

OCT 11 2012

RECEIVED

Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H₂S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:
- Well control equipment
 - a. Flare line 150' from wellhead to be ignited by flare gun.
 - b. Choke manifold with a remotely operated choke.
 - c. Mud/gas separator
 - Protective equipment for essential personnel.
 - Breathing apparatus:
 - a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
 - b. Work/Escape packs — 4 packs shall be stored on the rig floor th sufficient air hose not to restrict work activity.
 - c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.
 - Auxiliary Rescue Equipment:
 - a. Stretcher
 - b. Two OSHA full body harness
 - c. 100 ft 5/8 inch OSHA approved rope
 - d. 1-20# class ABC fire extinguisher
 - H₂S detection and monitoring equipment:
 - The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.
 - (Gas sample tubes will be stored in the safety trailer)
 - Visual warning systems.
 - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
 - c. Two wind socks will be placed in strategic locations, visible from all angles.

OCT 16 2012

EOG RESOURCES, INC.
VANGUARD 30 STATE COM #1H

- **Mud program:**
The mud program has been designed to minimize the volume of H₂S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H₂S bearing zones.

- **Metallurgy:**
 - a. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
 - b. All elastomers used for packing and seals shall be H₂S trim.

- **Communication:**
Communication will be via cell phones and land lines where available.

**EOG RESOURCES, INC.
VANGUARD 30 STATE COM #1H**

Emergency Assistance Telephone List

PUBLIC SAFETY: **911 or**

Lea County Sheriff's Department	(575) 396-3611
Rod Coffman	
Fire Department:	
Carlsbad	(575) 885-3125
Artesia	(575) 746-5050
Hospitals:	
Carlsbad	(575) 887-4121
Artesia	(575) 748-3333
Hobbs	(575) 392-1979
Dept. of Public Safety/Carlsbad	(575) 748-9718
Highway Department	(575) 885-3281
New Mexico Oil Conservation	(575) 476-3440
U.S. Dept. of Labor	(575) 887-1174

EOG Resources, Inc.

EOG / Midland	Office (432) 686-3600
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Company Drilling Consultants:

Danny Kiser Will Henderson	Cell (432) 894-3417
Larry King	

Drilling Engineer

Steve Munsell	Office (432) 686-3609
	Cell (432) 894-1256

Operations Manager

Travis Lain	Office (432) 686-3740
	Cell (432) 254-3521

Drilling Superintendents

Ron Welch	Office (432) 686-3695
	Cell (432) 386-0592
Barney Thompson	Office (432) 686-3678
	Cell (432) 254-9056

Cactus Drilling

Cactus Drilling	Office (580) 799-2752
Cactus 139 Drilling Rig	Rig (432) 894-3416

Tool Pusher:

Jeff Montgomery	Cell (405) 219-2519
James Wilson	Cell (405) 618-8483

Safety

James Fischer (HSE Manager)	Office (432) 686-3747
	Cell (817) 253-3725
Brian Chandler	Cell (806) 777-8814
Terry Maxwell (Consultant)	Cell (432) 349-6926



Project: Lea County
Site: Vanguard 30 State Com
Well: #1H
Wellbore: OH
Plan: Plan #1 (#1H/OH)

PATHFINDER®

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West(-)/East(+) (300 usft/in)

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

WELL DETAILS #1H

Ground Elevation 3505.0
RKB Elevation: KB = 25' @ 3530.0usft (Cactus #139)
Rig Name Cactus #139

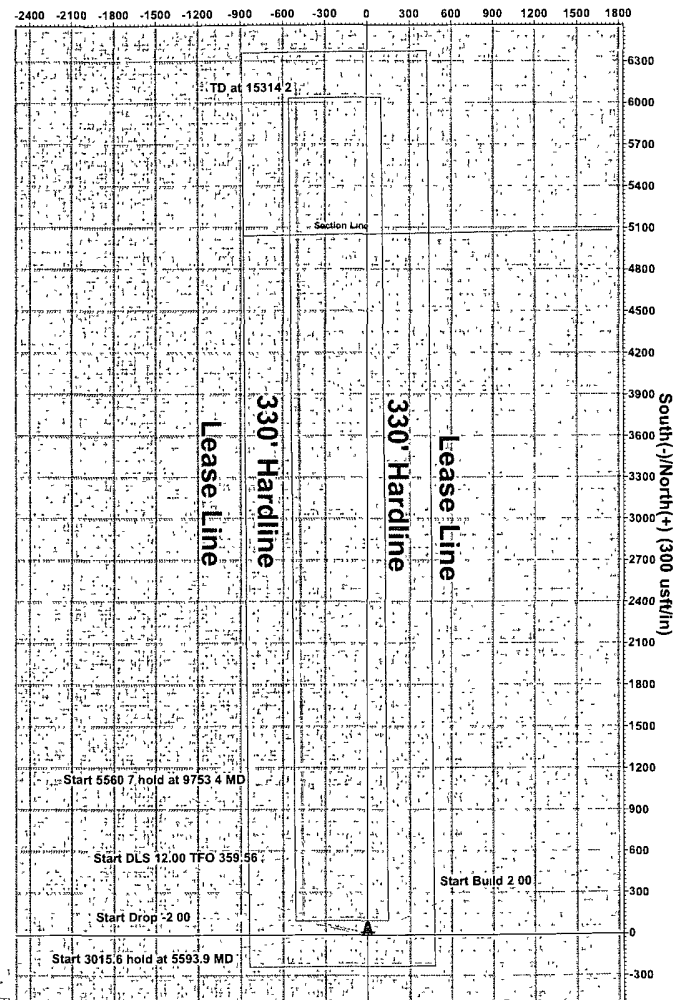
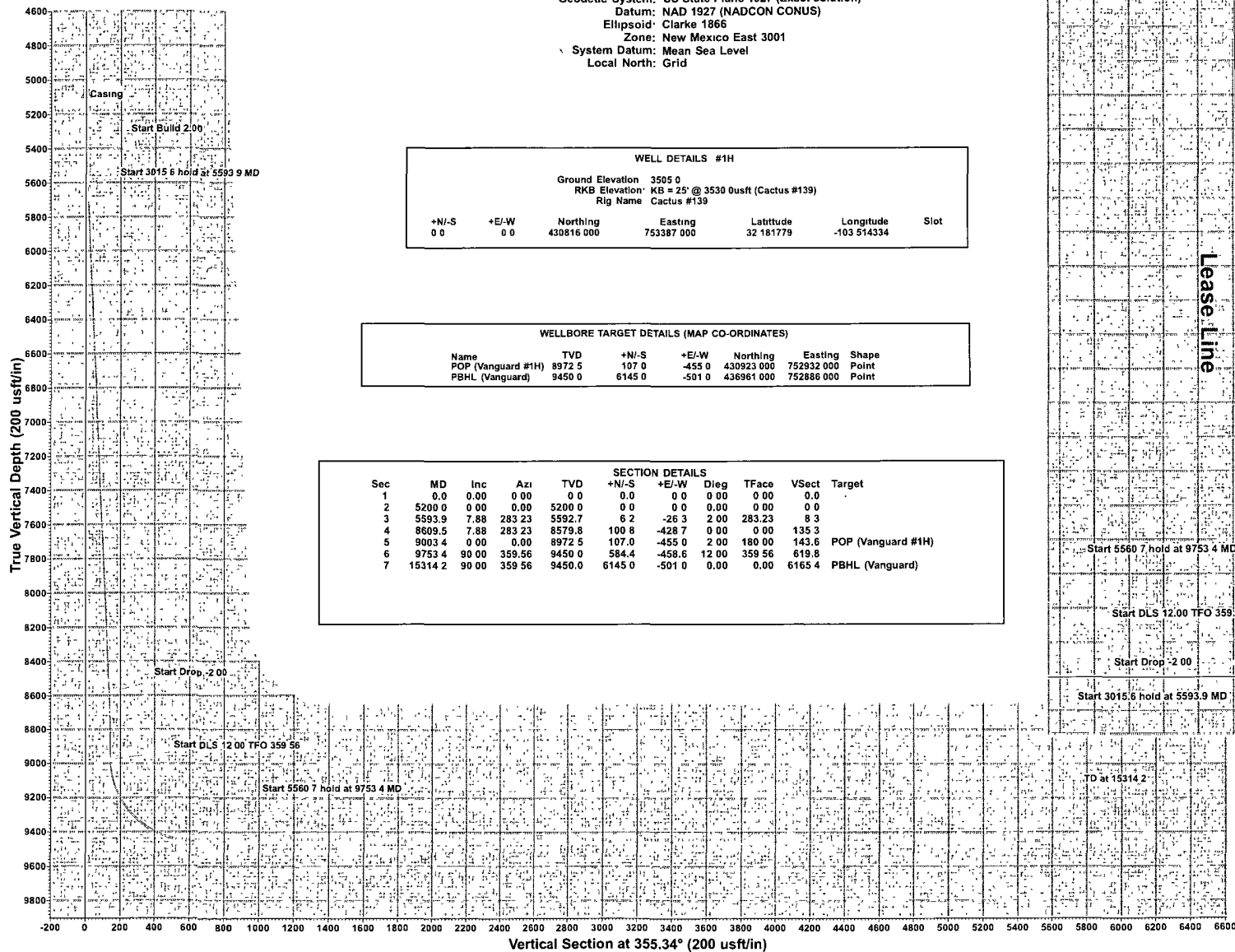
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	430816.000	753387.000	32.181779	-103.514334	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
POP (Vanguard #1H)	8972.5	107.0	-455.0	430923.000	752932.000	Point
PBHL (Vanguard)	9450.0	6145.0	-501.0	436961.000	752886.000	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSecl	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	5593.9	7.88	283.23	5592.7	0.2	-26.3	2.00	283.23	8.3	
4	8609.5	7.88	283.23	8579.8	100.8	-428.7	0.00	0.00	135.3	
5	9003.4	0.00	0.00	8972.5	107.0	-455.0	2.00	180.00	143.6	POP (Vanguard #1H)
6	9753.4	90.00	359.56	9450.0	584.4	-458.6	12.00	359.56	619.8	
7	15314.2	90.00	359.56	9450.0	6145.0	-501.0	0.00	0.00	6165.4	PBHL (Vanguard)



Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.95°

Magnetic Field
Strength: 48507.6snT
Dip Angle: 60.15°
Date: 10/3/2012
Model: IGRF200510



A Schlumberger Company

EOG Resources, Inc.

Lea County

Vanguard 30 State Com

#1H

OH

Plan: Plan #1

Pathfinder X&Y Report

03 October, 2012





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Pathfinder Pathfinder X&Y Report



Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Site:	Vanguard 30 State Com	MD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Well:	#1H	North Reference:	Gnd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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		Vanguard 30 State Com									
Site Position:		Northing:		430,816 000 usft		Latitude:		32 181779			
From:		Map		Easting:		753,387 000 usft		Longitude:		-103.514334	
Position Uncertainty:		0.0 usft		Slot Radius:		13-3/16 "		Grid Convergence:		0.44 °	

Well	#1H					
Well Position	+N/-S	0.0 usft	Northing:	430,816 000 usft	Latitude:	32.181779
	+E/-W	0 0 usft	Easting:	753,387 000 usft	Longitude:	-103.514334
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,505 0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/3/2012	7.39	60.15	48,508

Design		Plan #1		
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	355.34

Survey Tool Program		Date	10/3/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	15,314.2	Plan #1 (OH)	MWD	MWD - Standard	



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Pathfinder Pathfinder X&Y Report



Company: EOG Resources, Inc.
Project: Lea County
Site: Vanguard 30 State Com
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: Well #1H
MD Reference: KB = 25' @ 3530.0usft (Cactus #139)
North Reference: KB = 25' @ 3530.0usft (Cactus #139)
Survey Calculation Method: Grd
Database: 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)	Latitude (°)	Longitude (°)
0.0	0.00	0.00	0.0	-3,530.0	0.0	0.0	0.0	0.00	32.18	-103.51
100.0	0.00	0.00	100.0	-3,430.0	0.0	0.0	0.0	0.00	32.18	-103.51
200.0	0.00	0.00	200.0	-3,330.0	0.0	0.0	0.0	0.00	32.18	-103.51
300.0	0.00	0.00	300.0	-3,230.0	0.0	0.0	0.0	0.00	32.18	-103.51
400.0	0.00	0.00	400.0	-3,130.0	0.0	0.0	0.0	0.00	32.18	-103.51
500.0	0.00	0.00	500.0	-3,030.0	0.0	0.0	0.0	0.00	32.18	-103.51
600.0	0.00	0.00	600.0	-2,930.0	0.0	0.0	0.0	0.00	32.18	-103.51
700.0	0.00	0.00	700.0	-2,830.0	0.0	0.0	0.0	0.00	32.18	-103.51
800.0	0.00	0.00	800.0	-2,730.0	0.0	0.0	0.0	0.00	32.18	-103.51
900.0	0.00	0.00	900.0	-2,630.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,000.0	0.00	0.00	1,000.0	-2,530.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,100.0	0.00	0.00	1,100.0	-2,430.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,200.0	0.00	0.00	1,200.0	-2,330.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,300.0	0.00	0.00	1,300.0	-2,230.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,400.0	0.00	0.00	1,400.0	-2,130.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,500.0	0.00	0.00	1,500.0	-2,030.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,600.0	0.00	0.00	1,600.0	-1,930.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,700.0	0.00	0.00	1,700.0	-1,830.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,800.0	0.00	0.00	1,800.0	-1,730.0	0.0	0.0	0.0	0.00	32.18	-103.51
1,900.0	0.00	0.00	1,900.0	-1,630.0	0.0	0.0	0.0	0.00	32.18	-103.51
2,000.0	0.00	0.00	2,000.0	-1,530.0	0.0	0.0	0.0	0.00	32.18	-103.51
2,100.0	0.00	0.00	2,100.0	-1,430.0	0.0	0.0	0.0	0.00	32.18	-103.51
2,200.0	0.00	0.00	2,200.0	-1,330.0	0.0	0.0	0.0	0.00	32.18	-103.51
2,300.0	0.00	0.00	2,300.0	-1,230.0	0.0	0.0	0.0	0.00	32.18	-103.51
2,400.0	0.00	0.00	2,400.0	-1,130.0	0.0	0.0	0.0	0.00	32.18	-103.51
2,500.0	0.00	0.00	2,500.0	-1,030.0	0.0	0.0	0.0	0.00	32.18	-103.51
2,600.0	0.00	0.00	2,600.0	-930.0	0.0	0.0	0.0	0.00	32.18	-103.51



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Pathfinder Pathfinder X&Y Report



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Project:	Lea County	TVD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Site:	Vanguard 30 State Com	MD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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)	Latitude (°)	Longitude (°)	
2,700.0	0.00	0.00	2,700.0	-830.0	0.0	0.0	0.0	0.00	32.18	-103.51	
2,800.0	0.00	0.00	2,800.0	-730.0	0.0	0.0	0.0	0.00	32.18	-103.51	
2,900.0	0.00	0.00	2,900.0	-630.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,000.0	0.00	0.00	3,000.0	-530.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,100.0	0.00	0.00	3,100.0	-430.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,200.0	0.00	0.00	3,200.0	-330.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,300.0	0.00	0.00	3,300.0	-230.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,400.0	0.00	0.00	3,400.0	-130.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,500.0	0.00	0.00	3,500.0	-30.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,600.0	0.00	0.00	3,600.0	70.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,700.0	0.00	0.00	3,700.0	170.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,800.0	0.00	0.00	3,800.0	270.0	0.0	0.0	0.0	0.00	32.18	-103.51	
3,900.0	0.00	0.00	3,900.0	370.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,000.0	0.00	0.00	4,000.0	470.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,100.0	0.00	0.00	4,100.0	570.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,200.0	0.00	0.00	4,200.0	670.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,300.0	0.00	0.00	4,300.0	770.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,400.0	0.00	0.00	4,400.0	870.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,500.0	0.00	0.00	4,500.0	970.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,600.0	0.00	0.00	4,600.0	1,070.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,700.0	0.00	0.00	4,700.0	1,170.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,800.0	0.00	0.00	4,800.0	1,270.0	0.0	0.0	0.0	0.00	32.18	-103.51	
4,900.0	0.00	0.00	4,900.0	1,370.0	0.0	0.0	0.0	0.00	32.18	-103.51	
5,000.0	0.00	0.00	5,000.0	1,470.0	0.0	0.0	0.0	0.00	32.18	-103.51	
5,100.0	0.00	0.00	5,100.0	1,570.0	0.0	0.0	0.0	0.00	32.18	-103.51	
5,200.0	0.00	0.00	5,200.0	1,670.0	0.0	0.0	0.0	0.00	32.18	-103.51	
5,300.0	2.00	283.23	5,300.0	1,770.0	0.4	-1.7	0.5	2.00	32.18	-103.51	



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Pathfinder Pathfinder X&Y Report



Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Site:	Vanguard 30 State Com	MD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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)	Latitude (°)	Longitude (°)		
5,400.0	4.00	283.23	5,399.8	1,869.8	1.6	-6.8	2.1	2.00	32.18	-103.51		
5,500.0	6.00	283.23	5,499.5	1,969.5	3.6	-15.3	4.8	2.00	32.18	-103.51		
5,593.9	7.88	283.23	5,592.7	2,062.7	6.2	-26.3	8.3	2.00	32.18	-103.51		
5,600.0	7.88	283.23	5,598.7	2,068.7	6.4	-27.1	8.6	0.00	32.18	-103.51		
5,700.0	7.88	283.23	5,697.8	2,167.8	9.5	-40.5	12.8	0.00	32.18	-103.51		
5,800.0	7.88	283.23	5,796.8	2,266.8	12.7	-53.8	17.0	0.00	32.18	-103.51		
5,900.0	7.88	283.23	5,895.9	2,365.9	15.8	-67.2	21.2	0.00	32.18	-103.51		
6,000.0	7.88	283.23	5,994.9	2,464.9	18.9	-80.5	25.4	0.00	32.18	-103.51		
6,100.0	7.88	283.23	6,094.0	2,564.0	22.1	-93.8	29.6	0.00	32.18	-103.51		
6,200.0	7.88	283.23	6,193.0	2,663.0	25.2	-107.2	33.8	0.00	32.18	-103.51		
6,300.0	7.88	283.23	6,292.1	2,762.1	28.3	-120.5	38.0	0.00	32.18	-103.51		
6,400.0	7.88	283.23	6,391.2	2,861.2	31.5	-133.9	42.3	0.00	32.18	-103.51		
6,500.0	7.88	283.23	6,490.2	2,960.2	34.6	-147.2	46.5	0.00	32.18	-103.51		
6,600.0	7.88	283.23	6,589.3	3,059.3	37.8	-160.6	50.7	0.00	32.18	-103.51		
6,700.0	7.88	283.23	6,688.3	3,158.3	40.9	-173.9	54.9	0.00	32.18	-103.51		
6,800.0	7.88	283.23	6,787.4	3,257.4	44.0	-187.2	59.1	0.00	32.18	-103.51		
6,900.0	7.88	283.23	6,886.4	3,356.4	47.2	-200.6	63.3	0.00	32.18	-103.51		
7,000.0	7.88	283.23	6,985.5	3,455.5	50.3	-213.9	67.5	0.00	32.18	-103.52		
7,100.0	7.88	283.23	7,084.5	3,554.5	53.4	-227.3	71.7	0.00	32.18	-103.52		
7,200.0	7.88	283.23	7,183.6	3,653.6	56.6	-240.6	75.9	0.00	32.18	-103.52		
7,300.0	7.88	283.23	7,282.7	3,752.7	59.7	-254.0	80.2	0.00	32.18	-103.52		
7,400.0	7.88	283.23	7,381.7	3,851.7	62.9	-267.3	84.4	0.00	32.18	-103.52		
7,500.0	7.88	283.23	7,480.8	3,950.8	66.0	-280.6	88.6	0.00	32.18	-103.52		
7,600.0	7.88	283.23	7,579.8	4,049.8	69.1	-294.0	92.8	0.00	32.18	-103.52		
7,700.0	7.88	283.23	7,678.9	4,148.9	72.3	-307.3	97.0	0.00	32.18	-103.52		
7,800.0	7.88	283.23	7,777.9	4,247.9	75.4	-320.7	101.2	0.00	32.18	-103.52		
7,900.0	7.88	283.23	7,877.0	4,347.0	78.5	-334.0	105.4	0.00	32.18	-103.52		



A Schlumberger Company

Pathfinder Pathfinder X&Y Report



Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Site:	Vanguard 30 State Com	MD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Latitude (°)	Longitude (°)
8,000.0	7.88	283.23	7,976.1	4,446.1	81.7	-347.4	109.6	0.00	32.18	-103.52
8,100.0	7.88	283.23	8,075.1	4,545.1	84.8	-360.7	113.9	0.00	32.18	-103.52
8,200.0	7.88	283.23	8,174.2	4,644.2	88.0	-374.0	118.1	0.00	32.18	-103.52
8,300.0	7.88	283.23	8,273.2	4,743.2	91.1	-387.4	122.3	0.00	32.18	-103.52
8,400.0	7.88	283.23	8,372.3	4,842.3	94.2	-400.7	126.5	0.00	32.18	-103.52
8,500.0	7.88	283.23	8,471.3	4,941.3	97.4	-414.1	130.7	0.00	32.18	-103.52
8,609.5	7.88	283.23	8,579.8	5,049.8	100.8	-428.7	135.3	0.00	32.18	-103.52
8,700.0	6.07	283.23	8,669.6	5,139.6	103.3	-439.4	138.7	2.00	32.18	-103.52
8,800.0	4.07	283.23	8,769.2	5,239.2	105.3	-448.0	141.4	2.00	32.18	-103.52
8,900.0	2.07	283.23	8,869.1	5,339.1	106.6	-453.2	143.0	2.00	32.18	-103.52
9,003.4	0.00	0.00	8,972.5	5,442.5	107.0	-455.0	143.6	2.00	32.18	-103.52
9,025.0	2.59	359.56	8,994.1	5,464.1	107.5	-455.0	144.1	12.00	32.18	-103.52
9,050.0	5.59	359.56	9,019.0	5,489.0	109.3	-455.0	145.9	12.00	32.18	-103.52
9,075.0	8.59	359.56	9,043.8	5,513.8	112.4	-455.0	149.0	12.00	32.18	-103.52
9,100.0	11.59	359.56	9,068.4	5,538.4	116.7	-455.1	153.3	12.00	32.18	-103.52
9,125.0	14.59	359.56	9,092.7	5,562.7	122.4	-455.1	159.0	12.00	32.18	-103.52
9,150.0	17.59	359.56	9,116.8	5,586.8	129.3	-455.2	165.9	12.00	32.18	-103.52
9,175.0	20.59	359.56	9,140.4	5,610.4	137.5	-455.2	174.0	12.00	32.18	-103.52
9,200.0	23.59	359.56	9,163.6	5,633.6	146.9	-455.3	183.4	12.00	32.18	-103.52
9,225.0	26.59	359.56	9,186.2	5,656.2	157.5	-455.4	194.0	12.00	32.18	-103.52
9,250.0	29.59	359.56	9,208.2	5,678.2	169.3	-455.5	205.7	12.00	32.18	-103.52
9,275.0	32.59	359.56	9,229.7	5,699.7	182.2	-455.6	218.6	12.00	32.18	-103.52
9,300.0	35.59	359.56	9,250.4	5,720.4	196.2	-455.7	232.6	12.00	32.18	-103.52
9,325.0	38.59	359.56	9,270.3	5,740.3	211.2	-455.8	247.6	12.00	32.18	-103.52
9,350.0	41.59	359.56	9,289.4	5,759.4	227.3	-455.9	263.6	12.00	32.18	-103.52
9,375.0	44.59	359.56	9,307.7	5,777.7	244.4	-456.0	280.7	12.00	32.18	-103.52
9,400.0	47.59	359.56	9,325.0	5,795.0	262.4	-456.2	298.6	12.00	32.18	-103.52



A Schlumberger Company

Pathfinder Pathfinder X&Y Report



Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Site:	Vanguard 30 State Com	MD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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)	Latitude (°)	Longitude (°)
9,425.0	50.59	359.56	9,341.4	5,811.4	281.3	-456.3	317.5	12.00	32.18	-103.52
9,450.0	53.59	359.56	9,356.7	5,826.7	301.0	-456.5	337.1	12.00	32.18	-103.52
9,475.0	56.59	359.56	9,371.1	5,841.1	321.5	-456.6	357.6	12.00	32.18	-103.52
9,500.0	59.59	359.56	9,384.3	5,854.3	342.8	-456.8	378.7	12.00	32.18	-103.52
9,525.0	62.59	359.56	9,396.4	5,866.4	364.6	-457.0	400.6	12.00	32.18	-103.52
9,550.0	65.59	359.56	9,407.3	5,877.3	387.1	-457.1	423.0	12.00	32.18	-103.52
9,575.0	68.59	359.56	9,417.0	5,887.0	410.1	-457.3	445.9	12.00	32.18	-103.52
9,600.0	71.59	359.56	9,425.5	5,895.5	433.6	-457.5	469.4	12.00	32.18	-103.52
9,625.0	74.59	359.56	9,432.8	5,902.8	457.6	-457.7	493.2	12.00	32.18	-103.52
9,650.0	77.59	359.56	9,438.8	5,908.8	481.8	-457.9	517.4	12.00	32.18	-103.52
9,675.0	80.59	359.56	9,443.5	5,913.5	506.4	-458.0	541.9	12.00	32.18	-103.52
9,700.0	83.59	359.56	9,447.0	5,917.0	531.1	-458.2	566.6	12.00	32.18	-103.52
9,725.0	86.59	359.56	9,449.1	5,919.1	556.0	-458.4	591.4	12.00	32.18	-103.52
9,750.0	89.59	359.56	9,450.0	5,920.0	581.0	-458.6	616.4	12.00	32.18	-103.52
9,753.4	90.00	359.56	9,450.0	5,920.0	584.4	-458.6	619.8	12.00	32.18	-103.52
9,800.0	90.00	359.56	9,450.0	5,920.0	631.0	-459.0	666.2	0.00	32.18	-103.52
9,900.0	90.00	359.56	9,450.0	5,920.0	731.0	-459.8	765.9	0.00	32.18	-103.52
10,000.0	90.00	359.56	9,450.0	5,920.0	831.0	-460.5	865.7	0.00	32.18	-103.52
10,100.0	90.00	359.56	9,450.0	5,920.0	931.0	-461.3	965.4	0.00	32.18	-103.52
10,200.0	90.00	359.56	9,450.0	5,920.0	1,031.0	-462.0	1,065.1	0.00	32.18	-103.52
10,300.0	90.00	359.56	9,450.0	5,920.0	1,131.0	-462.8	1,164.9	0.00	32.18	-103.52
10,400.0	90.00	359.56	9,450.0	5,920.0	1,231.0	-463.6	1,264.6	0.00	32.19	-103.52
10,500.0	90.00	359.56	9,450.0	5,920.0	1,331.0	-464.3	1,364.3	0.00	32.19	-103.52
10,600.0	90.00	359.56	9,450.0	5,920.0	1,431.0	-465.1	1,464.0	0.00	32.19	-103.52
10,700.0	90.00	359.56	9,450.0	5,920.0	1,531.0	-465.8	1,563.8	0.00	32.19	-103.52
10,800.0	90.00	359.56	9,450.0	5,920.0	1,631.0	-466.6	1,663.5	0.00	32.19	-103.52
10,900.0	90.00	359.56	9,450.0	5,920.0	1,731.0	-467.4	1,763.2	0.00	32.19	-103.52



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Pathfinder Pathfinder X&Y Report



Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Site:	Vanguard 30 State Com	MD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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)	Latitude (°)	Longitude (°)
11,000.0	90.00	359.56	9,450.0	5,920.0	1,831.0	-468.1	1,863.0	0.00	32.19	-103.52
11,100.0	90.00	359.56	9,450.0	5,920.0	1,931.0	-468.9	1,962.7	0.00	32.19	-103.52
11,200.0	90.00	359.56	9,450.0	5,920.0	2,031.0	-469.7	2,062.4	0.00	32.19	-103.52
11,300.0	90.00	359.56	9,450.0	5,920.0	2,131.0	-470.4	2,162.1	0.00	32.19	-103.52
11,400.0	90.00	359.56	9,450.0	5,920.0	2,231.0	-471.2	2,261.9	0.00	32.19	-103.52
11,500.0	90.00	359.56	9,450.0	5,920.0	2,331.0	-471.9	2,361.6	0.00	32.19	-103.52
11,600.0	90.00	359.56	9,450.0	5,920.0	2,431.0	-472.7	2,461.3	0.00	32.19	-103.52
11,700.0	90.00	359.56	9,450.0	5,920.0	2,531.0	-473.5	2,561.1	0.00	32.19	-103.52
11,800.0	90.00	359.56	9,450.0	5,920.0	2,631.0	-474.2	2,660.8	0.00	32.19	-103.52
11,900.0	90.00	359.56	9,450.0	5,920.0	2,730.9	-475.0	2,760.5	0.00	32.19	-103.52
12,000.0	90.00	359.56	9,450.0	5,920.0	2,830.9	-475.8	2,860.2	0.00	32.19	-103.52
12,100.0	90.00	359.56	9,450.0	5,920.0	2,930.9	-476.5	2,960.0	0.00	32.19	-103.52
12,200.0	90.00	359.56	9,450.0	5,920.0	3,030.9	-477.3	3,059.7	0.00	32.19	-103.52
12,300.0	90.00	359.56	9,450.0	5,920.0	3,130.9	-478.0	3,159.4	0.00	32.19	-103.52
12,400.0	90.00	359.56	9,450.0	5,920.0	3,230.9	-478.8	3,259.2	0.00	32.19	-103.52
12,500.0	90.00	359.56	9,450.0	5,920.0	3,330.9	-479.6	3,358.9	0.00	32.19	-103.52
12,600.0	90.00	359.56	9,450.0	5,920.0	3,430.9	-480.3	3,458.6	0.00	32.19	-103.52
12,700.0	90.00	359.56	9,450.0	5,920.0	3,530.9	-481.1	3,558.3	0.00	32.19	-103.52
12,800.0	90.00	359.56	9,450.0	5,920.0	3,630.9	-481.8	3,658.1	0.00	32.19	-103.52
12,900.0	90.00	359.56	9,450.0	5,920.0	3,730.9	-482.6	3,757.8	0.00	32.19	-103.52
13,000.0	90.00	359.56	9,450.0	5,920.0	3,830.9	-483.4	3,857.5	0.00	32.19	-103.52
13,100.0	90.00	359.56	9,450.0	5,920.0	3,930.9	-484.1	3,957.3	0.00	32.19	-103.52
13,200.0	90.00	359.56	9,450.0	5,920.0	4,030.9	-484.9	4,057.0	0.00	32.19	-103.52
13,300.0	90.00	359.56	9,450.0	5,920.0	4,130.9	-485.7	4,156.7	0.00	32.19	-103.52
13,400.0	90.00	359.56	9,450.0	5,920.0	4,230.9	-486.4	4,256.4	0.00	32.19	-103.52
13,500.0	90.00	359.56	9,450.0	5,920.0	4,330.9	-487.2	4,356.2	0.00	32.19	-103.52
13,600.0	90.00	359.56	9,450.0	5,920.0	4,430.9	-487.9	4,455.9	0.00	32.19	-103.52



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Pathfinder Pathfinder X&Y Report



Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Site:	Vanguard 30 State Com	MD Reference:	KB = 25' @ 3530.0usft (Cactus #139)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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)	Latitude (°)	Longitude (°)	
13,700.0	90.00	359.56	9,450.0	5,920.0	4,530.9	-488.7	4,555.6	0.00	32.19	-103.52	
13,800.0	90.00	359.56	9,450.0	5,920.0	4,630.9	-489.5	4,655.4	0.00	32.19	-103.52	
13,900.0	90.00	359.56	9,450.0	5,920.0	4,730.9	-490.2	4,755.1	0.00	32.19	-103.52	
14,000.0	90.00	359.56	9,450.0	5,920.0	4,830.9	-491.0	4,854.8	0.00	32.20	-103.52	
14,100.0	90.00	359.56	9,450.0	5,920.0	4,930.9	-491.8	4,954.5	0.00	32.20	-103.52	
14,200.0	90.00	359.56	9,450.0	5,920.0	5,030.9	-492.5	5,054.3	0.00	32.20	-103.52	
14,300.0	90.00	359.56	9,450.0	5,920.0	5,130.9	-493.3	5,154.0	0.00	32.20	-103.52	
14,400.0	90.00	359.56	9,450.0	5,920.0	5,230.9	-494.0	5,253.7	0.00	32.20	-103.52	
14,500.0	90.00	359.56	9,450.0	5,920.0	5,330.9	-494.8	5,353.4	0.00	32.20	-103.52	
14,600.0	90.00	359.56	9,450.0	5,920.0	5,430.9	-495.6	5,453.2	0.00	32.20	-103.52	
14,700.0	90.00	359.56	9,450.0	5,920.0	5,530.9	-496.3	5,552.9	0.00	32.20	-103.52	
14,800.0	90.00	359.56	9,450.0	5,920.0	5,630.9	-497.1	5,652.6	0.00	32.20	-103.52	
14,900.0	90.00	359.56	9,450.0	5,920.0	5,730.9	-497.8	5,752.4	0.00	32.20	-103.52	
15,000.0	90.00	359.56	9,450.0	5,920.0	5,830.9	-498.6	5,852.1	0.00	32.20	-103.52	
15,100.0	90.00	359.56	9,450.0	5,920.0	5,930.9	-499.4	5,951.8	0.00	32.20	-103.52	
15,200.0	90.00	359.56	9,450.0	5,920.0	6,030.9	-500.1	6,051.5	0.00	32.20	-103.52	
15,300.0	90.00	359.56	9,450.0	5,920.0	6,130.8	-500.9	6,151.3	0.00	32.20	-103.52	
15,314.2	90.00	359.56	9,450.0	5,920.0	6,145.0	-501.0	6,165.4	0.00	32.20	-103.52	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
5,100.0	5,100.0	Casing			

Checked By: _____ Approved By: _____ Date: _____