

Submit 3 Copies To Appropriate District
Office
District I
1625 N French Dr., Hobbs, NM 87240
District II
1301 W Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103

June 19, 2008

HOBBS OGD

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

MAY 18 2012

RECEIVED

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐	7. Lease Name or Unit Agreement Name: Black Bear 36 State
2. Name of Operator EOG Resources, Inc.	8. Well Number 2H
3. Address of Operator P.O. Box 2267 Midland, TX 79702	9. OGRID Number 7377
4. Well Location Unit Letter <u>P</u> : <u>220</u> feet from the <u>South</u> line and <u>1310</u> feet from the <u>East</u> line Section <u>36</u> Township <u>25S</u> Range <u>33E</u> NMPM County <u>Lea</u>	10. Pool name or Wildcat WC Red Hills; BS Upper Shale
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3323' GR	

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

EOG Resources requests an amendment to our APD for this well to reflect a change in SHL, BHL, & TD

* New SHL is 220' FSL & 1310' FEL, U/L P, Sec 36, T25S, R33E. *

* New BHL is 330' FNL & 1040' FEL, U/L A, Sec 36, T25S, R33E

New TD is 14253' MD.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Stan Wagner TITLE Regulatory Analyst DATE 5/17/2012

Type or print name Stan Wagner E-mail address: _____ PHONE 432-686-3689

For State Use Only

APPROVED BY [Signature] TITLE PETROLEUM ENGINEER DATE MAY 21 2012

Conditions of Approval (if any): _____

MAY 21 2012

Permit Information:

Well Name: Black Bear 36 State No. 2H

Location:

SL: 220' FSL & 1310' FEL, Section 36, T-25-S, R-33-E, Lea Co., N.M.

BHL: 330' FNL & 1040' FEL, Section 36, T-25-S, R-33-E, Lea Co., N.M.

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 – 985'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4000' – 5100'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'-14,253'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Slurry Description
985'	575	13.5	1.73	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	250	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
5,100'	1325	12.7	2.22	Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
14,253'	250	10.8	3.67	60:40:0 Class C + 15.0 pps BA-90 + 4% MPA-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.80% ASA-301 + 2.55% R-21 + 8.0 pps LCM-1
	550	11.8	2.38	50:50:10 Class H + 0.80% FL-52 + 0.30% ASA-301 + 0.40% SMS + 2.0% Salt + 0.30% R-21 + 3.0 pps LCM-1 + 0.25 pps Celloflake
	1200	14.2	1.28	50:50:2 Class H + 0.65% FL-52 + 0.45% CD-32 + 0.10% SMS + 2.0% Salt

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 985'	Fresh - Gel	8.6-8.8	28-34	N/c
1000' – 5,100'	Brine	10.0-10.2	28-34	N/c
5,100' – 9,078'	Cut Brine	8.4-9.0	28-34	N/c
KOP – 14,253' Lateral	Cut Brine	9.0-9.5	40-42	8-10

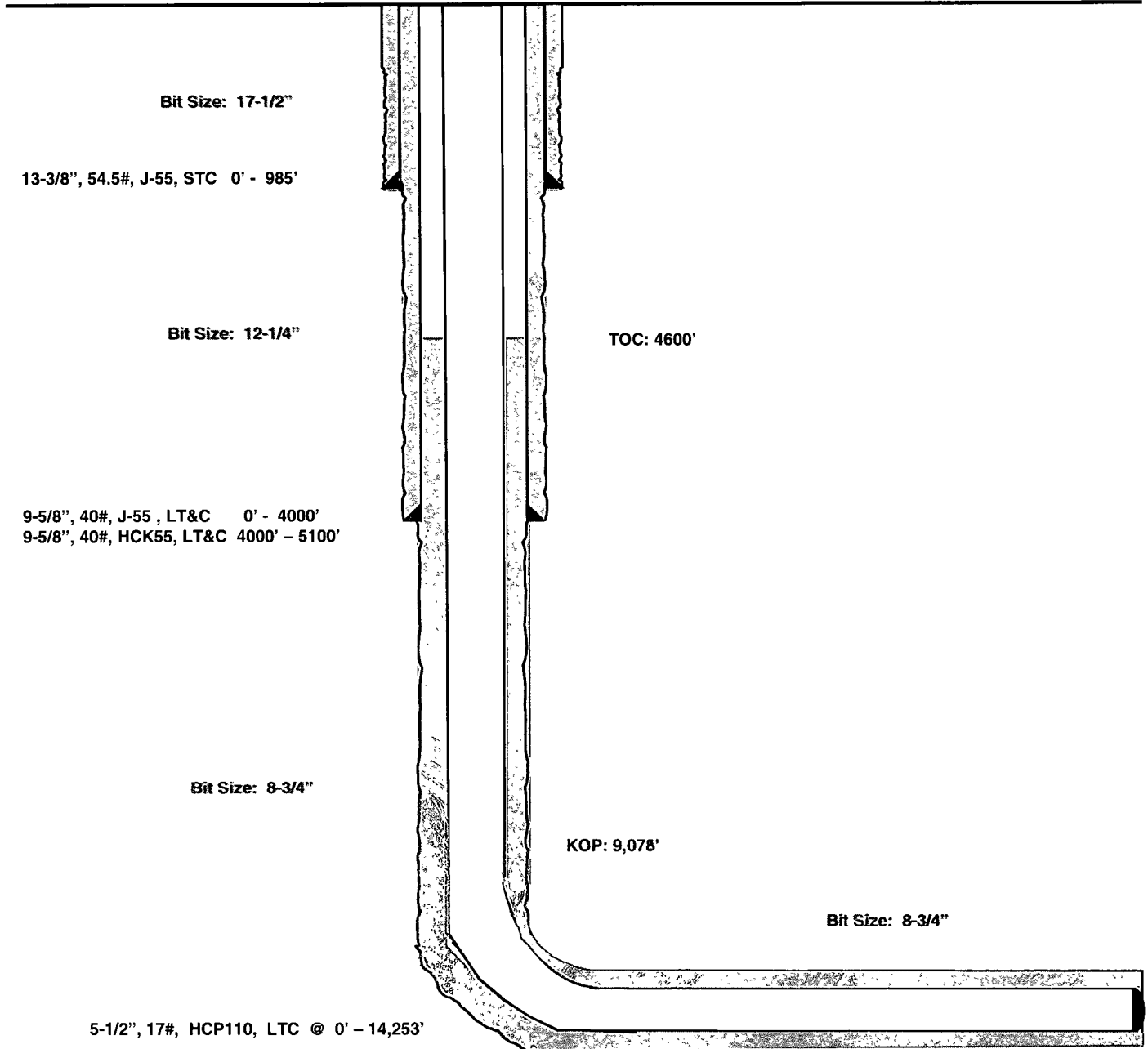
Black Bear 36 State #2H
Red Hills
Lea County, New Mexico

220' FSL
1310' FEL
Section 36
T-25-S, R-33-E

Proposed Wellbore

API: 30-025-

KB: 3,348.9'
GL: 3,323.9'



Lateral: 14,253' MD, 9,540' TVD

BH Location: 330' FNL & 1040' FEL
Section 36
T-25-S, R-33-E



Project: Lea County
Site: Black Bear "36" State
Well: #2H
Wellbore: OH
Plan: Plan #3 (#2H/OH)

PROJECT DETAILS: Lea County
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
Local North: Grid

PATHFINDER
A Schlumberger Company



Azimuths to Grid North
True North: -0.43°
Magnetic North: 7.06°

Magnetic Field
Strength: 48528.0snT
Dip Angle: 60.07°
Date: 11/30/2011
Model: IGRF200510

WELL DETAILS: #2H

Ground Elevation: 3323 g
RKB Elevation: KB = 25 @ 3348 9usft (Cactus 139)
Rig Name: Cactus 139

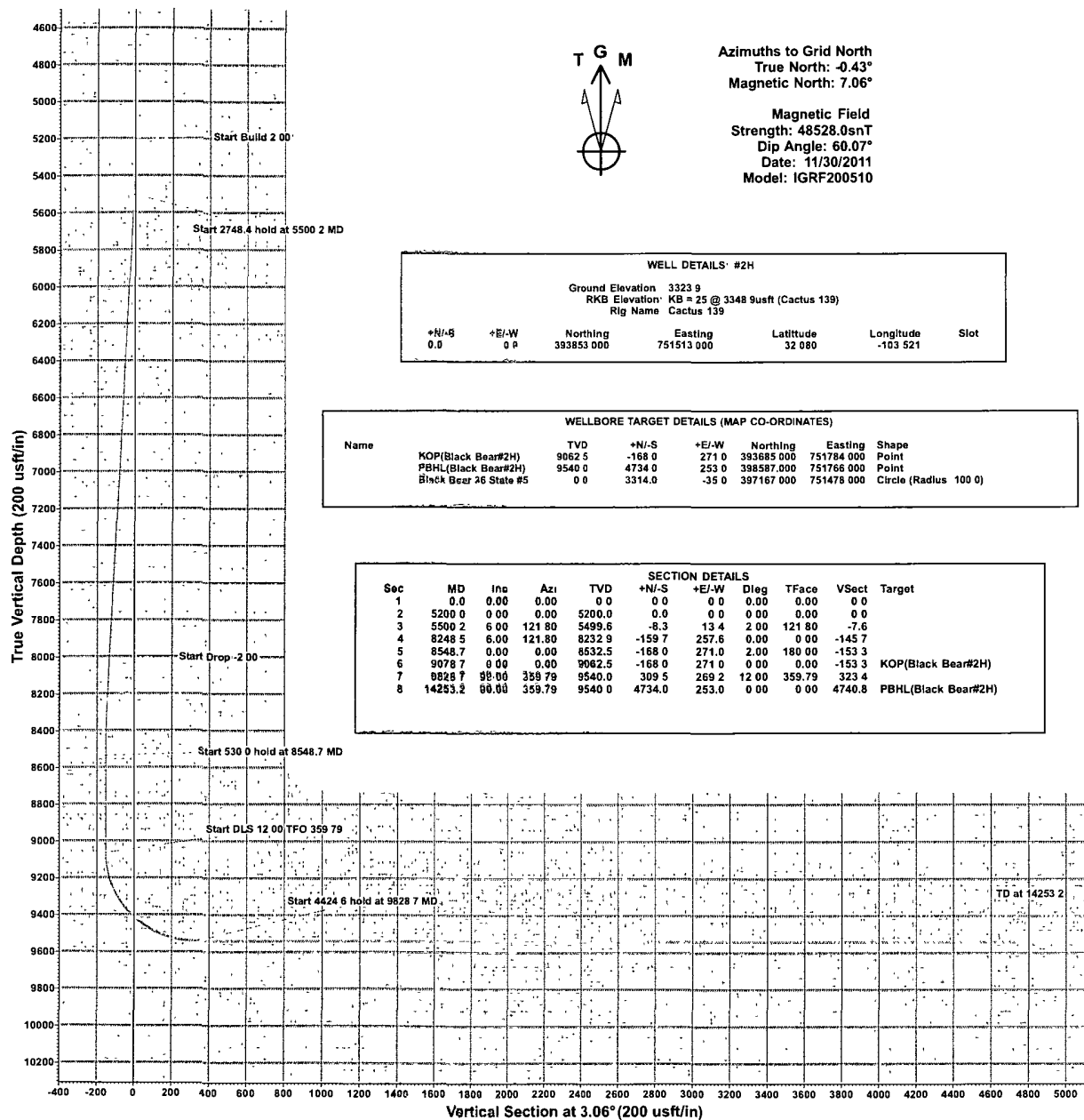
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	393853.000	751513.000	32.080	-103.521	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

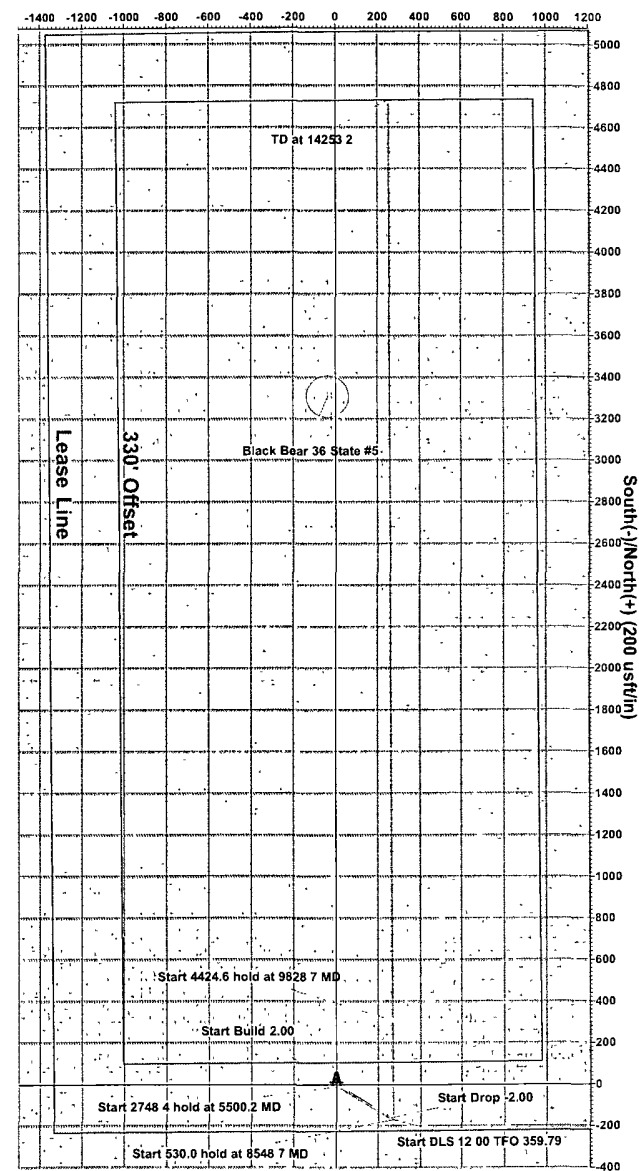
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
KOP(Black Bear#2H)	9062.5	-168.0	271.0	393685.000	751784.000	Point
PBHL(Black Bear#2H)	9540.0	4734.0	253.0	398587.000	751766.000	Point
Black Bear 36 State #5	0.0	3314.0	-35.0	397167.000	751476.000	Circle (Radius 100.0)

SECTION DETAILS

Sec	MD	Ino	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5200.0	0.00	0.00	5200.0	0.0	0.0	0.00	0.00	0.0	
3	5500.2	6.00	121.80	5499.6	-8.3	13.4	2.00	121.80	-7.6	
4	8248.5	6.00	121.80	8232.9	-159.7	257.6	0.00	0.00	-145.7	
5	8548.7	0.00	0.00	8532.5	-168.0	271.0	2.00	180.00	-153.3	KOP(Black Bear#2H)
6	9078.7	0.00	0.00	9062.5	-168.0	271.0	0.00	0.00	-153.3	
7	8828.7	98.00	359.79	9540.0	309.5	269.2	12.00	359.79	323.4	
8	14253.2	98.00	359.79	9540.0	4734.0	253.0	0.00	0.00	4740.8	PBHL(Black Bear#2H)



West(-)/East(+) (200 usft/in)



Plan: Plan #3 (#2H/OH)

Created By: Sam Bittle Date: 13.38, May 15 2012

Checked: _____ Date: _____

FILE INFORMATION:
Name: Plan #3 (#2H/OH)
Date: 13.38, May 15 2012
User: Sam Bittle
Page: 1 of 1



EOG Resources, Inc.

Lea County

Black Bear "36" State

#2H

OH

Plan: Plan #3

PathfinderX & Y Report

15 May, 2012

The logo for Pathfinder, with the word "PATHFINDER" in a bold, blocky, uppercase font. A stylized, thick line curves under the letters "FINDER".

PATHFINDER®

A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Lea County	TVD Reference:	KB = 25 @ 3348.9usft (Cactus 139)
Site:	Black Bear "36" State	MD Reference:	KB = 25 @ 3348.9usft (Cactus 139)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #3	Database:	EDM 5000 1 Single User Db

Project		Lea County	
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		Black Bear "36" State						
Site Position:		Northing:		393,927.000 usft	Latitude:		32.080	
From:	Map	Easting:		750,632.000 usft	Longitude:		-103.524	
Position Uncertainty:		0.0 usft	Slot Radius:		13-3/16 "	Grid Convergence:		0.43 °

Well	#2H					
Well Position	+N/-S	0.0 usft	Northing:	393,853.000 usft	Latitude:	32.080
	+E/-W	0.0 usft	Easting:	751,513.000 usft	Longitude:	-103.521
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,323.9 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/30/2011	7.49	60.07	48,528

Design					Plan #3				
Audit Notes:									
Version:		Phase:		PLAN		Tie On Depth:		0.0	
Vertical Section:		Depth From (TVD)		+N/-S		+E/-W		Direction	
		(usft)		(usft)		(usft)		(°)	
		0.0		0.0		0.0		3.06	

Survey Tool Program		Date 5/15/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	14,253.1	Plan #3 (OH)	MWD	MWD - Standard

Company: EOG Resources, Inc.
Project: Lea County
Site: Black Bear "36" State
Well: #2H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
KB = 25 @ 3348 9usft (Cactus 139)
KB = 25 @ 3348.9usft (Cactus 139)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg. (%/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,348.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
100.0	0.00	0.00	100.0	-3,248.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
200.0	0.00	0.00	200.0	-3,148.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
300.0	0.00	0.00	300.0	-3,048.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
400.0	0.00	0.00	400.0	-2,948.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
500.0	0.00	0.00	500.0	-2,848.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
600.0	0.00	0.00	600.0	-2,748.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
700.0	0.00	0.00	700.0	-2,648.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
800.0	0.00	0.00	800.0	-2,548.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
900.0	0.00	0.00	900.0	-2,448.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,000.0	0.00	0.00	1,000.0	-2,348.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,100.0	0.00	0.00	1,100.0	-2,248.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,200.0	0.00	0.00	1,200.0	-2,148.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,300.0	0.00	0.00	1,300.0	-2,048.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,400.0	0.00	0.00	1,400.0	-1,948.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,500.0	0.00	0.00	1,500.0	-1,848.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,600.0	0.00	0.00	1,600.0	-1,748.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,700.0	0.00	0.00	1,700.0	-1,648.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,800.0	0.00	0.00	1,800.0	-1,548.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
1,900.0	0.00	0.00	1,900.0	-1,448.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,000.0	0.00	0.00	2,000.0	-1,348.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,100.0	0.00	0.00	2,100.0	-1,248.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,200.0	0.00	0.00	2,200.0	-1,148.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,300.0	0.00	0.00	2,300.0	-1,048.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,400.0	0.00	0.00	2,400.0	-948.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,500.0	0.00	0.00	2,500.0	-848.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,600.0	0.00	0.00	2,600.0	-748.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00

Company: EOG Resources, Inc
Project: Lea County
Site: Black Bear "36" State
Well: #2H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference: Well #2H
TVD Reference: KB = 25 @ 3348.9usft (Cactus 139)
MD Reference: KB = 25 @ 3348.9usft (Cactus 139)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,700.0	0.00	0.00	2,700.0	-648.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,800.0	0.00	0.00	2,800.0	-548.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
2,900.0	0.00	0.00	2,900.0	-448.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,000.0	0.00	0.00	3,000.0	-348.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,100.0	0.00	0.00	3,100.0	-248.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,200.0	0.00	0.00	3,200.0	-148.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,300.0	0.00	0.00	3,300.0	-48.9	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,400.0	0.00	0.00	3,400.0	51.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,500.0	0.00	0.00	3,500.0	151.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,600.0	0.00	0.00	3,600.0	251.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,700.0	0.00	0.00	3,700.0	351.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,800.0	0.00	0.00	3,800.0	451.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
3,900.0	0.00	0.00	3,900.0	551.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,000.0	0.00	0.00	4,000.0	651.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,100.0	0.00	0.00	4,100.0	751.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,200.0	0.00	0.00	4,200.0	851.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,300.0	0.00	0.00	4,300.0	951.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,400.0	0.00	0.00	4,400.0	1,051.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,500.0	0.00	0.00	4,500.0	1,151.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,600.0	0.00	0.00	4,600.0	1,251.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,700.0	0.00	0.00	4,700.0	1,351.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,800.0	0.00	0.00	4,800.0	1,451.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
4,900.0	0.00	0.00	4,900.0	1,551.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
5,000.0	0.00	0.00	5,000.0	1,651.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
5,100.0	0.00	0.00	5,100.0	1,751.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
5,200.0	0.00	0.00	5,200.0	1,851.1	0.0	0.0	0.0	0.00	393,853.00	751,513.00
5,300.0	2.00	121.80	5,300.0	1,951.1	-0.9	1.5	-0.8	2.00	393,852.08	751,514.48

Company: EOG Resources, Inc
Project: Lea County
Site: Black Bear "36" State
Well: #2H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
KB = 25 @ 3348.9usft (Cactus 139)
KB = 25 @ 3348.9usft (Cactus 139)
Grid
Minimum Curvature
EDM 5000 1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,400.0	4.00	121.80	5,399.8	2,050.9	-3.7	5.9	-3.4	2.00	393,849.32	751,518.93
5,500.2	6.00	121.80	5,499.6	2,150.7	-8.3	13.4	-7.6	2.00	393,844.72	751,526.35
5,600.0	6.00	121.80	5,598.9	2,250.0	-13.8	22.2	-12.6	0.00	393,839.22	751,535.23
5,700.0	6.00	121.80	5,698.4	2,349.5	-19.3	31.1	-17.6	0.00	393,833.71	751,544.12
5,800.0	6.00	121.80	5,797.8	2,448.9	-24.8	40.0	-22.6	0.00	393,828.20	751,553.00
5,900.0	6.00	121.80	5,897.3	2,548.4	-30.3	48.9	-27.7	0.00	393,822.69	751,561.89
6,000.0	6.00	121.80	5,996.7	2,647.8	-35.8	57.8	-32.7	0.00	393,817.18	751,570.78
6,100.0	6.00	121.80	6,096.2	2,747.3	-41.3	66.7	-37.7	0.00	393,811.67	751,579.67
6,200.0	6.00	121.80	6,195.6	2,846.7	-46.8	75.6	-42.7	0.00	393,806.16	751,588.56
6,300.0	6.00	121.80	6,295.1	2,946.2	-52.4	84.4	-47.8	0.00	393,800.65	751,597.45
6,400.0	6.00	121.80	6,394.5	3,045.6	-57.9	93.3	-52.8	0.00	393,795.14	751,606.34
6,500.0	6.00	121.80	6,494.0	3,145.1	-63.4	102.2	-57.8	0.00	393,789.63	751,615.23
6,600.0	6.00	121.80	6,593.4	3,244.5	-68.9	111.1	-62.9	0.00	393,784.12	751,624.12
6,700.0	6.00	121.80	6,692.9	3,344.0	-74.4	120.0	-67.9	0.00	393,778.61	751,633.00
6,800.0	6.00	121.80	6,792.3	3,443.4	-79.9	128.9	-72.9	0.00	393,773.10	751,641.89
6,900.0	6.00	121.80	6,891.8	3,542.9	-85.4	137.8	-77.9	0.00	393,767.59	751,650.78
7,000.0	6.00	121.80	6,991.2	3,642.3	-90.9	146.7	-83.0	0.00	393,762.08	751,659.67
7,100.0	6.00	121.80	7,090.7	3,741.8	-96.4	155.6	-88.0	0.00	393,756.56	751,668.56
7,200.0	6.00	121.80	7,190.1	3,841.2	-101.9	164.4	-93.0	0.00	393,751.05	751,677.45
7,300.0	6.00	121.80	7,289.6	3,940.7	-107.5	173.3	-98.1	0.00	393,745.54	751,686.34
7,400.0	6.00	121.80	7,389.0	4,040.1	-113.0	182.2	-103.1	0.00	393,740.03	751,695.23
7,500.0	6.00	121.80	7,488.5	4,139.6	-118.5	191.1	-108.1	0.00	393,734.52	751,704.11
7,600.0	6.00	121.80	7,587.9	4,239.0	-124.0	200.0	-113.1	0.00	393,729.01	751,713.00
7,700.0	6.00	121.80	7,687.4	4,338.5	-129.5	208.9	-118.2	0.00	393,723.50	751,721.89
7,800.0	6.00	121.80	7,786.8	4,437.9	-135.0	217.8	-123.2	0.00	393,717.99	751,730.78
7,900.0	6.00	121.80	7,886.3	4,537.4	-140.5	226.7	-128.2	0.00	393,712.48	751,739.67
8,000.0	6.00	121.80	7,985.7	4,636.8	-146.0	235.6	-133.3	0.00	393,706.97	751,748.56

Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #2H
Project:	Lea County	TVD Reference:	KB = 25 @ 3348.9usft (Cactus 139)
Site:	Black Bear "36" State	MD Reference:	KB = 25 @ 3348 9usft (Cactus 139)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey/Calculation Method:	Minimum Curvature
Design:	Plan #3	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
8,100.0	6.00	121.80	8,085.2	4,736.3	-151.5	244.4	-138.3	0.00	393,701.46	751,757.45	
8,200.0	6.00	121.80	8,184.6	4,835.7	-157.0	253.3	-143.3	0.00	393,695.95	751,766.34	
8,248.5	6.00	121.80	8,232.9	4,884.0	-159.7	257.6	-145.7	0.00	393,693.28	751,770.65	
8,300.0	4.97	121.80	8,284.1	4,935.2	-162.3	261.8	-148.1	2.00	393,690.68	751,774.83	
8,400.0	2.97	121.80	8,383.9	5,035.0	-166.0	267.7	-151.4	2.00	393,687.03	751,780.72	
8,500.0	0.97	121.80	8,483.8	5,134.9	-167.8	270.6	-153.1	2.00	393,685.22	751,783.65	
8,548.7	0.00	0.00	8,532.5	5,183.6	-168.0	271.0	-153.3	2.00	393,685.00	751,784.00	
8,600.0	0.00	0.00	8,583.8	5,234.9	-168.0	271.0	-153.3	0.00	393,685.00	751,784.00	
8,700.0	0.00	0.00	8,683.8	5,334.9	-168.0	271.0	-153.3	0.00	393,685.00	751,784.00	
8,800.0	0.00	0.00	8,783.8	5,434.9	-168.0	271.0	-153.3	0.00	393,685.00	751,784.00	
8,900.0	0.00	0.00	8,883.8	5,534.9	-168.0	271.0	-153.3	0.00	393,685.00	751,784.00	
9,000.0	0.00	0.00	8,983.8	5,634.9	-168.0	271.0	-153.3	0.00	393,685.00	751,784.00	
9,078.7	0.00	0.00	9,062.5	5,713.6	-168.0	271.0	-153.3	0.00	393,685.00	751,784.00	
9,100.0	2.56	359.79	9,083.8	5,734.9	-167.5	271.0	-152.8	12.00	393,685.48	751,784.00	
9,125.0	5.56	359.79	9,108.8	5,759.9	-165.8	271.0	-151.1	12.00	393,687.25	751,783.99	
9,150.0	8.56	359.79	9,133.6	5,784.7	-162.7	271.0	-148.0	12.00	393,690.32	751,783.98	
9,175.0	11.56	359.79	9,158.2	5,809.3	-158.3	271.0	-143.6	12.00	393,694.68	751,783.96	
9,200.0	14.56	359.79	9,182.5	5,833.6	-152.7	270.9	-138.0	12.00	393,700.33	751,783.94	
9,225.0	17.56	359.79	9,206.6	5,857.7	-145.8	270.9	-131.1	12.00	393,707.25	751,783.92	
9,250.0	20.56	359.79	9,230.2	5,881.3	-137.6	270.9	-122.9	12.00	393,715.41	751,783.89	
9,275.0	23.56	359.79	9,253.3	5,904.4	-128.2	270.9	-113.6	12.00	393,724.80	751,783.85	
9,300.0	26.56	359.79	9,276.0	5,927.1	-117.6	270.8	-103.0	12.00	393,735.39	751,783.81	
9,325.0	29.56	359.79	9,298.0	5,949.1	-105.9	270.8	-91.3	12.00	393,747.15	751,783.77	
9,350.0	32.56	359.79	9,319.5	5,970.6	-93.0	270.7	-78.4	12.00	393,760.04	751,783.72	
9,375.0	35.56	359.79	9,340.2	5,991.3	-79.0	270.7	-64.4	12.00	393,774.04	751,783.67	
9,400.0	38.56	359.79	9,360.1	6,011.2	-63.9	270.6	-49.4	12.00	393,789.11	751,783.62	
9,425.0	41.56	359.79	9,379.3	6,030.4	-47.8	270.6	-33.3	12.00	393,805.19	751,783.56	

Company: EOG Resources, Inc.
Project: Lea County
Site: Black Bear "36" State
Well: #2H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
KB = 25 @ 3348.9usft (Cactus 139)
KB = 25 @ 3348.9usft (Cactus 139)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V-Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
9,450.0	44.56	359.79	9,397.5	6,048.6	-30.7	270.5	-16.3	12.00	393,822.26	751,783.50
9,475.0	47.56	359.79	9,414.9	6,066.0	-12.7	270.4	1.7	12.00	393,840.26	751,783.43
9,500.0	50.56	359.79	9,431.2	6,082.3	6.1	270.4	20.6	12.00	393,859.14	751,783.36
9,525.0	53.56	359.79	9,446.6	6,097.7	25.9	270.3	40.2	12.00	393,878.86	751,783.29
9,550.0	56.56	359.79	9,460.9	6,112.0	46.3	270.2	60.7	12.00	393,899.35	751,783.21
9,575.0	59.56	359.79	9,474.1	6,125.2	67.6	270.1	81.9	12.00	393,920.56	751,783.14
9,600.0	62.56	359.79	9,486.2	6,137.3	89.4	270.1	103.7	12.00	393,942.44	751,783.05
9,625.0	65.56	359.79	9,497.2	6,148.3	111.9	270.0	126.2	12.00	393,964.91	751,782.97
9,650.0	68.56	359.79	9,506.9	6,158.0	134.9	269.9	149.1	12.00	393,987.93	751,782.89
9,675.0	71.56	359.79	9,515.4	6,166.5	158.4	269.8	172.6	12.00	394,011.43	751,782.80
9,700.0	74.56	359.79	9,522.7	6,173.8	182.3	269.7	196.5	12.00	394,035.35	751,782.71
9,725.0	77.56	359.79	9,528.8	6,179.9	206.6	269.6	220.7	12.00	394,059.61	751,782.62
9,750.0	80.56	359.79	9,533.5	6,184.6	231.1	269.5	245.2	12.00	394,084.15	751,782.53
9,775.0	83.56	359.79	9,537.0	6,188.1	255.9	269.4	269.9	12.00	394,108.91	751,782.44
9,800.0	86.56	359.79	9,539.1	6,190.2	280.8	269.4	294.8	12.00	394,133.81	751,782.35
9,825.0	89.56	359.79	9,540.0	6,191.1	305.8	269.3	319.7	12.00	394,158.79	751,782.26
9,828.7	90.00	359.79	9,540.0	6,191.1	309.5	269.2	323.4	12.00	394,162.46	751,782.25
9,900.0	90.00	359.79	9,540.0	6,191.1	380.8	269.0	394.6	0.00	394,233.79	751,781.98
10,000.0	90.00	359.79	9,540.0	6,191.1	480.8	268.6	494.4	0.00	394,333.79	751,781.62
10,100.0	90.00	359.79	9,540.0	6,191.1	580.8	268.3	594.3	0.00	394,433.79	751,781.25
10,200.0	90.00	359.79	9,540.0	6,191.1	680.8	267.9	694.1	0.00	394,533.79	751,780.88
10,300.0	90.00	359.79	9,540.0	6,191.1	780.8	267.5	794.0	0.00	394,633.79	751,780.52
10,400.0	90.00	359.79	9,540.0	6,191.1	880.8	267.1	893.8	0.00	394,733.79	751,780.15
10,500.0	90.00	359.79	9,540.0	6,191.1	980.8	266.8	993.6	0.00	394,833.79	751,779.78
10,600.0	90.00	359.79	9,540.0	6,191.1	1,080.8	266.4	1,093.5	0.00	394,933.79	751,779.41
10,700.0	90.00	359.79	9,540.0	6,191.1	1,180.8	266.0	1,193.3	0.00	395,033.79	751,779.05
10,800.0	90.00	359.79	9,540.0	6,191.1	1,280.8	265.7	1,293.1	0.00	395,133.79	751,778.68



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: EOG Resources, Inc.
Project: Lea County
Site: Black Bear "36" State
Well: #2H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
KB = 25 @ 3348.9usft (Cactus 139)
KB = 25 @ 3348.9usft (Cactus 139)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,900.0	90.00	359.79	9,540.0	6,191.1	1,380.8	265.3	1,393.0	0.00	395,233.79	751,778.31
11,000.0	90.00	359.79	9,540.0	6,191.1	1,480.8	264.9	1,492.8	0.00	395,333.78	751,777.95
11,100.0	90.00	359.79	9,540.0	6,191.1	1,580.8	264.6	1,592.6	0.00	395,433.78	751,777.58
11,200.0	90.00	359.79	9,540.0	6,191.1	1,680.8	264.2	1,692.5	0.00	395,533.78	751,777.21
11,300.0	90.00	359.79	9,540.0	6,191.1	1,780.8	263.8	1,792.3	0.00	395,633.78	751,776.84
11,400.0	90.00	359.79	9,540.0	6,191.1	1,880.8	263.5	1,892.2	0.00	395,733.78	751,776.48
11,500.0	90.00	359.79	9,540.0	6,191.1	1,980.8	263.1	1,992.0	0.00	395,833.78	751,776.11
11,600.0	90.00	359.79	9,540.0	6,191.1	2,080.8	262.7	2,091.8	0.00	395,933.78	751,775.74
11,700.0	90.00	359.79	9,540.0	6,191.1	2,180.8	262.4	2,191.7	0.00	396,033.78	751,775.38
11,800.0	90.00	359.79	9,540.0	6,191.1	2,280.8	262.0	2,291.5	0.00	396,133.78	751,775.01
11,900.0	90.00	359.79	9,540.0	6,191.1	2,380.8	261.6	2,391.3	0.00	396,233.78	751,774.64
12,000.0	90.00	359.79	9,540.0	6,191.1	2,480.8	261.3	2,491.2	0.00	396,333.78	751,774.27
12,100.0	90.00	359.79	9,540.0	6,191.1	2,580.8	260.9	2,591.0	0.00	396,433.78	751,773.91
12,200.0	90.00	359.79	9,540.0	6,191.1	2,680.8	260.5	2,690.9	0.00	396,533.78	751,773.54
12,300.0	90.00	359.79	9,540.0	6,191.1	2,780.8	260.2	2,790.7	0.00	396,633.78	751,773.17
12,400.0	90.00	359.79	9,540.0	6,191.1	2,880.8	259.8	2,890.5	0.00	396,733.78	751,772.80
12,500.0	90.00	359.79	9,540.0	6,191.1	2,980.8	259.4	2,990.4	0.00	396,833.77	751,772.44
12,600.0	90.00	359.79	9,540.0	6,191.1	3,080.8	259.1	3,090.2	0.00	396,933.77	751,772.07
12,700.0	90.00	359.79	9,540.0	6,191.1	3,180.8	258.7	3,190.0	0.00	397,033.77	751,771.70
12,800.0	90.00	359.79	9,540.0	6,191.1	3,280.8	258.3	3,289.9	0.00	397,133.77	751,771.34
12,900.0	90.00	359.79	9,540.0	6,191.1	3,380.8	258.0	3,389.7	0.00	397,233.77	751,770.97
13,000.0	90.00	359.79	9,540.0	6,191.1	3,480.8	257.6	3,489.6	0.00	397,333.77	751,770.60
13,100.0	90.00	359.79	9,540.0	6,191.1	3,580.8	257.2	3,589.4	0.00	397,433.77	751,770.23
13,200.0	90.00	359.79	9,540.0	6,191.1	3,680.8	256.9	3,689.2	0.00	397,533.77	751,769.87
13,300.0	90.00	359.79	9,540.0	6,191.1	3,780.8	256.5	3,789.1	0.00	397,633.77	751,769.50
13,400.0	90.00	359.79	9,540.0	6,191.1	3,880.8	256.1	3,888.9	0.00	397,733.77	751,769.13
13,500.0	90.00	359.79	9,540.0	6,191.1	3,980.8	255.8	3,988.7	0.00	397,833.77	751,768.77

Company: EOG Resources, Inc
Project: Lea County
Site: Black Bear "36" State
Well: #2H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference:
TVD Reference: KB = 25 @ 3348.9usft (Cactus 139)
MD Reference: KB = 25 @ 3348.9usft (Cactus 139)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
13,600.0	90.00	359.79	9,540.0	6,191.1	4,080.8	255.4	4,088.6	0.00	397,933.77	751,768.40
13,700.0	90.00	359.79	9,540.0	6,191.1	4,180.8	255.0	4,188.4	0.00	398,033.77	751,768.03
13,800.0	90.00	359.79	9,540.0	6,191.1	4,280.8	254.7	4,288.3	0.00	398,133.77	751,767.66
13,900.0	90.00	359.79	9,540.0	6,191.1	4,380.8	254.3	4,388.1	0.00	398,233.77	751,767.30
14,000.0	90.00	359.79	9,540.0	6,191.1	4,480.8	253.9	4,487.9	0.00	398,333.76	751,766.93
14,100.0	90.00	359.79	9,540.0	6,191.1	4,580.8	253.6	4,587.8	0.00	398,433.76	751,766.56
14,200.0	90.00	359.79	9,540.0	6,191.1	4,680.8	253.2	4,687.6	0.00	398,533.76	751,766.20
14,253.2	90.00	359.79	9,540.0	6,191.1	4,734.0	253.0	4,740.8	0.00	398,587.00	751,766.00

Checked By: _____ Approved By: _____ Date: _____