

HOBBS OCD
SEP 13 2017
RECEIVED



Lea County, NM (NAD 27 NME)

Hawk 35 Fed #6H

H&P 473

Plan #1



Azimuths to Grid North
True North: -0.42°
Magnetic North: 5.52°

Magnetic Field
Strength: 47921.4nT
Dip Angle: 60.03°
Date: 5/23/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 5.52°
To convert a Magnetic Direction to a True Direction, Add 5.94° East
To convert a True Direction to a Grid Direction, Subtract 0.42°

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: #6H

KB = 25 @ 3542.0usft (H&P 473) 3517.0
Northing 430048.00 Easting 744915.00 Latitude 32° 10' 47.431 N Longitude 103° 32' 30.240 W

SECTION DETAILS

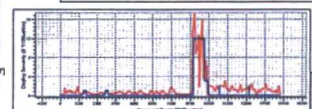
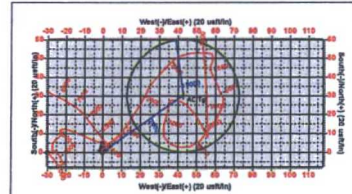
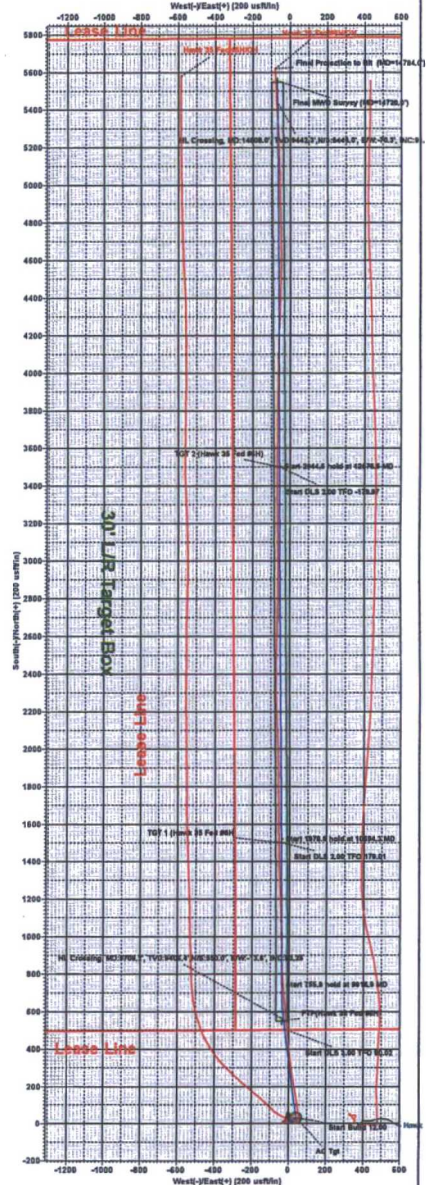
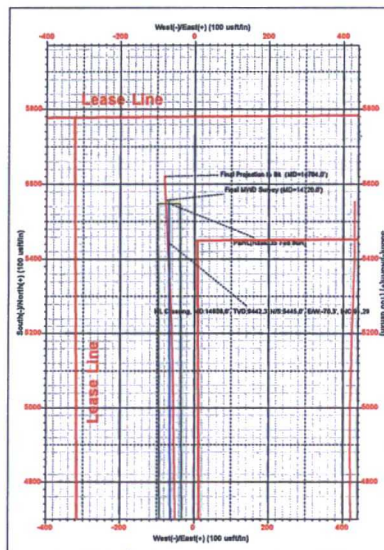
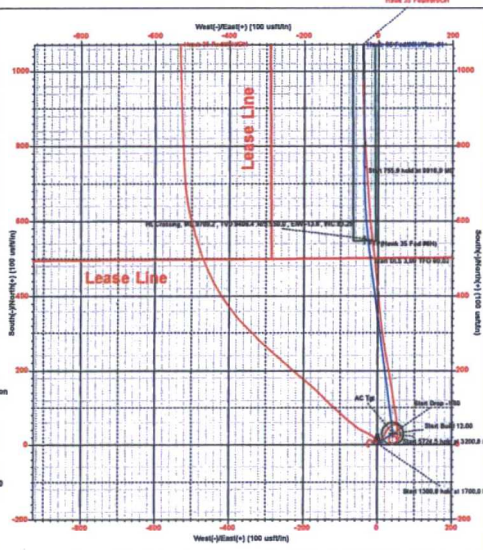
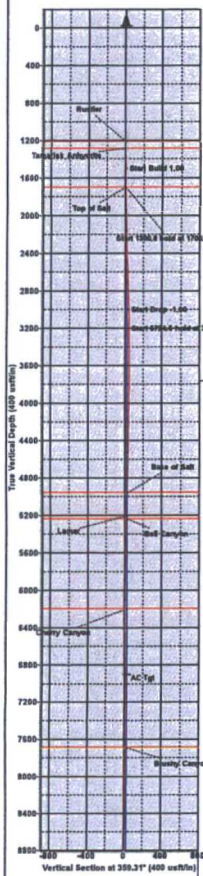
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target	Annotation
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	1650.0	0.0	0.0	1650.0	0.0	0.0	0.0	0.0	0.0		
3	1700.0	2.00	65.00	1700.0	2.0	2.9	1.50	55.00	2.0		
4	3000.8	2.00	65.00	3000.0	28.0	40.0	0.00	0.00	27.6		
5	3200.8	0.00	0.00	3200.0	30.0	42.9	1.00	180.00	29.5		
6	8925.4	0.00	0.00	8924.5	30.0	42.9	0.00	0.00	29.5		
7	9675.4	90.00	352.39	9402.0	503.3	-20.3	12.00	352.39	503.5		
8	9916.9	90.00	359.64	9402.0	744.1	-37.1	3.00	90.00	744.5		
9	10672.8	90.00	359.64	9402.0	1000.0	-41.9	0.00	0.00	1000.4	TGT 1 (Hawk 35 Fed #6H)	
10	10694.3	89.67	359.64	9402.1	1521.6	-42.0	2.00	179.01	1521.9	TGT 2 (Hawk 35 Fed #6H)	
11	12672.9	89.57	359.64	9417.0	3500.0	-54.3	0.00	0.00	3500.4		
12	12676.5	89.50	359.64	9417.0	3503.6	-54.3	2.00	-179.97	3504.0		
13	14721.0	89.50	359.64	9435.0	5548.0	-67.0	0.00	0.00	5548.4	PBHL (Hawk 35 Fed #6H)	

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
TGT 1 (Hawk 35 Fed #6H)	9402.0	1600.0	-41.9	431648.00	744973.11
TGT 2 (Hawk 35 Fed #6H)	9417.0	3500.0	-54.3	433548.00	744860.70
PBHL (Hawk 35 Fed #6H)	9435.0	5548.0	-67.0	435596.00	744848.00
AC Tgt	6899.1	30.0	42.9	430078.04	744957.91
FTP (Hawk 35 Fed #6H)	9402.0	650.0	-36.0	430599.00	744979.00



EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Hawk 35 Fed

#6H

OH

Design: OH

PVA Report

05 July, 2017

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #6H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3542.0usft (H&P 473)
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3542.0usft (H&P 473)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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	#6H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
			usft
			Latitude:
			32° 10' 47.431 N
			Longitude:
			103° 32' 30.240 W
			Ground Level:
			3,517.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	5/23/2017	6.94
			Dip Angle (°)
			60.03
			Field Strength (nT)
			47,921.43750435

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)
	0.0	0.0	0.0
			Direction (°)
			359.31

PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Hawk 35 Fed
 Well: #6H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #6H
 TVD Reference: KB = 25 @ 3542.0usft (H&P 473)
 MD Reference: KB = 25 @ 3542.0usft (H&P 473)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey Program		Date 7/5/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
221.0	1,362.0	Invictus MWD (OH)	MWD	MWD - Standard	
1,435.0	14,784.0	Intrepid MWD (OH)	MWD	MWD - Standard	

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	
221.0	0.20	302.97	221.0	0.2	-0.3	0.09	0.09	0.00	-0.4	0.0	
250.0	0.20	335.97	250.0	0.3	-0.4	0.39	0.00	113.79	-0.4	0.2	
279.0	0.50	15.97	279.0	0.5	-0.4	1.28	1.03	137.93	-0.3	0.5	
307.0	0.20	333.97	307.0	0.6	-0.4	1.34	-1.07	-150.00	-0.7	0.1	
336.0	0.30	25.97	336.0	0.7	-0.3	0.82	0.34	179.31	-0.5	0.6	
367.0	0.40	359.97	367.0	0.9	-0.3	0.60	0.32	-83.87	-0.9	0.3	
399.0	0.40	345.97	399.0	1.1	-0.3	0.30	0.00	-43.75	-1.2	0.1	
430.0	0.40	18.97	430.0	1.3	-0.3	0.73	0.00	106.45	-1.2	0.7	
461.0	0.30	30.97	461.0	1.5	-0.3	0.40	-0.32	38.71	-1.2	1.0	
491.0	0.20	3.97	491.0	1.6	-0.2	0.51	-0.33	-90.00	-1.6	0.3	
522.0	0.20	284.97	522.0	1.7	-0.3	0.82	0.00	-254.84	-0.7	-1.6	
554.0	0.20	18.97	554.0	1.8	-0.3	0.91	0.00	293.75	-1.6	0.9	
585.0	0.20	76.97	585.0	1.8	-0.2	0.63	0.00	187.10	-0.2	1.8	
616.0	0.20	336.97	616.0	1.9	-0.2	0.99	0.00	-322.58	-1.8	-0.6	
647.0	0.20	68.97	647.0	2.0	-0.2	0.93	0.00	296.77	-0.5	1.9	
679.0	0.30	99.97	679.0	2.0	0.0	0.51	0.31	96.87	0.4	1.9	
710.0	0.40	54.97	710.0	2.0	0.1	0.91	0.32	-145.16	-1.3	1.6	
741.0	0.20	35.97	741.0	2.1	0.3	0.71	-0.65	-61.29	-1.9	1.0	
773.0	0.10	30.97	773.0	2.2	0.3	0.31	-0.31	-15.62	-2.0	0.9	
805.0	0.30	77.97	805.0	2.2	0.4	0.76	0.62	146.87	-0.9	2.1	

PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Hawk 35 Fed
 Well: #6H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #6H
 TVD Reference: KB = 25 @ 3542.0usft (H&P 473)
 MD Reference: KB = 25 @ 3542.0usft (H&P 473)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
867.0	0.20	41.97	867.0	2.3	0.6	0.29	-0.16	-58.06	-2.2	1.1
930.0	0.40	88.97	930.0	2.4	0.9	0.48	0.32	74.60	-1.0	2.4
963.0	0.30	65.97	963.0	2.5	1.1	0.52	-0.30	-69.70	-2.0	1.8
994.0	0.40	67.97	994.0	2.5	1.3	0.32	0.32	6.45	-2.2	1.9
1,025.0	0.40	75.97	1,025.0	2.6	1.5	0.18	0.00	25.81	-2.1	2.2
1,056.0	0.60	58.97	1,056.0	2.7	1.7	0.80	0.65	-54.84	-2.9	1.4
1,087.0	0.30	68.97	1,087.0	2.8	2.0	1.00	-0.97	32.26	-2.8	1.9
1,118.0	0.40	117.97	1,118.0	2.8	2.1	0.98	0.32	158.06	-0.6	3.5
1,149.0	0.50	52.97	1,149.0	2.8	2.3	1.58	0.32	-209.68	-3.6	0.9
1,181.0	0.10	177.97	1,181.0	2.9	2.4	1.76	-1.25	390.62	2.8	2.5
1,212.0	0.20	110.97	1,212.0	2.8	2.5	0.60	0.32	-216.13	-1.3	3.6
1,243.0	0.10	58.97	1,243.0	2.8	2.6	0.51	-0.32	-167.74	-3.7	1.1
1,274.0	0.20	7.97	1,274.0	2.9	2.6	0.51	0.32	-164.52	-3.2	-2.2
1,362.0	0.20	36.97	1,362.0	3.2	2.7	0.11	0.00	32.95	-4.2	-0.3
1,435.0	0.30	24.20	1,435.0	3.5	2.9	0.16	0.14	-17.49	-4.3	-1.2
1,623.0	1.00	50.10	1,623.0	5.0	4.3	0.39	0.37	13.78	-5.2	1.1
1,812.0	2.20	47.60	1,811.9	8.5	8.3	0.64	0.63	-1.32	-4.5	1.6
2,000.0	1.80	33.60	1,999.8	13.4	12.6	0.33	-0.21	-7.45	-5.1	2.0
2,189.0	2.20	34.00	2,188.7	18.8	16.2	0.21	0.21	0.21	-5.5	4.4
2,377.0	2.30	30.40	2,376.5	25.1	20.2	0.09	0.05	-1.91	-7.2	6.6
2,567.0	2.50	22.40	2,566.4	32.2	23.7	0.21	0.11	-4.21	-10.4	8.6
2,755.0	2.70	44.40	2,754.2	39.2	28.3	0.54	0.11	11.70	-8.2	14.6
2,944.0	3.10	41.70	2,942.9	46.2	34.9	0.22	0.21	-1.43	-12.0	15.5
3,133.0	1.80	71.30	3,131.8	50.9	41.1	0.94	-0.69	15.66	-5.3	20.5
3,321.0	1.60	81.60	3,319.7	52.3	46.5	0.19	-0.11	5.48	-6.8	21.4
3,510.0	1.00	91.20	3,508.6	52.6	50.7	0.34	-0.32	5.08	-7.3	22.7
3,699.0	1.50	89.00	3,697.6	52.6	54.8	0.27	0.26	-1.16	-12.3	22.4

PVA Report

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Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3542.0usft (H&P 473)
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3542.0usft (H&P 473)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
3,887.0	0.80	124.10	3,885.5	51.9	58.4	0.51	-0.37	18.67	-0.6	26.8	
4,076.0	1.20	197.20	4,074.5	49.3	58.9	0.65	0.21	38.68	23.1	9.6	
4,265.0	0.80	209.30	4,263.5	46.2	57.7	0.24	-0.21	6.40	21.4	4.9	
4,454.0	0.50	189.00	4,452.5	44.3	56.9	0.20	-0.16	-10.74	16.2	11.6	
4,642.0	2.00	146.70	4,640.4	40.7	58.6	0.89	0.80	-22.50	0.3	19.0	
4,831.0	1.70	164.50	4,829.3	35.3	61.1	0.34	-0.16	9.42	0.2	19.0	
5,020.0	1.20	148.90	5,018.3	30.9	62.9	0.33	-0.26	-8.25	-9.6	17.5	
5,073.0	0.90	148.20	5,071.3	30.0	63.4	0.57	-0.57	-1.32	-10.8	17.4	
5,207.0	0.80	150.50	5,205.2	28.3	64.4	0.08	-0.07	1.72	-12.1	17.9	
5,396.0	2.20	198.90	5,394.2	23.8	63.9	0.94	0.74	25.61	0.8	21.9	
5,585.0	2.30	214.60	5,583.0	17.2	60.6	0.33	0.05	8.31	-0.5	21.8	
5,774.0	2.10	217.90	5,771.9	11.3	56.3	0.13	-0.11	1.75	-6.5	22.0	
5,962.0	2.10	217.30	5,959.8	5.9	52.1	0.01	0.00	-0.32	-13.6	21.9	
6,152.0	2.00	263.90	6,149.7	2.8	46.7	0.85	-0.05	24.53	0.8	27.5	
6,340.0	1.90	270.30	6,337.6	2.4	40.3	0.13	-0.05	3.40	-2.5	27.6	
6,529.0	1.50	320.50	6,526.5	4.4	35.6	0.79	-0.21	26.56	15.2	22.0	
6,718.0	1.40	323.00	6,715.4	8.1	32.6	0.06	-0.05	1.32	11.3	21.4	
6,907.0	2.20	18.70	6,904.3	13.4	32.4	0.97	0.42	29.47	19.1	4.6	
7,095.0	1.90	12.30	7,092.2	19.9	34.2	0.20	-0.16	-3.40	11.8	6.3	
7,284.0	1.80	12.20	7,281.1	25.8	35.5	0.05	-0.05	-0.05	5.7	6.3	
7,473.0	2.30	108.90	7,470.0	27.5	39.7	1.63	0.26	51.16	2.2	-3.4	
7,660.0	1.10	139.30	7,657.0	24.9	44.5	0.78	-0.64	16.26	-4.9	-2.2	
7,849.0	1.30	136.50	7,845.9	22.0	47.1	0.11	0.11	-1.48	-8.7	-2.5	
8,037.0	1.00	142.70	8,033.9	19.1	49.6	0.17	-0.16	3.30	-12.7	-1.3	
8,226.0	0.90	149.30	8,222.9	16.5	51.3	0.08	-0.05	3.49	-15.9	0.4	
8,415.0	1.10	153.30	8,411.8	13.6	52.9	0.11	0.11	2.12	-19.1	1.6	
8,604.0	1.00	153.10	8,600.8	10.6	54.5	0.05	-0.05	-0.11	-22.6	1.5	

PVA Report

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 Site: Hawk 35 Fed
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 Wellbore: OH
 Design: OH

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 MD Reference: KB = 25 @ 3542.0usft (H&P 473)
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Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
8,792.0	0.80	151.50	8,788.8	7.9	55.8	0.11	-0.11	-0.85	-25.6	0.8
8,886.0	0.00	35.60	8,882.8	7.4	56.1	0.85	-0.85	0.00	22.7	-13.2
8,933.0	6.30	356.80	8,929.7	9.9	56.0	13.40	13.40	0.00	20.8	-12.0
8,981.0	13.30	358.40	8,976.9	18.1	55.7	14.59	14.58	3.33	15.0	-12.8
9,028.0	21.30	358.20	9,021.8	32.1	55.3	17.02	17.02	-0.43	8.1	-13.4
9,075.0	27.60	354.00	9,064.5	51.4	53.9	13.90	13.40	-8.94	0.8	-13.7
9,122.0	31.50	351.90	9,105.4	74.4	51.0	8.58	8.30	-4.47	-6.6	-14.0
9,170.0	36.10	351.50	9,145.3	100.8	47.1	9.59	9.58	-0.83	-13.4	-13.8
9,217.0	40.40	350.10	9,182.2	129.6	42.5	9.33	9.15	-2.98	-18.9	-13.4
9,264.0	45.80	350.00	9,216.5	161.2	36.9	11.49	11.49	-0.21	-23.8	-12.2
9,311.0	51.70	350.50	9,247.5	196.0	31.0	12.58	12.55	1.06	-28.6	-10.8
9,359.0	51.30	349.60	9,277.4	233.0	24.5	1.69	-0.83	-1.87	-30.5	-9.5
9,406.0	53.50	350.10	9,306.0	269.6	17.9	4.76	4.68	1.06	-28.3	-7.6
9,453.0	58.60	352.50	9,332.3	308.2	12.0	11.65	10.85	5.11	-24.3	-6.2
9,500.0	64.60	354.40	9,354.6	349.2	7.3	13.25	12.77	4.04	-19.9	-6.8
9,548.0	72.00	355.20	9,372.4	393.6	3.3	15.49	15.42	1.67	-15.9	-8.7
9,595.0	76.40	354.10	9,385.2	438.6	-0.9	9.63	9.36	-2.34	-12.0	-10.6
9,642.0	78.00	353.60	9,395.6	484.2	-5.8	3.56	3.40	-1.06	-5.9	-11.9
9,689.0	81.90	353.10	9,403.8	530.1	-11.2	8.36	8.30	-1.06	1.8	-12.4
9,709.2	83.25	353.14	9,406.4	550.0	-13.6	6.67	6.67	0.21	4.4	-12.3
HL Crossing, MD:9709.2', TVD:9406.4', N/S:550.0', E/W:-13.6', INC:83.25										
9,737.0	85.10	353.20	9,409.2	577.5	-16.9	6.67	6.67	0.21	7.2	-11.8
9,784.0	87.70	355.30	9,412.2	624.2	-21.6	7.11	5.53	4.47	10.2	-11.0
9,825.0	88.80	355.70	9,413.4	665.0	-24.8	2.85	2.68	0.98	11.4	-10.2
9,872.0	91.60	356.00	9,413.2	711.9	-28.2	5.99	5.96	0.64	11.3	-8.4
9,923.0	91.60	356.00	9,411.8	762.7	-31.7	0.00	0.00	0.00	9.9	-5.5
9,951.0	92.10	356.20	9,410.9	790.7	-33.6	1.92	1.79	0.71	8.9	-3.8

PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Hawk 35 Fed
 Well: #6H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #6H
 TVD Reference: KB = 25 @ 3542.0usft (H&P 473)
 MD Reference: KB = 25 @ 3542.0usft (H&P 473)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
10,045.0	91.80	357.80	9,407.7	884.5	-38.6	1.73	-0.32	1.70	5.7	0.6
10,139.0	90.80	359.30	9,405.6	978.4	-40.9	1.92	-1.06	1.60	3.6	2.3
10,234.0	89.30	358.50	9,405.5	1,073.4	-42.8	1.79	-1.58	-0.84	3.5	3.6
10,328.0	90.40	358.00	9,405.7	1,167.3	-45.6	1.29	1.17	-0.53	3.8	5.8
10,423.0	91.10	357.90	9,404.5	1,262.3	-49.0	0.74	0.74	-0.11	2.5	8.6
10,516.0	89.50	358.70	9,404.0	1,355.2	-51.8	1.92	-1.72	0.86	2.0	10.8
10,611.0	88.50	359.30	9,405.7	1,450.2	-53.4	1.23	-1.05	0.63	3.7	11.9
10,706.0	87.20	358.30	9,409.2	1,545.1	-55.4	1.73	-1.37	-1.05	7.0	13.3
10,800.0	88.60	359.40	9,412.7	1,639.0	-57.3	1.89	1.49	1.17	9.7	14.6
10,895.0	90.40	359.70	9,413.5	1,734.0	-58.1	1.92	1.89	0.32	9.8	14.7
10,989.0	91.80	359.40	9,411.7	1,828.0	-58.8	1.52	1.49	-0.32	7.3	14.9
11,084.0	89.10	359.40	9,411.0	1,923.0	-59.8	2.84	-2.84	0.00	5.9	15.3
11,178.0	88.20	358.60	9,413.2	2,016.9	-61.4	1.28	-0.96	-0.85	7.4	16.3
11,273.0	89.10	357.90	9,415.4	2,111.9	-64.3	1.20	0.95	-0.74	8.9	18.7
11,367.0	89.60	357.60	9,416.5	2,205.8	-68.0	0.62	0.53	-0.32	9.2	21.8
11,461.0	89.30	358.80	9,417.4	2,299.7	-71.0	1.32	-0.32	1.28	9.4	24.1
11,556.0	89.10	0.60	9,418.7	2,394.7	-71.5	1.91	-0.21	1.89	10.1	24.0
11,650.0	90.00	1.20	9,419.5	2,488.7	-70.0	1.15	0.96	0.64	10.1	22.0
11,745.0	90.70	1.80	9,418.9	2,583.7	-67.5	0.97	0.74	0.63	8.8	18.9
11,839.0	91.60	1.30	9,417.0	2,677.6	-65.0	1.10	0.96	-0.53	6.2	15.8
11,933.0	92.10	1.20	9,413.9	2,771.5	-62.9	0.54	0.53	-0.11	2.4	13.1
12,027.0	91.20	0.50	9,411.2	2,865.5	-61.5	1.21	-0.96	-0.74	-1.0	11.2
12,122.0	89.50	359.40	9,410.7	2,960.5	-61.6	2.13	-1.79	-1.16	-2.3	10.7
12,216.0	89.20	358.90	9,411.7	3,054.5	-63.0	0.62	-0.32	-0.53	-1.9	11.5
12,311.0	90.20	359.10	9,412.2	3,149.4	-64.7	1.07	1.05	0.21	-2.1	12.5
12,406.0	91.20	359.20	9,411.1	3,244.4	-66.1	1.06	1.05	0.11	-4.0	13.4
12,499.0	92.30	359.60	9,408.2	3,337.4	-67.0	1.26	1.18	0.43	-7.5	13.8

PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Hawk 35 Fed
 Well: #6H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #6H
 TVD Reference: KB = 25 @ 3542.0usft (H&P 473)
 MD Reference: KB = 25 @ 3542.0usft (H&P 473)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
12,594.0	90.80	0.00	9,405.7	3,432.3	-67.4	1.63	-1.58	0.42	-10.8	13.5
12,688.0	90.90	0.50	9,404.3	3,526.3	-67.0	0.54	0.11	0.53	-13.0	12.5
12,782.0	89.40	0.00	9,404.0	3,620.3	-66.6	1.68	-1.60	-0.53	-14.0	11.5
12,877.0	87.30	0.40	9,406.8	3,715.3	-66.2	2.25	-2.21	0.42	-12.1	10.6
12,971.0	86.40	0.40	9,411.9	3,809.1	-65.6	0.96	-0.96	0.00	-7.8	9.4
13,066.0	87.40	0.90	9,417.1	3,904.0	-64.5	1.18	1.05	0.53	-3.5	7.7
13,160.0	87.50	1.00	9,421.2	3,997.9	-62.9	0.15	0.11	0.11	-0.1	5.6
13,255.0	87.80	1.00	9,425.1	4,092.8	-61.3	0.32	0.32	0.00	2.9	3.3
13,349.0	88.30	1.90	9,428.3	4,186.7	-58.9	1.09	0.53	0.96	5.3	0.3
13,444.0	88.70	1.70	9,430.8	4,281.6	-55.9	0.47	0.42	-0.21	6.9	-3.2
13,538.0	89.80	2.00	9,432.0	4,375.6	-52.9	1.21	1.17	0.32	7.4	-6.8
13,633.0	89.00	1.00	9,433.0	4,470.5	-50.4	1.35	-0.84	-1.05	7.5	-9.9
13,727.0	89.90	0.50	9,433.9	4,564.5	-49.2	1.10	0.96	-0.53	7.6	-11.7
13,821.0	88.00	359.60	9,435.7	4,658.5	-49.1	2.24	-2.02	-0.96	8.5	-12.4
13,916.0	87.80	358.80	9,439.1	4,753.4	-50.4	0.87	-0.21	-0.84	11.1	-11.7
14,010.0	88.70	359.20	9,442.0	4,847.4	-52.1	1.05	0.96	0.43	13.2	-10.6
14,104.0	89.80	359.50	9,443.2	4,941.3	-53.1	1.21	1.17	0.32	13.6	-10.1
14,199.0	89.90	358.90	9,443.5	5,036.3	-54.4	0.64	0.11	-0.63	13.0	-9.4
14,293.0	89.70	358.30	9,443.8	5,130.3	-56.7	0.67	-0.21	-0.64	12.5	-7.7
14,387.0	89.90	357.90	9,444.2	5,224.2	-59.9	0.48	0.21	-0.43	12.0	-5.1
14,481.0	90.50	357.20	9,443.8	5,318.2	-63.9	0.98	0.64	-0.74	10.8	-1.7
14,575.0	90.70	357.00	9,442.8	5,412.0	-68.6	0.30	0.21	-0.21	9.0	2.5
14,608.0	91.29	357.10	9,442.3	5,445.0	-70.3	1.82	1.79	0.32	8.2	4.0
HL Crossing, MD:14608.0', TVD:9442.3', N/S:5445.0', E/W:-70.3', INC:91.29										
14,670.0	92.40	357.30	9,440.3	5,506.9	-73.4	1.82	1.79	0.32	5.6	6.6
14,720.0	93.00	357.20	9,437.9	5,556.8	-75.8	1.22	1.20	-0.20	4.8	11.8
Final MWD Survey (MD=14720.0')										

PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Hawk 35 Fed
Well: #6H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #6H
TVD Reference: KB = 25 @ 3542.0usft (H&P 473)
MD Reference: KB = 25 @ 3542.0usft (H&P 473)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
14,784.0	93.00	357.20	9,434.6	5,620.6	-78.9	0.00	0.00	0.00	27.8	68.1
Final Projection to Bit (MD=14784.0')										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,709.2	9,406.4	550.0	-13.6	HL Crossing, MD:9709.2', TVD:9406.4', N/S:550.0', E/W:-13.6', INC:83.25
14,608.0	9,442.3	5,445.0	-70.3	HL Crossing, MD:14608.0', TVD:9442.3', N/S:5445.0', E/W:-70.3', INC:91.29
14,720.0	9,437.9	5,556.8	-75.8	Final MWD Survey (MD=14720.0')
14,784.0	9,434.6	5,620.6	-78.9	Final Projection to Bit (MD=14784.0')

Checked By: _____ Approved By: _____ Date: _____