

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011
Permit 265187

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702		2. OGRID Number 7377
4. Property Code 325165		3. API Number 30-015-46274
5. Property Name QUAIL 2 STATE COM		6. Well No. 722H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
C	2	26S	30E		715	N	2147	W	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
O	2	26S	30E	C	230	S	2030	E	Eddy

9. Pool Information

PURPLE SAGE;WOLFCAMP (GAS)	98220
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Additional Well Information

11. Work Type New Well	12. Well Type GAS	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3211
16. Multiple N	17. Proposed Depth 16424	18. Formation Wolfcamp	19. Contractor	20. Spud Date 12/9/2019
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	40	1120	1100	0
Int1	8.75	7.625	29.7	10050	1600	0
Prod	6.75	5.5	17	16424	650	9550

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5000	3000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable. Signature:	OIL CONSERVATION DIVISION
Printed Name: Electronically filed by Kay Maddox	Approved By: Raymond Podany
Title: Regulatory Agent	Title: Geologist
Email Address: kay_maddox@eogresources.com	Approved Date: 9/16/2019 Expiration Date: 9/16/2021
Date: 9/13/2019 Phone: 432-686-3658	Conditions of Approval Attached

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GAS CAPTURE PLAN

Date: 9/16/2019

☒ Original

Operator & OGRID No.: [7377] EOG RESOURCES INC

☐ Amended - Reason for
Amendment:

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
QUAIL 2 STATE COM #722H	30-015-46274	C-2-26S-30E	0715N 2147W	30	None	CTB already connected to EOG low pressure gathering system. MMCF/D is +/- Gather: EOG Resources to Ross Draw Compressor Station

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to EOG RESOURCES INC and will be connected to EOG RESOURCES INC Low Pressure gathering system located in Eddy County, New Mexico. It will require 0' of pipeline to connect the facility to Low Pressure gathering system. EOG RESOURCES INC provides (periodically) to EOG RESOURCES INC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, EOG RESOURCES INC and EOG RESOURCES INC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at EOG RESOURCES INC Processing Plant located in Sec. 13, Twn. 24S, Rng. 33E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on EOG RESOURCES INC system at that time. Based on current information, it is EOG RESOURCES INC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Form APD Comments

Permit 265187

PERMIT COMMENTS

Operator Name and Address: EOG RESOURCES INC [7377] P.O. Box 2267 Midland, TX 79702		API Number: 30-015-46274
		Well: QUAIL 2 STATE COM #722H

Created By	Comment	Comment Date
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Form APD Conditions

Permit 265187

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: EOG RESOURCES INC [7377] P.O. Box 2267 Midland, TX 79702		API Number: 30-015-46274
		Well: QUAIL 2 STATE COM #722H
OCD Reviewer	Condition	
rpodany	Will require a directional survey with the C-104	
rpodany	Cement is required to circulate on both surface and intermediate1 strings of casing	

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐

Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

715' FNL
2,147' FWL
Section 2
T-26-S, R-30-E

Quail 2 State Com #722H
Eddy County, New Mexico

KB: 3,236'
GL: 3,211'

Proposed Wellbore
Design A

API: 30-025-*****

Bit Size: 12-1/4"

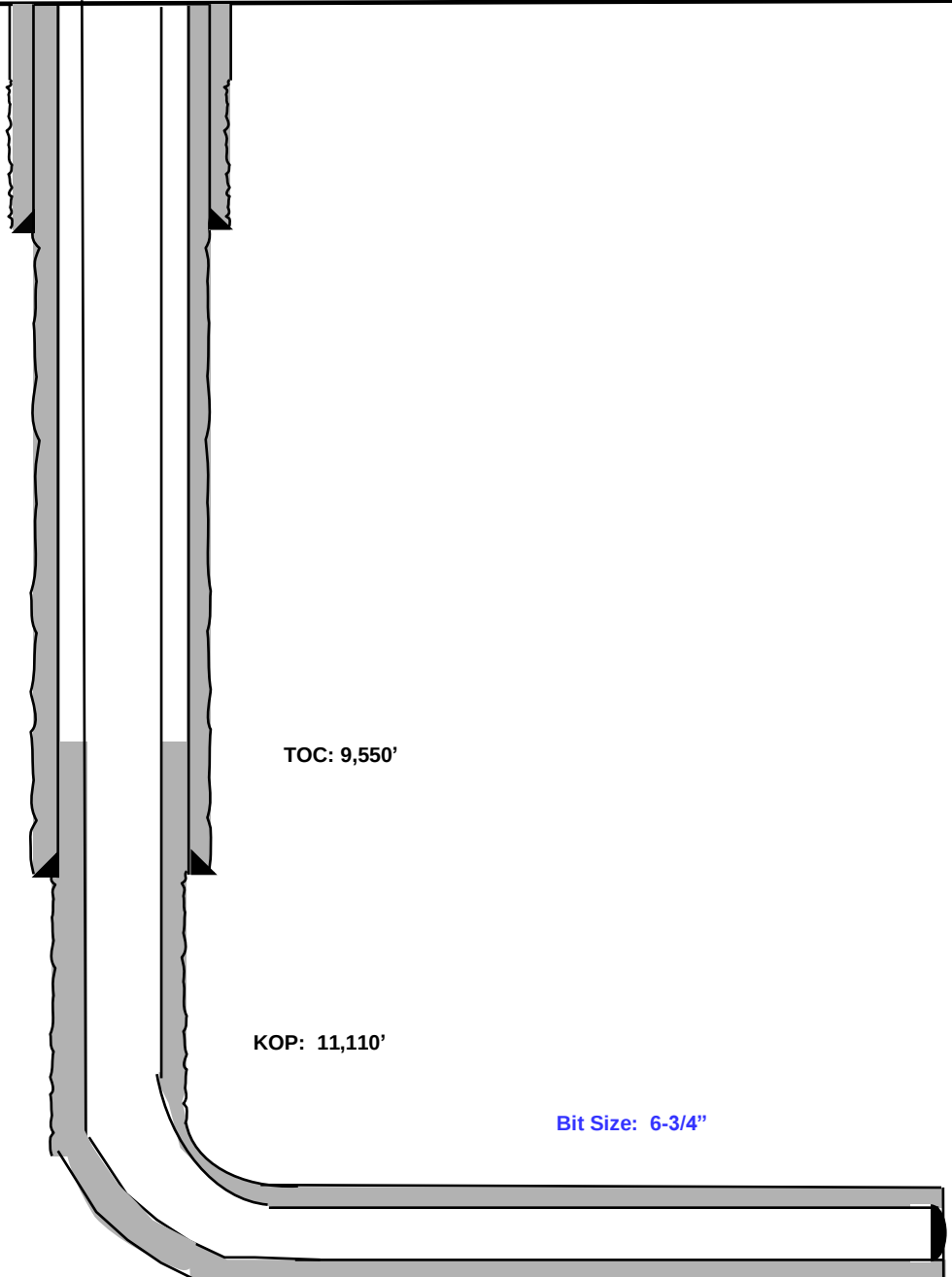
9-5/8", 40#, J-55, LTC 0' - 1,120'

Bit Size: 8-3/4"

7-5/8", 29.7#, HCP-110 , FXL @ 0' - 10,050'

Bit Size: 6-3/4"

5-1/2", 17#, HCP-110, LTC @ 0' - 16,424'



Lateral: 16,424' MD, 11,382' TVD
BH Location: 230' FSL & 2,030' FEL
Section 2
T-26-S, R-30-E

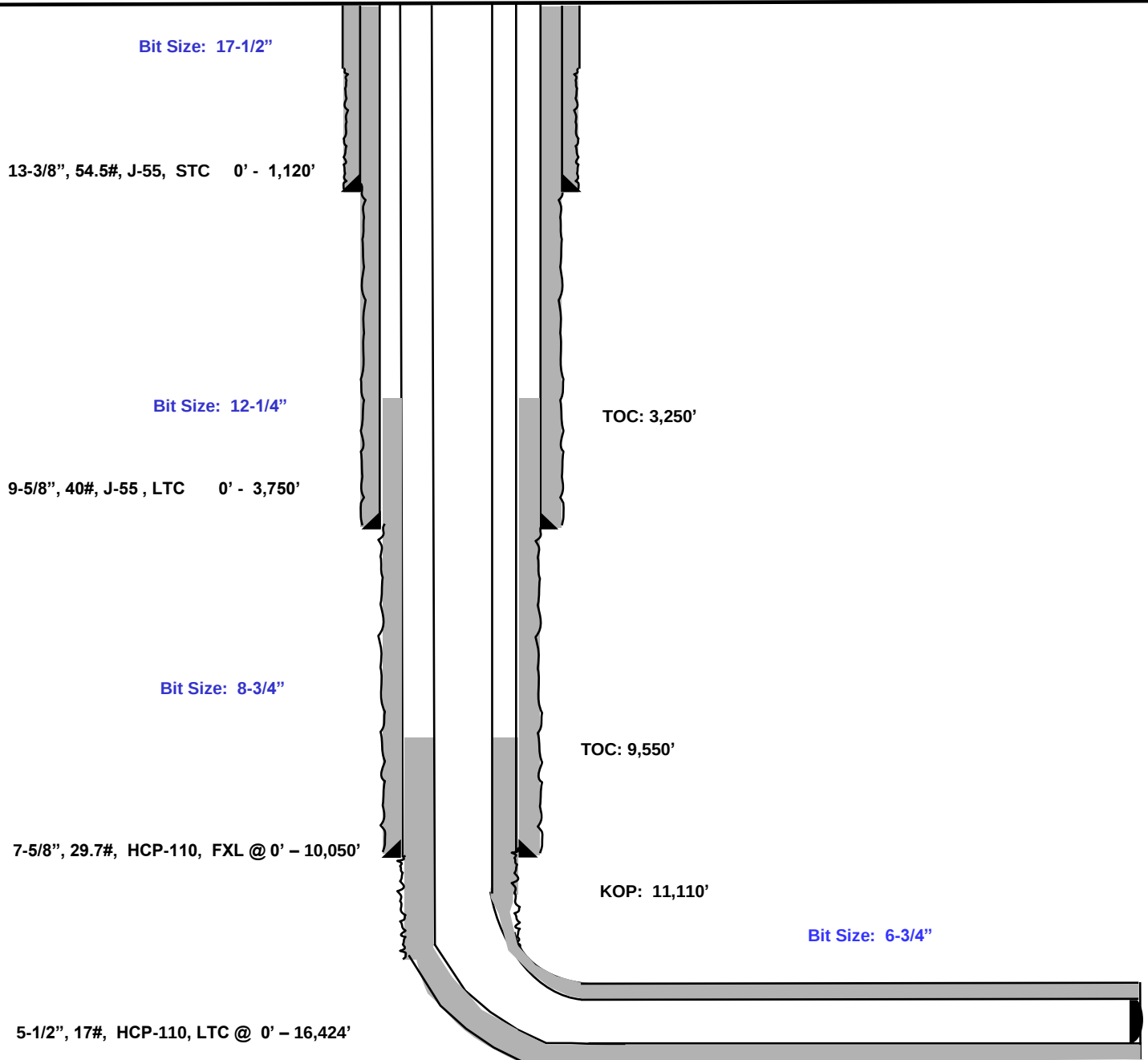
715' FNL
2,147' FWL
Section 2
T-26-S, R-30-E

EOG RESOURCES, INC.
Quail 2 State Com #722H

KB: 3,236'
GL: 3,211'

Proposed Wellbore
Design B

API: 30-025-*****



EOG RESOURCES, INC.
Quail 2 State Com #722H

Permit Information:

Well Name: Quail 2 State Com #722H

Location:

SHL: 715' FNL & 2,147' FWL, Section 2, T-26-S, R-30-E, Eddy Co., N.M.

BHL: 230' FSL & 2,030' FEL, Section 2, T-26-S, R-30-E, Eddy Co., N.M.

Design A

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
12.25"	0 – 1,120'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
8.75"	0' – 10,050'	7.625"	29.7#	HCP-110	FXL	1.125	1.25	1.60
6.75"	0'-16,424'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /sk	Slurry Description
1,120'	1,000	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)
	100	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
10,050'	500	14.2	1.11	1 st Stage (Tail): Class C + 5% Salt + (TOC @ 5,990')
	1,000	12.7	2.30	2 nd Stage (Bradenhead squeeze): Class C + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface)
16,424'	650	14.2	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 9,550')

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,120'	Fresh - Gel	8.6-8.8	28-34	N/c
1,120' – 10,050'	Brine	8.8-10.0	28-34	N/c
10,050' – 11,110'	Oil Base	10.0-11.5	58-68	3 - 6
11,110' – 16,424' Lateral	Oil Base	10.0-11.5	58-68	3 - 6

EOG RESOURCES, INC.
Quail 2 State Com #722H

Design B

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 – 1,120'	13.375"	54.5#	J-55	STC	1.125	1.25	1.60
12.25"	0 - 3,750'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
8.75"	0 – 10,050'	7.625"	29.7#	HCP-110	FXL	1.125	1.25	1.60
6.75"	0'-16,424'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /sk	Slurry Description
1,120'	700	13.5	1.74	Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl ₂ (TOC @ Surface)
	160	14.8	1.35	Tail: Class 'C' + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate + 2.0% KCl (1.06 lb/sk)
3,750'	660	12.7	2.22	Lead: Class C + 0.15% C-20 + 11.63 pps Salt + 0.1% C-51 + 0.75% C-41P (TOC @ Surface)
	250	14.8	1.32	Tail: Class C + 0.13% C-20
10,050'	250	10.8	3.67	Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 3,250')
	100	14.8	2.38	Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800
16,424'	650	14.8	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 9,550')

As a contingency, EOG requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (5,990') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of 1,000 sacks of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed.

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,120'	Fresh - Gel	8.6-8.8	28-34	N/c
1,120' – 3,750'	Brine	10.0-10.2	28-34	N/c
3,750' – 10,050'	Oil Base	8.7-9.4	58-68	N/c - 6
10,050' – 16,424' Lateral	Oil Base	10.0-11.5	58-68	3 - 6

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/Escapes packs — 4 packs shall be stored on the rig floor with 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.

EOG RESOURCES, INC.
Quail 2 State Com #722H

- **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:**
All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- **Communication:**
Communication will be via cell phones and land lines where available.

EOG RESOURCES, INC.
Quail 2 State Com #722H

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:

David Dominique	Cell (985) 518-5839
Mike Vann	Cell (817) 980-5507

Drilling Engineer

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

Drilling Manager

Aj Dach	Office (432) 686-3751
	Cell (817) 480-1167

Drilling Superintendent

Domingo Lopez	Office (432) 686-3702
	Cell (432) 215-9452

H&P Drilling

H&P Drilling	Office (432) 563-5757
H&P 651 Drilling Rig	Rig (903) 509-7131

Tool Pusher:

Johnathan Craig	Cell (817) 760-6374
Brad Garrett	

Safety

Brian Chandler (HSE Manager)	Office (432) 686-3695
	Cell (817) 239-0251



EOG Resources - Midland

Eddy County, NM (NAD 83 NME)

Quail 2 State Com

#722H

OH

Plan: Plan #0.1

Standard Planning Report

27 August, 2019

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #722H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3236.0usft
Project:	Eddy County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3236.0usft
Site:	Quail 2 State Com	North Reference:	Grid
Well:	#722H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

Project	Eddy 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		Quail 2 State Com			
Site Position:		Northing:	392,709.00 usft	Latitude:	32° 4' 43.295 N
From:	Map	Easting:	692,792.00 usft	Longitude:	103° 50' 39.610 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.26 °

Well	#722H					
Well Position	+N/-S	-538.0 usft	Northing:	392,171.00 usft	Latitude:	32° 4' 38.098 N
	+E/-W	-2,864.0 usft	Easting:	689,928.00 usft	Longitude:	103° 51' 12.926 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,211.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/27/2019	6.84	59.85	47,597.76967601

Design	Plan #0.1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	165.02

Plan Survey Tool Program	Date	8/27/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	16,424.2 Plan #0.1 (OH)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,155.0	19.10	59.43	2,137.4	80.2	135.8	2.00	2.00	0.00	59.43	
5,241.1	19.10	59.43	5,053.6	593.8	1,005.2	0.00	0.00	0.00	0.00	
6,196.1	0.00	0.00	5,991.0	674.0	1,141.0	2.00	-2.00	0.00	180.00	
11,109.6	0.00	0.00	10,904.5	674.0	1,141.0	0.00	0.00	0.00	0.00	KOP(Quail 2 State Cc
11,859.6	90.00	179.68	11,382.0	196.5	1,143.7	12.00	12.00	23.96	179.68	
16,424.2	90.00	179.68	11,382.0	-4,368.0	1,169.0	0.00	0.00	0.00	0.00	PBHL(Quail 2 State C

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #722H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3236.0usft
Project:	Eddy County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3236.0usft
Site:	Quail 2 State Com	North Reference:	Grid
Well:	#722H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	2.00	59.43	1,300.0	0.9	1.5	-0.5	2.00	2.00	0.00
1,400.0	4.00	59.43	1,399.8	3.5	6.0	-1.9	2.00	2.00	0.00
1,500.0	6.00	59.43	1,499.5	8.0	13.5	-4.2	2.00	2.00	0.00
1,600.0	8.00	59.43	1,598.7	14.2	24.0	-7.5	2.00	2.00	0.00
1,700.0	10.00	59.43	1,697.5	22.1	37.5	-11.7	2.00	2.00	0.00
1,800.0	12.00	59.43	1,795.6	31.8	53.9	-16.8	2.00	2.00	0.00
1,900.0	14.00	59.43	1,893.1	43.3	73.3	-22.9	2.00	2.00	0.00
2,000.0	16.00	59.43	1,989.6	56.4	95.6	-29.8	2.00	2.00	0.00
2,100.0	18.00	59.43	2,085.3	71.3	120.7	-37.7	2.00	2.00	0.00
2,155.0	19.10	59.43	2,137.4	80.2	135.8	-42.4	2.00	2.00	0.00
2,200.0	19.10	59.43	2,179.9	87.7	148.5	-46.3	0.00	0.00	0.00
2,300.0	19.10	59.43	2,274.4	104.3	176.6	-55.1	0.00	0.00	0.00
2,400.0	19.10	59.43	2,368.9	121.0	204.8	-63.9	0.00	0.00	0.00
2,500.0	19.10	59.43	2,463.4	137.6	233.0	-72.7	0.00	0.00	0.00
2,600.0	19.10	59.43	2,557.9	154.3	261.2	-81.5	0.00	0.00	0.00
2,700.0	19.10	59.43	2,652.4	170.9	289.3	-90.3	0.00	0.00	0.00
2,800.0	19.10	59.43	2,746.9	187.6	317.5	-99.1	0.00	0.00	0.00
2,900.0	19.10	59.43	2,841.4	204.2	345.7	-107.9	0.00	0.00	0.00
3,000.0	19.10	59.43	2,935.9	220.8	373.8	-116.7	0.00	0.00	0.00
3,100.0	19.10	59.43	3,030.4	237.5	402.0	-125.5	0.00	0.00	0.00
3,200.0	19.10	59.43	3,124.9	254.1	430.2	-134.3	0.00	0.00	0.00
3,300.0	19.10	59.43	3,219.4	270.8	458.4	-143.1	0.00	0.00	0.00
3,400.0	19.10	59.43	3,313.9	287.4	486.5	-151.8	0.00	0.00	0.00
3,500.0	19.10	59.43	3,408.4	304.0	514.7	-160.6	0.00	0.00	0.00
3,600.0	19.10	59.43	3,502.9	320.7	542.9	-169.4	0.00	0.00	0.00
3,700.0	19.10	59.43	3,597.4	337.3	571.1	-178.2	0.00	0.00	0.00
3,800.0	19.10	59.43	3,691.9	354.0	599.2	-187.0	0.00	0.00	0.00
3,900.0	19.10	59.43	3,786.4	370.6	627.4	-195.8	0.00	0.00	0.00
4,000.0	19.10	59.43	3,880.8	387.3	655.6	-204.6	0.00	0.00	0.00
4,100.0	19.10	59.43	3,975.3	403.9	683.7	-213.4	0.00	0.00	0.00
4,200.0	19.10	59.43	4,069.8	420.5	711.9	-222.2	0.00	0.00	0.00
4,300.0	19.10	59.43	4,164.3	437.2	740.1	-231.0	0.00	0.00	0.00
4,400.0	19.10	59.43	4,258.8	453.8	768.3	-239.8	0.00	0.00	0.00
4,500.0	19.10	59.43	4,353.3	470.5	796.4	-248.6	0.00	0.00	0.00
4,600.0	19.10	59.43	4,447.8	487.1	824.6	-257.4	0.00	0.00	0.00
4,700.0	19.10	59.43	4,542.3	503.7	852.8	-266.2	0.00	0.00	0.00
4,800.0	19.10	59.43	4,636.8	520.4	881.0	-274.9	0.00	0.00	0.00
4,900.0	19.10	59.43	4,731.3	537.0	909.1	-283.7	0.00	0.00	0.00
5,000.0	19.10	59.43	4,825.8	553.7	937.3	-292.5	0.00	0.00	0.00
5,100.0	19.10	59.43	4,920.3	570.3	965.5	-301.3	0.00	0.00	0.00
5,200.0	19.10	59.43	5,014.8	587.0	993.6	-310.1	0.00	0.00	0.00

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #722H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3236.0usft
Project:	Eddy County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3236.0usft
Site:	Quail 2 State Com	North Reference:	Grid
Well:	#722H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,241.1	19.10	59.43	5,053.6	593.8	1,005.2	-313.7	0.00	0.00	0.00	
5,300.0	17.92	59.43	5,109.5	603.3	1,021.3	-318.8	2.00	-2.00	0.00	
5,400.0	15.92	59.43	5,205.1	618.1	1,046.4	-326.6	2.00	-2.00	0.00	
5,500.0	13.92	59.43	5,301.8	631.2	1,068.6	-333.5	2.00	-2.00	0.00	
5,600.0	11.92	59.43	5,399.2	642.6	1,087.8	-339.5	2.00	-2.00	0.00	
5,700.0	9.92	59.43	5,497.4	652.2	1,104.1	-344.6	2.00	-2.00	0.00	
5,800.0	7.92	59.43	5,596.2	660.1	1,117.5	-348.8	2.00	-2.00	0.00	
5,900.0	5.92	59.43	5,695.5	666.2	1,127.8	-352.0	2.00	-2.00	0.00	
6,000.0	3.92	59.43	5,795.1	670.6	1,135.2	-354.3	2.00	-2.00	0.00	
6,100.0	1.92	59.43	5,895.0	673.2	1,139.6	-355.7	2.00	-2.00	0.00	
6,196.1	0.00	0.00	5,991.0	674.0	1,141.0	-356.1	2.00	-2.00	0.00	
6,200.0	0.00	0.00	5,994.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,094.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,194.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,294.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,394.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,494.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,594.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,694.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,794.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,894.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,200.0	0.00	0.00	6,994.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,094.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,194.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,294.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,394.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,494.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,594.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,694.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,794.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,894.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,200.0	0.00	0.00	7,994.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,094.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,194.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,294.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,394.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,494.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,594.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,694.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,794.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,100.0	0.00	0.00	8,894.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,200.0	0.00	0.00	8,994.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,094.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,194.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,294.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,394.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,494.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,594.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,694.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,794.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
10,100.0	0.00	0.00	9,894.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
10,200.0	0.00	0.00	9,994.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,094.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,194.9	674.0	1,141.0	-356.1	0.00	0.00	0.00	

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #722H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3236.0usft
Project:	Eddy County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3236.0usft
Site:	Quail 2 State Com	North Reference:	Grid
Well:	#722H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,500.0	0.00	0.00	10,294.9	674.0	1,141.0	-356.1	0.00	0.00	0.00
10,600.0	0.00	0.00	10,394.9	674.0	1,141.0	-356.1	0.00	0.00	0.00
10,700.0	0.00	0.00	10,494.9	674.0	1,141.0	-356.1	0.00	0.00	0.00
10,800.0	0.00	0.00	10,594.9	674.0	1,141.0	-356.1	0.00	0.00	0.00
10,900.0	0.00	0.00	10,694.9	674.0	1,141.0	-356.1	0.00	0.00	0.00
11,000.0	0.00	0.00	10,794.9	674.0	1,141.0	-356.1	0.00	0.00	0.00
11,109.6	0.00	0.00	10,904.5	674.0	1,141.0	-356.1	0.00	0.00	0.00
KOP(Quail 2 State Com #722H)									
11,125.0	1.85	179.68	10,919.9	673.8	1,141.0	-355.9	12.00	12.00	0.00
11,150.0	4.85	179.68	10,944.9	672.3	1,141.0	-354.4	12.00	12.00	0.00
11,175.0	7.85	179.68	10,969.7	669.5	1,141.0	-351.8	12.00	12.00	0.00
11,200.0	10.85	179.68	10,994.4	665.5	1,141.0	-347.8	12.00	12.00	0.00
11,225.0	13.85	179.68	11,018.8	660.1	1,141.1	-342.7	12.00	12.00	0.00
11,250.0	16.85	179.68	11,042.9	653.5	1,141.1	-336.3	12.00	12.00	0.00
11,275.0	19.85	179.68	11,066.6	645.6	1,141.2	-328.7	12.00	12.00	0.00
11,300.0	22.85	179.68	11,089.9	636.5	1,141.2	-319.8	12.00	12.00	0.00
11,325.0	25.85	179.68	11,112.7	626.2	1,141.3	-309.9	12.00	12.00	0.00
11,350.0	28.85	179.68	11,134.9	614.7	1,141.3	-298.8	12.00	12.00	0.00
11,375.0	31.85	179.68	11,156.5	602.1	1,141.4	-286.5	12.00	12.00	0.00
11,400.0	34.85	179.68	11,177.4	588.4	1,141.5	-273.2	12.00	12.00	0.00
11,425.0	37.85	179.68	11,197.5	573.5	1,141.6	-258.9	12.00	12.00	0.00
11,450.0	40.85	179.68	11,216.8	557.7	1,141.6	-243.6	12.00	12.00	0.00
11,475.0	43.85	179.68	11,235.3	540.8	1,141.7	-227.3	12.00	12.00	0.00
11,500.0	46.85	179.68	11,252.9	523.1	1,141.8	-210.1	12.00	12.00	0.00
11,525.0	49.85	179.68	11,269.5	504.4	1,141.9	-192.0	12.00	12.00	0.00
11,550.0	52.85	179.68	11,285.1	484.9	1,142.1	-173.1	12.00	12.00	0.00
11,575.0	55.85	179.68	11,299.6	464.5	1,142.2	-153.5	12.00	12.00	0.00
11,600.0	58.85	179.68	11,313.1	443.5	1,142.3	-133.1	12.00	12.00	0.00
11,625.0	61.85	179.68	11,325.5	421.8	1,142.4	-112.1	12.00	12.00	0.00
11,650.0	64.85	179.68	11,336.7	399.4	1,142.5	-90.5	12.00	12.00	0.00
11,673.1	67.63	179.68	11,346.0	378.3	1,142.6	-70.0	12.00	12.00	0.00
FTP(Quail 2 State Com #722H)									
11,675.0	67.85	179.68	11,346.7	376.5	1,142.7	-68.3	12.00	12.00	0.00
11,700.0	70.85	179.68	11,355.6	353.1	1,142.8	-45.7	12.00	12.00	0.00
11,725.0	73.85	179.68	11,363.1	329.3	1,142.9	-22.7	12.00	12.00	0.00
11,750.0	76.85	179.68	11,369.4	305.1	1,143.0	0.7	12.00	12.00	0.00
11,775.0	79.85	179.68	11,374.5	280.7	1,143.2	24.4	12.00	12.00	0.00
11,800.0	82.85	179.68	11,378.3	255.9	1,143.3	48.3	12.00	12.00	0.00
11,825.0	85.85	179.68	11,380.7	231.1	1,143.5	72.4	12.00	12.00	0.00
11,850.0	88.85	179.68	11,381.9	206.1	1,143.6	96.6	12.00	12.00	0.00
11,859.6	90.00	179.68	11,382.0	196.5	1,143.7	105.8	12.00	12.00	0.00
11,900.0	90.00	179.68	11,382.0	156.1	1,143.9	144.9	0.00	0.00	0.00
12,000.0	90.00	179.68	11,382.0	56.1	1,144.4	241.7	0.00	0.00	0.00
12,100.0	90.00	179.68	11,382.0	-43.9	1,145.0	338.4	0.00	0.00	0.00
12,200.0	90.00	179.68	11,382.0	-143.9	1,145.5	435.2	0.00	0.00	0.00
12,300.0	90.00	179.68	11,382.0	-243.9	1,146.1	531.9	0.00	0.00	0.00
12,400.0	90.00	179.68	11,382.0	-343.9	1,146.7	628.6	0.00	0.00	0.00
12,500.0	90.00	179.68	11,382.0	-443.9	1,147.2	725.4	0.00	0.00	0.00
12,600.0	90.00	179.68	11,382.0	-543.9	1,147.8	822.1	0.00	0.00	0.00
12,700.0	90.00	179.68	11,382.0	-643.9	1,148.3	918.9	0.00	0.00	0.00
12,800.0	90.00	179.68	11,382.0	-743.9	1,148.9	1,015.6	0.00	0.00	0.00
12,900.0	90.00	179.68	11,382.0	-843.9	1,149.4	1,112.4	0.00	0.00	0.00
13,000.0	90.00	179.68	11,382.0	-943.9	1,150.0	1,209.1	0.00	0.00	0.00
13,100.0	90.00	179.68	11,382.0	-1,043.9	1,150.5	1,305.8	0.00	0.00	0.00

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #722H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3236.0usft
Project:	Eddy County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3236.0usft
Site:	Quail 2 State Com	North Reference:	Grid
Well:	#722H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,200.0	90.00	179.68	11,382.0	-1,143.9	1,151.1	1,402.6	0.00	0.00	0.00
13,300.0	90.00	179.68	11,382.0	-1,243.9	1,151.7	1,499.3	0.00	0.00	0.00
13,400.0	90.00	179.68	11,382.0	-1,343.9	1,152.2	1,596.1	0.00	0.00	0.00
13,500.0	90.00	179.68	11,382.0	-1,443.9	1,152.8	1,692.8	0.00	0.00	0.00
13,600.0	90.00	179.68	11,382.0	-1,543.9	1,153.3	1,789.6	0.00	0.00	0.00
13,700.0	90.00	179.68	11,382.0	-1,643.9	1,153.9	1,886.3	0.00	0.00	0.00
13,800.0	90.00	179.68	11,382.0	-1,743.9	1,154.4	1,983.0	0.00	0.00	0.00
13,900.0	90.00	179.68	11,382.0	-1,843.9	1,155.0	2,079.8	0.00	0.00	0.00
14,000.0	90.00	179.68	11,382.0	-1,943.9	1,155.5	2,176.5	0.00	0.00	0.00
14,100.0	90.00	179.68	11,382.0	-2,043.9	1,156.1	2,273.3	0.00	0.00	0.00
14,200.0	90.00	179.68	11,382.0	-2,143.9	1,156.6	2,370.0	0.00	0.00	0.00
14,300.0	90.00	179.68	11,382.0	-2,243.9	1,157.2	2,466.7	0.00	0.00	0.00
14,400.0	90.00	179.68	11,382.0	-2,343.9	1,157.8	2,563.5	0.00	0.00	0.00
14,500.0	90.00	179.68	11,382.0	-2,443.9	1,158.3	2,660.2	0.00	0.00	0.00
14,600.0	90.00	179.68	11,382.0	-2,543.9	1,158.9	2,757.0	0.00	0.00	0.00
14,700.0	90.00	179.68	11,382.0	-2,643.9	1,159.4	2,853.7	0.00	0.00	0.00
14,800.0	90.00	179.68	11,382.0	-2,743.9	1,160.0	2,950.5	0.00	0.00	0.00
14,900.0	90.00	179.68	11,382.0	-2,843.9	1,160.5	3,047.2	0.00	0.00	0.00
15,000.0	90.00	179.68	11,382.0	-2,943.8	1,161.1	3,143.9	0.00	0.00	0.00
15,100.0	90.00	179.68	11,382.0	-3,043.8	1,161.6	3,240.7	0.00	0.00	0.00
15,200.0	90.00	179.68	11,382.0	-3,143.8	1,162.2	3,337.4	0.00	0.00	0.00
15,300.0	90.00	179.68	11,382.0	-3,243.8	1,162.8	3,434.2	0.00	0.00	0.00
15,400.0	90.00	179.68	11,382.0	-3,343.8	1,163.3	3,530.9	0.00	0.00	0.00
15,500.0	90.00	179.68	11,382.0	-3,443.8	1,163.9	3,627.7	0.00	0.00	0.00
15,600.0	90.00	179.68	11,382.0	-3,543.8	1,164.4	3,724.4	0.00	0.00	0.00
15,700.0	90.00	179.68	11,382.0	-3,643.8	1,165.0	3,821.1	0.00	0.00	0.00
15,800.0	90.00	179.68	11,382.0	-3,743.8	1,165.5	3,917.9	0.00	0.00	0.00
15,900.0	90.00	179.68	11,382.0	-3,843.8	1,166.1	4,014.6	0.00	0.00	0.00
16,000.0	90.00	179.68	11,382.0	-3,943.8	1,166.6	4,111.4	0.00	0.00	0.00
16,100.0	90.00	179.68	11,382.0	-4,043.8	1,167.2	4,208.1	0.00	0.00	0.00
16,200.0	90.00	179.68	11,382.0	-4,143.8	1,167.8	4,304.9	0.00	0.00	0.00
16,300.0	90.00	179.68	11,382.0	-4,243.8	1,168.3	4,401.6	0.00	0.00	0.00
16,400.0	90.00	179.68	11,382.0	-4,343.8	1,168.9	4,498.3	0.00	0.00	0.00
16,424.2	90.00	179.68	11,382.0	-4,368.0	1,169.0	4,521.7	0.00	0.00	0.00

PBHL(Quail 2 State Com #722H)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP(Quail 2 State Com - plan hits target center - Point	0.00	0.00	10,904.5	674.0	1,141.0	392,845.00	691,069.00	32° 4' 44.718 N	103° 50' 59.629 W
FTP(Quail 2 State Com ; - plan misses target center by 39.3usft at 11673.1usft MD (11346.0 TVD, 378.3 N, 1142.6 E) - Point	0.00	0.00	11,382.0	394.0	1,141.0	392,565.00	691,069.00	32° 4' 41.947 N	103° 50' 59.644 W
PBHL(Quail 2 State Com - plan hits target center - Point	0.00	0.00	11,382.0	-4,368.0	1,169.0	387,803.00	691,097.00	32° 3' 54.821 N	103° 50' 59.566 W

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #722H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3236.0usft
Project:	Eddy County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3236.0usft
Site:	Quail 2 State Com	North Reference:	Grid
Well:	#722H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		