	-0.98	-175.1	-35.8	
6,966.0	6.20	82.50	6,941.0	-13.2	447.2	1.56	-1.52	3.04	-176.0	-24.9	
7,058.0	5.80	90.80	7,032.5	-12.6	456.8	1.04	-0.43	9.02	-175.5	1.6	
7,151.0	5.50	94.50	7,125.0	-13.0	465.9	0.51	-0.32	3.98	-172.2	12.7	
7,243.0	5.10	91.80	7,216.7	-13.5	474.4	0.51	-0.43	-2.93	-169.3	4.5	
7,335.0	5.10	94.80	7,308.3	-14.0	482.6	0.29	0.00	3.26	-165.2	13.0	
7,428.0	4.90	92.40	7,400.9	-14.5	490.6	0.31	-0.22	-2.58	-161.7	6.0	
7,520.0	4.60	94.30	7,492.6	-14.9	498.2	0.37	-0.33	2.07	-157.2	11.0	
7,612.0	4.80	95.00	7,584.3	-15.5	505.8	0.23	0.22	0.76	-152.8	12.4	
7,705.0	5.30	94.80	7,676.9	-16.2	513.9	0.54	0.54	-0.22	-149.1	11.4	
7,797.0	4.20	107.50	7,768.6	-17.6	521.4	1.65	-1.20	13.80	-139.0	41.5	
7,890.0	2.80	112.20	7,861.5	-19.5	526.7	1.54	-1.51	5.05	-129.6	49.0	
7,982.0	2.50	108.50	7,953.4	-21.0	530.7	0.38	-0.33	-4.02	-125.3	37.2	
8,074.0	2.80	109.20	8,045.3	-22.3	534.7	0.33	0.33	0.76	-117.8	35.3	
8,167.0	2.60	105.20	8,138.2	-23.6	538.9	0.30	-0.22	-4.30	-112.7	24.2	
8,259.0	1.80	105.20	8,230.1	-24.6	542.3	0.87	-0.87	0.00	-104.7	21.7	
8,352.0	1.60	101.80	8,323.0	-25.2	545.0	0.24	-0.22	-3.66	-96.7	13.4	



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8,444.0	1.80	100.60	8,415.0	-25.7	547.7	0.22	0.22	-1.30	-88.0	9.7	
8,537.0	1.40	93.40	8,508.0	-26.1	550.2	0.48	-0.43	-7.74	-79.1	-1.8	
8,629.0	1.20	103.60	8,599.9	-26.4	552.3	0.33	-0.22	11.09	-68.7	10.1	
8,721.0	1.10	108.00	8,691.9	-26.9	554.1	0.14	-0.11	4.78	-58.2	12.2	
8,858.0	1.20	80.10	8,828.9	-27.0	556.7	0.41	0.07	-20.36	-42.5	-13.2	
8,904.0	5.10	5.20	8,874.8	-24.9	557.4	10.71	8.48	-162.83	0.0	-39.1	
8,950.0	12.50	0.80	8,920.3	-17.9	557.7	16.14	16.09	-9.57	-0.8	-33.4	
8,996.0	17.80	7.10	8,964.6	-5.9	558.6	12.05	11.52	13.70	-8.6	-27.7	
9,042.0	23.90	8.70	9,007.6	10.3	560.9	13.32	13.26	3.48	-14.3	-23.2	
9,089.0	27.60	6.40	9,049.9	30.5	563.5	8.15	7.87	-4.89	-18.9	-20.1	
9,135.0	30.40	0.40	9,090.2	52.8	564.8	8.77	6.09	-13.04	-21.5	-17.6	
9,181.0	32.70	359.40	9,129.4	76.8	564.8	5.13	5.00	-2.17	-24.1	-12.6	
9,227.0	37.50	358.30	9,167.0	103.3	564.2	10.52	10.43	-2.39	-25.9	-7.5	
9,273.0	42.20	0.10	9,202.3	132.7	563.8	10.52	10.22	3.91	-27.9	-1.7	
9,319.0	48.40	2.70	9,234.7	165.4	564.7	14.06	13.48	5.65	-30.1	2.8	
9,366.0	54.00	3.40	9,264.1	202.0	566.6	11.97	11.91	1.49	-33.1	5.3	
9,412.0	59.80	5.50	9,289.2	240.3	569.6	13.17	12.61	4.57	-36.6	6.7	
9,458.0	59.80	5.50	9,312.3	279.9	573.4	0.00	0.00	0.00	-38.7	5.9	
9,504.0	63.30	5.50	9,334.3	320.2	577.3	7.61	7.61	0.00	-38.2	4.4	
9,551.0	62.60	5.90	9,355.6	361.8	581.5	1.67	-1.49	0.85	-34.9	2.2	
9,597.0	66.20	5.00	9,375.5	403.1	585.4	8.02	7.83	-1.96	-29.0	-0.6	
9,643.0	69.50	2.20	9,392.8	445.6	588.1	9.12	7.17	-6.09	-21.9	-2.7	
9,689.0	75.80	358.00	9,406.6	489.5	588.1	16.23	13.70	-9.13	-15.0	-2.3	
9,735.0	83.40	358.30	9,414.9	534.7	586.7	16.53	16.52	0.65	-9.9	-0.6	
9,771.0	90.60	358.30	9,416.7	570.6	585.6	20.00	20.00	0.00	-8.2	0.3	
9,956.0	92.90	358.50	9,411.1	755.4	580.4	1.25	1.24	0.11	-13.2	4.3	
10,049.0	91.30	359.00	9,407.7	848.3	578.4	1.80	-1.72	0.54	-16.3	5.8	



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10,141.0	88.00	357.80	9,408.2	940.3	575.8	3.82	-3.59	-1.30	-15.4	7.8	
10,233.0	90.10	357.30	9,409.8	1,032.2	571.9	2.35	2.28	-0.54	-13.5	11.1	
10,325.0	89.60	358.10	9,410.0	1,124.1	568.2	1.03	-0.54	0.87	-13.0	14.3	
10,418.0	88.90	358.70	9,411.2	1,217.1	565.6	0.99	-0.75	0.65	-11.4	16.3	
10,510.0	89.20	0.40	9,412.8	1,309.0	564.9	1.88	0.33	1.85	-9.5	16.4	
10,603.0	88.30	1.10	9,414.8	1,402.0	566.1	1.23	-0.97	0.75	-7.2	14.6	
10,695.0	88.90	0.80	9,417.0	1,494.0	567.6	0.73	0.65	-0.33	-4.6	12.5	
10,787.0	88.30	359.90	9,419.3	1,585.9	568.2	1.18	-0.65	-0.98	-2.0	11.4	
10,880.0	88.00	358.80	9,422.3	1,678.9	567.1	1.23	-0.32	-1.18	1.3	11.9	
10,972.0	88.00	0.40	9,425.5	1,770.8	566.5	1.74	0.00	1.74	4.8	12.0	
11,064.0	88.30	0.10	9,428.5	1,862.8	566.9	0.46	0.33	-0.33	8.1	11.0	
11,157.0	90.10	0.90	9,429.8	1,955.8	567.7	2.12	1.94	0.86	9.8	9.6	
11,249.0	88.90	359.70	9,430.6	2,047.8	568.2	1.84	-1.30	-1.30	10.9	8.5	
11,342.0	89.00	359.20	9,432.3	2,140.7	567.3	0.55	0.11	-0.54	12.9	8.9	
11,434.0	88.30	359.20	9,434.4	2,232.7	566.0	0.76	-0.76	0.00	15.4	9.6	
11,526.0	88.30	358.80	9,437.2	2,324.6	564.4	0.43	0.00	-0.43	18.5	10.6	
11,619.0	91.30	359.20	9,437.5	2,417.6	562.8	3.25	3.23	0.43	19.1	11.7	
11,711.0	91.30	359.40	9,435.4	2,509.6	561.7	0.22	0.00	0.22	17.3	12.2	
11,803.0	88.70	0.60	9,435.4	2,601.6	561.7	3.11	-2.83	1.30	17.7	11.6	
11,896.0	87.60	0.90	9,438.4	2,694.5	562.9	1.23	-1.18	0.32	21.0	9.9	
11,988.0	88.50	0.90	9,441.5	2,786.5	564.3	0.98	0.98	0.00	24.4	7.8	
12,080.0	91.00	0.90	9,441.9	2,878.4	565.8	2.72	2.72	0.00	25.1	5.8	
12,173.0	90.60	0.40	9,440.6	2,971.4	566.8	0.69	-0.43	-0.54	24.1	4.2	
12,265.0	89.20	358.50	9,440.8	3,063.4	565.9	2.57	-1.52	-2.07	24.6	4.5	
12,357.0	88.70	357.40	9,442.5	3,155.3	562.6	1.31	-0.54	-1.20	26.5	7.2	
12,450.0	89.70	357.80	9,443.8	3,248.2	558.8	1.16	1.08	0.43	28.1	10.5	
12,542.0	90.10	359.20	9,443.9	3,340.2	556.3	1.58	0.43	1.52	28.6	12.4	



EOG Resources, Inc.

EOG PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Hawk 35 Fed
 Well: #8H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #8H
 TVD Reference: KB = 25 @ 3544.0usft (H&P 612)
 MD Reference: KB = 25 @ 3544.0usft (H&P 612)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

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)	
12,634.0	89.70	0.90	9,444.1	3,432.2	556.4	1.90	-0.43	1.85	29.0	11.7	
12,727.0	89.70	1.30	9,444.6	3,525.2	558.2	0.43	0.00	0.43	30.5	9.4	
12,819.0	89.20	2.90	9,445.5	3,617.1	561.6	1.82	-0.54	1.74	33.7	5.5	
12,912.0	89.20	1.50	9,446.8	3,710.0	565.2	1.51	0.00	-1.51	37.4	1.3	
13,004.0	89.20	0.90	9,448.1	3,802.0	567.1	0.65	0.00	-0.65	41.0	-1.2	
13,096.0	88.50	0.60	9,449.9	3,894.0	568.3	0.83	-0.76	-0.33	45.2	-3.0	
13,188.0	89.40	0.80	9,451.6	3,986.0	569.4	1.00	0.98	0.22	49.3	-4.7	
13,281.0	90.10	1.70	9,452.0	4,078.9	571.4	1.23	0.75	0.97	52.1	-7.2	
13,373.0	88.20	2.40	9,453.4	4,170.9	574.7	2.20	-2.07	0.76	55.8	-11.1	
13,466.0	89.20	2.20	9,455.5	4,263.8	578.5	1.10	1.08	-0.22	60.3	-15.4	
13,558.0	91.10	2.50	9,455.2	4,355.7	582.2	2.09	2.07	0.33	62.4	-19.7	
13,650.0	90.30	1.10	9,454.1	4,447.6	585.1	1.75	-0.87	-1.52	63.6	-23.2	
13,743.0	88.00	357.60	9,455.5	4,540.6	584.1	4.50	-2.47	-3.76	66.5	-22.8	
13,835.0	89.70	356.90	9,457.3	4,632.5	579.7	2.00	1.85	-0.76	69.2	-19.0	
13,927.0	92.60	357.60	9,455.5	4,724.3	575.2	3.24	3.15	0.76	68.2	-15.1	
14,020.0	92.90	359.20	9,451.0	4,817.2	572.6	1.75	0.32	1.72	64.5	-13.1	
14,113.0	89.40	358.80	9,449.2	4,910.1	571.0	3.79	-3.76	-0.43	63.5	-12.0	
14,206.0	88.90	357.40	9,450.5	5,003.1	567.9	1.60	-0.54	-1.51	65.7	-9.5	
14,298.0	89.20	357.80	9,452.1	5,095.0	564.1	0.54	0.33	0.43	68.0	-6.3	
14,391.0	89.40	358.00	9,453.2	5,187.9	560.7	0.30	0.22	0.22	70.0	-3.4	
14,483.0	89.40	357.60	9,454.2	5,279.8	557.1	0.43	0.00	-0.43	71.7	-0.5	
Last MWD Survey											
14,728.0	89.40	357.60	9,456.7	5,524.6	546.9	0.00	0.00	0.00	76.5	8.3	
Projection To Bit											



EOG Resources, Inc.

EOG PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Hawk 35 Fed
Well: #8H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #8H
TVD Reference: KB = 25 @ 3544.0usft (H&P 612)
MD Reference: KB = 25 @ 3544.0usft (H&P 612)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
14,483.0	9,454.2	5,279.8	557.1	Last MWD Survey
14,728.0	9,456.7	5,524.6	546.9	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 27 NME)

Hawk 35 Fed #8H

H&P 612

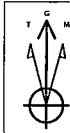
Plan #2

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

WELL DETAILS: #8H

Ground Level: 3519.0
KB = 25 @ 3544.0ust (H&P 612)
Northing 430050.00 Easting 745298.00 Latitude 32° 10' 47.423 N Longitude 103° 32' 25.784 W



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.75°

Magnetic Field
Strength: 48139.8nT
Dip Angle: 60.00°
Date: 4/9/2015
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.75°
To convert a Magnetic Direction to a True Direction, Add 7.17° East
To convert a True Direction to a Grid Direction, Subtract 0.42°

SECTION DETAILS

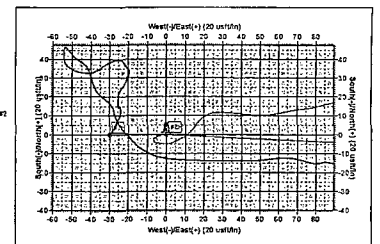
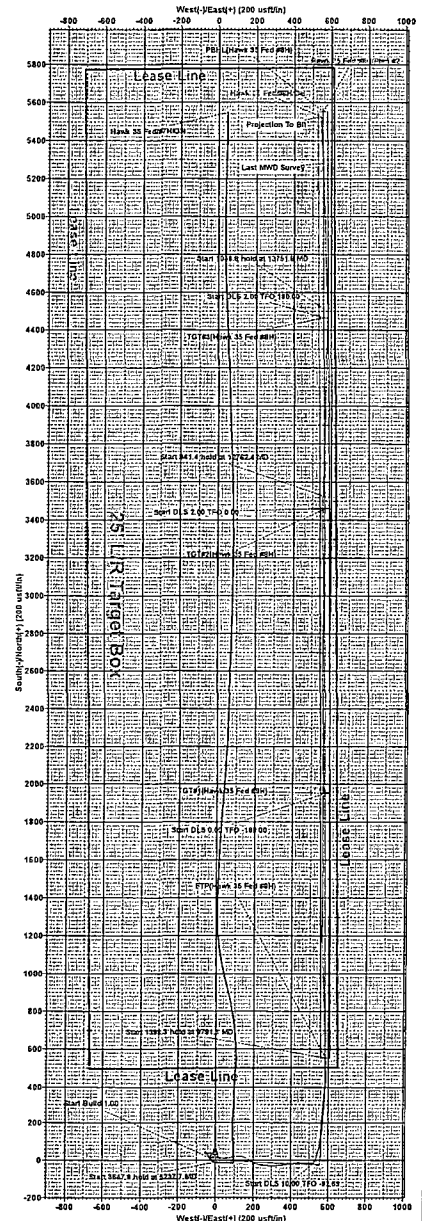
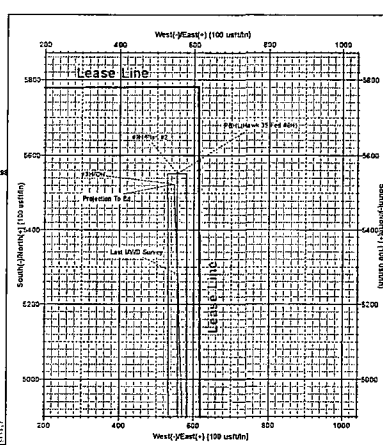
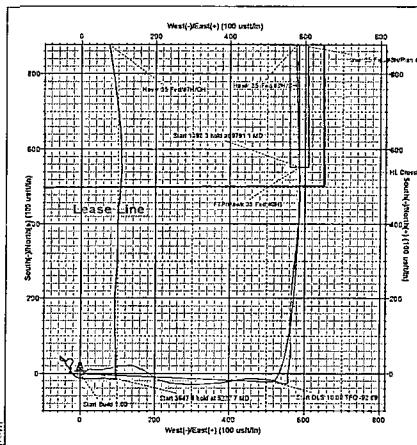
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4500.0	0.00	0.00	4500.0	0.0	0.0	0.00	0.00	0.0	
3	5237.7	7.38	92.38	5235.7	-2.0	47.4	1.00	92.38	2.8	
4	8885.6	7.38	92.38	8853.3	-21.4	515.4	0.00	0.00	29.9	
5	9791.1	90.20	359.64	9425.0	554.0	586.0	10.00	-92.69	609.5	FTP(Hawk 35 Fed #8H)
6	11189.4	90.20	359.64	9420.0	1952.3	577.3	0.00	0.00	2000.0	TGT#1(Hawk 35 Fed #8H)
7	12697.9	90.17	359.64	9415.0	3460.7	568.0	0.00	-180.00	3500.0	TGT#2(Hawk 35 Fed #8H)
8	12762.4	91.47	359.64	9414.1	3525.2	567.6	2.00	0.00	3564.2	
9	13703.8	91.47	359.64	9390.0	4466.3	561.7	0.00	0.00	4500.0	TGT#3(Hawk 35 Fed #8H)
10	13751.8	90.51	359.64	9389.2	4514.3	561.4	2.00	180.00	4547.7	
11	14790.6	90.51	359.64	9380.0	5553.0	555.0	0.00	0.00	5580.7	PBHL(Hawk 35 Fed #8H)

CASING DETAILS

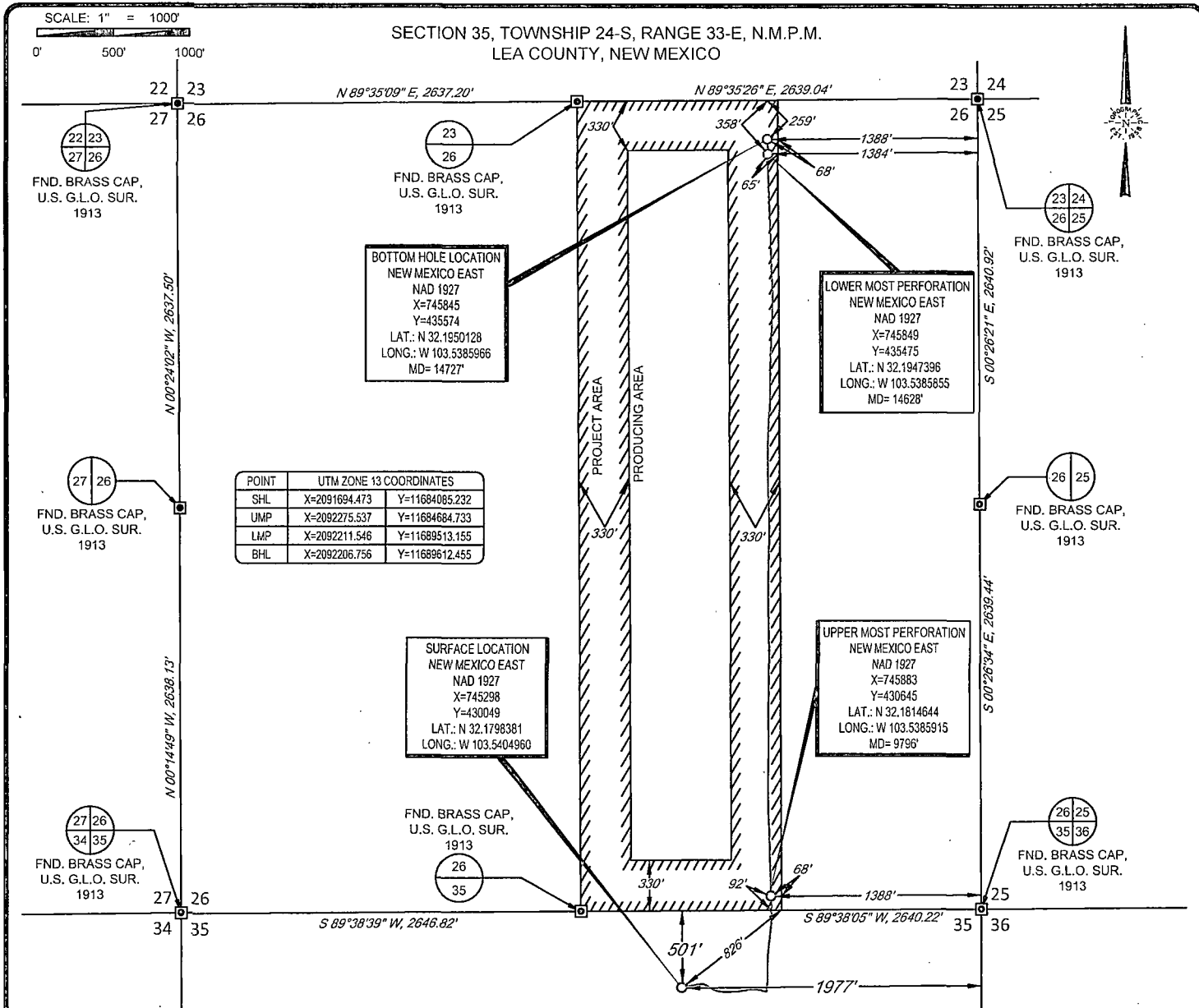
No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL(Hawk 35 Fed #8H)	9380.0	5553.0	555.0	435603.00	745853.00
TGT#1(Hawk 35 Fed #8H)	9390.0	4466.3	561.7	434516.30	745859.74
TGT#2(Hawk 35 Fed #8H)	9415.0	3460.7	586.0	433510.70	745955.97
TGT#3(Hawk 35 Fed #8H)	9420.0	1952.3	577.3	432002.30	745875.33
FTP(Hawk 35 Fed #8H)	9425.0	554.0	586.0	430604.00	745984.00



Lea County, NM (NAD 27 NME)
H&P 612
Plan #2
4/27/2015



LEASE NAME & WELL NO.: HAWK 35 FED #8H
 SECTION 35 TWP 24-S RGE 33-E SURVEY N.M.P.M.
 COUNTY LEA STATE NM ELEVATION 3519'
 DESCRIPTION 501' FNL & 1977' FEL



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

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 WWW.TOPOGRAPHIC.COM



Michael Blake Brown, P.S. No. 18329
 JULY 21, 2015



HAWK 35 FED #8H AS-COMPLETED	REVISION:	
	INT	DATE
DATE: 07/21/15		
FILE: AD_HAWK35FED_8H		
DRAWN BY: S.V.		
SHEET: 1 OF 1		

NOTES:

1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.
3. THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.