

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM123534

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
PEREGRINE 27 FED COM 311H9. API Well No.
30-025-45939-00-X110. Field and Pool or Exploratory Area
ANTELOPE RIDGE-WOLFCAMP11. County or Parish, State
LEA COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

EOG RESOURCES INCORPORATED

Contact: EMILY FOLLIS

E-Mail: emily_follis@eogresources.com

3a. Address

PO BOX 2267
MIDLAND, TX 79702

3b. Phone No. (include area code)

Ph: 432-636-3600

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 27 T24S R34E SWSW 810FSL 513FWL
32.183506 N Lat, 103.464699 W Lon

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice

TYPE OF ACTION

☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Hydraulic Fracturing☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other
Change to Original APD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

EOG respectfully requests an amendment to our approved APD for this well to reflect the following changes:

Well number change from 701H to 311H

Target depth change from 12,407? (Wolfcamp) to 10,254? (1st Bone Spring Sand)

BHL change from Sec. 27 T-24-S R-34-E 100? FNL 330? FWL (north of SHL) to Sec. 3 T-25-S R-34-E

2533? FNL 585? FWL (south of SHL)

Change HSU to reflect longer lateral from 160 acres to 320 acres

Changes in casing and cement programs to reflect shallower target

SEE ATTACHED FOR
CONDITIONS OF APPROVALCarlsbad Field Office
OCD Hobbs

All Previous COAs Still Exist, Except For the Following:

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #472427 verified by the BLM Well Information System

For EOG RESOURCES INCORPORATED, sent to the Hobbs

Committed to AFMSS for processing by PRISCILLA PEREZ on 07/08/2019 (19PP2450SE)

Name (Printed/Typed) BEN HOCHER

Title REGULATORY ASSOC.

Signature (Electronic Submission)

Date 07/08/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JEREMY PORTER

Title PETROLEUM ENGINEER

Date 07/10/2019

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Hobbs

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

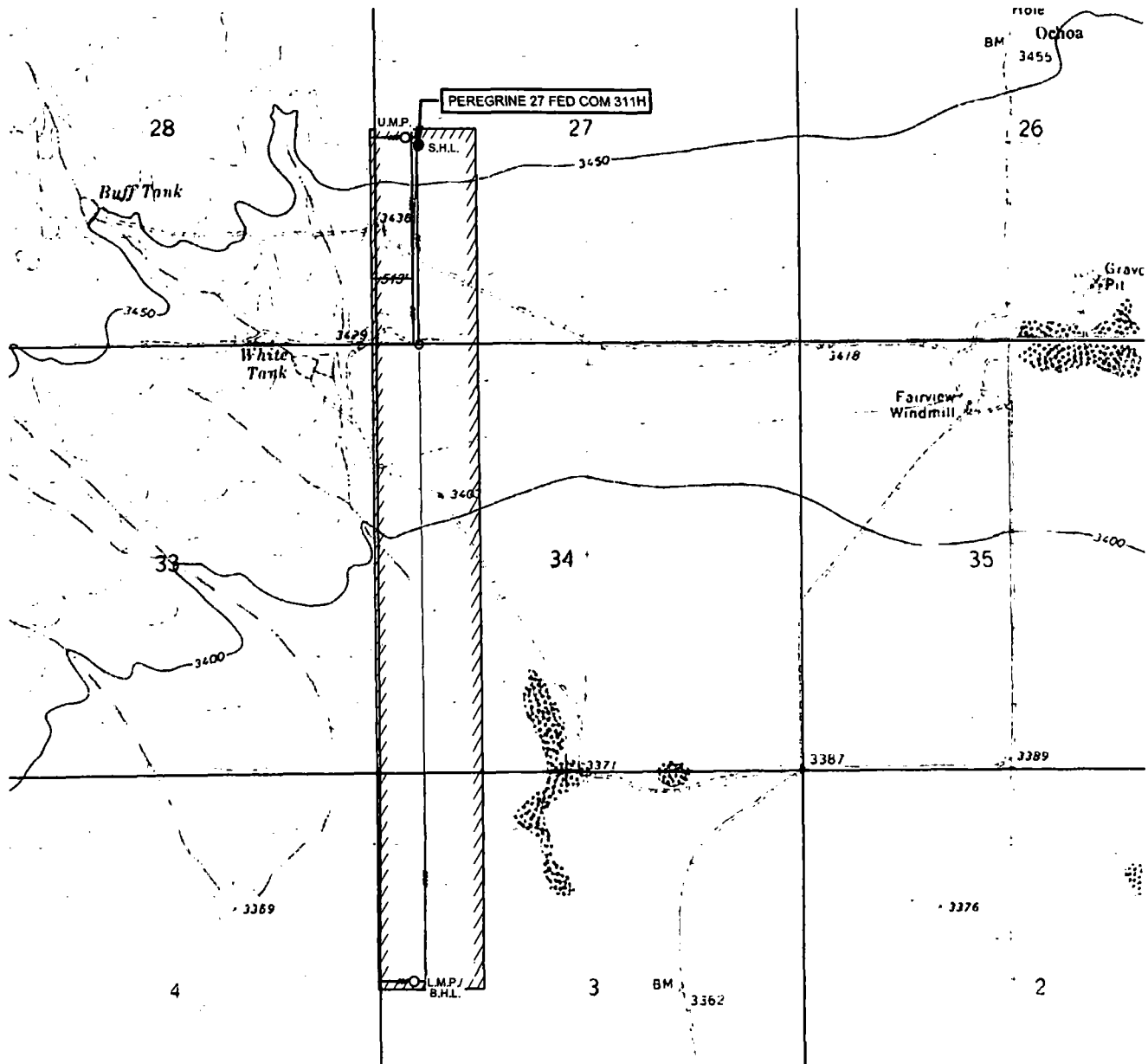
(Instructions on page 2)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Revisions to Operator-Submitted EC Data for Sundry Notice #472427

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	DRG NOI	APDCH NOI
Lease:	NMNM123534	NMNM123534
Agreement:		
Operator:	EOG RESOURCES INC PO BOX 2267 MIDLAND, TX 79702 Ph: 432-636-3600	EOG RESOURCES INCORPORATED PO BOX 2267 MIDLAND, TX 79702 Ph: 432.686.3689
Admin Contact:	EMILY FOLLIS SR REGULATORY ADMINISTRATOR E-Mail: emily_follis@eogresources.com Ph: 432-636-3600	EMILY FOLLIS SR REGULATORY ADMINISTRATOR E-Mail: emily_follis@eogresources.com Ph: 432-636-3600
Tech Contact:	BEN HOCHER REGULATORY ASSOC. E-Mail: Ben_Hocher@eogresources.com Ph: 432-636-3600	BEN HOCHER REGULATORY ASSOC. E-Mail: Ben_Hocher@eogresources.com Ph: 432-636-3600
Location:		
State:	NM	NM
County:	LEA COUNTY	LEA
Field/Pool:	2220 ANTELOPE RIDGE WOLFC	ANTELOPE RIDGE-WOLFCAMP
Well/Facility:	PEREGRINE 27 FED COM 701H Sec 27 T24S R34E 810FSL 513FWL	PEREGRINE 27 FED COM 311H Sec 27 T24S R34E SWSW 810FSL 513FWL 32.183506 N Lat, 103.464699 W Lon

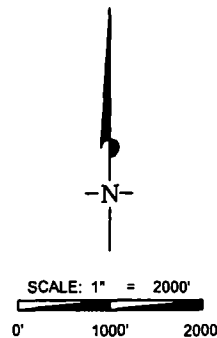
LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: PEREGRINE 27 FED COM 311H

SECTION 27 TWP 24-S RGE 34-E SURVEY N.M.P.M.
 COUNTY LEA STATE NM ELEVATION 3444
 DESCRIPTION 810' FSL & 513' FWL

LATITUDE N 32.1879859 LONGITUDE W 103.4644084



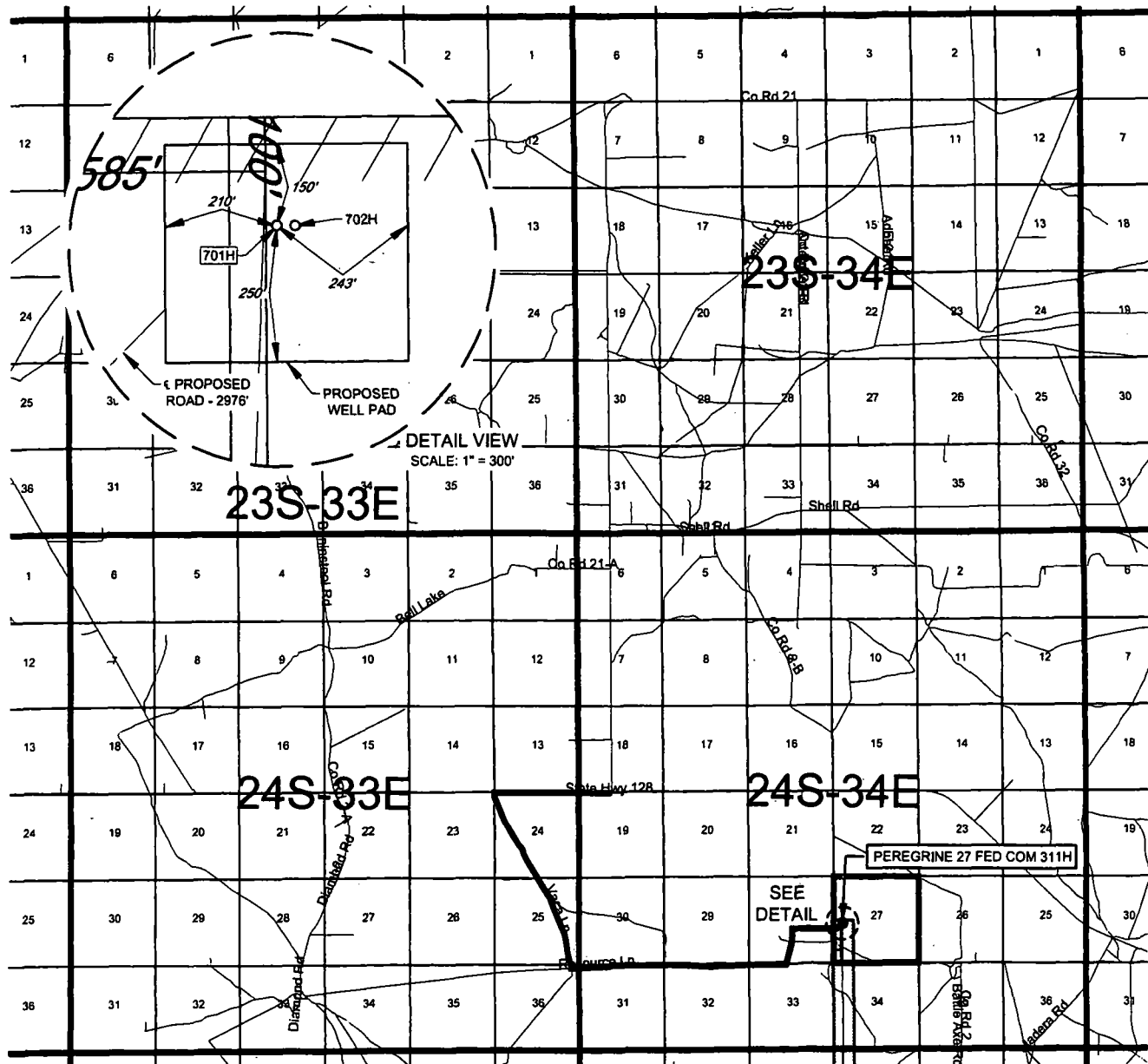
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

TOPOGRAPHIC
 LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
 TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
 2803 NORTH BIG SPRING • MIDLAND, TEXAS 79705
 TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
 WWW.TOPOGRAPHIC.COM

EXHIBIT 2 VICINITY MAP



LEASE NAME & WELL NO.: PEREGRINE 27 FED COM 311H

SECTION 27 TWP 24-S RGE 34-E SURVEY N.M.P.M.

COUNTY LEA STATE NM

DESCRIPTION 810' FSL & 513' FWL

DISTANCE & DIRECTION

FROM INT. OF NM-128. & BASIN RD. GO WEST ON NM-128 ±1.4 MILES.
THENCE SOUTH (LEFT) ON VACA LN. ±2.3 MILES, THENCE EAST (LEFT)
ON RESOURCE LN. ±2.4 MILES, THENCE NORTH (LEFT) ON A LEASE RD.
±0.5 MILES, THENCE EAST (RIGHT) ON A PROPOSED RD. ±2976 FEET TO
A POINT ±258 FEET SOUTHWEST OF THE LOCATION.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

SCALE: 1" = 10000'
 0' 5000' 10000'

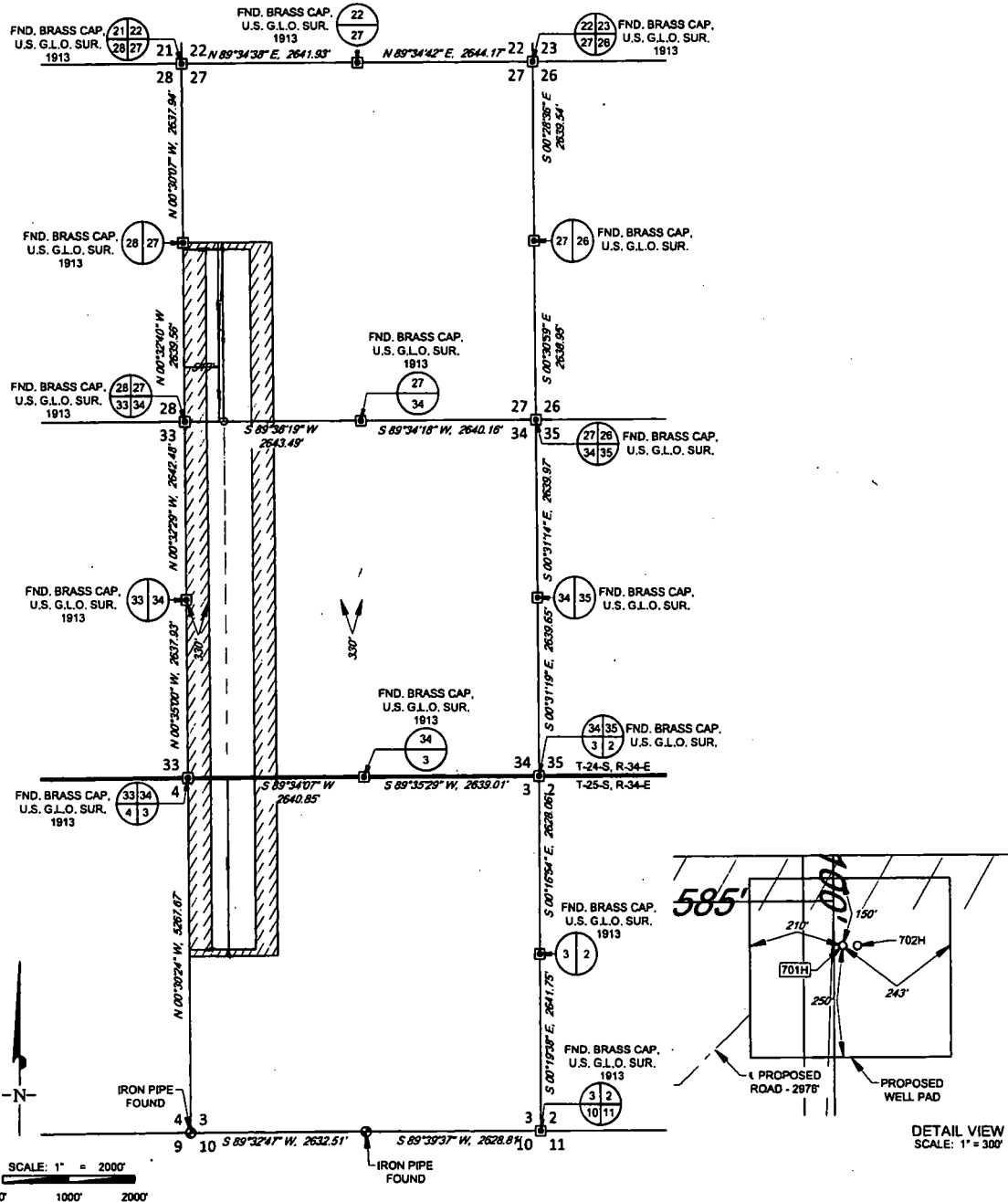


TOPOGRAPHIC
 LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 148 • FT. WORTH, TEXAS 76140
 TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
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EXHIBIT 2A

SECTION 27, TOWNSHIP 24-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: PEREGRINE 27 FED COM 311H

SECTION 27 TWP 24-S RGE 34-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 810' FSL & 513' FWL

DISTANCE & DIRECTION

FROM INT. OF NM-128 & BASIN RD. GO WEST ON NM-128 ±1.4 MILES.
THENCE SOUTH (LEFT) ON VACA LN. ±2.3 MILES. THENCE EAST (LEFT)
ON RESOURCE LN. ±2.4 MILES. THENCE NORTH (LEFT) ON A LEASE RD
±0.5 MILES. THENCE EAST (RIGHT) ON A PROPOSED RD. ±2976 FEET
TO A POINT ±258 FEET SOUTHWEST OF THE LOCATION.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID
BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY
FEET.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND
UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF
SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED
TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE.
THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

"PRELIMINARY, THIS DOCUMENT SHALL NOT
BE RECORDED FOR ANY PURPOSE."

Michael Blake Brown, P.S. No. 18329
MARCH 28, 2019



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

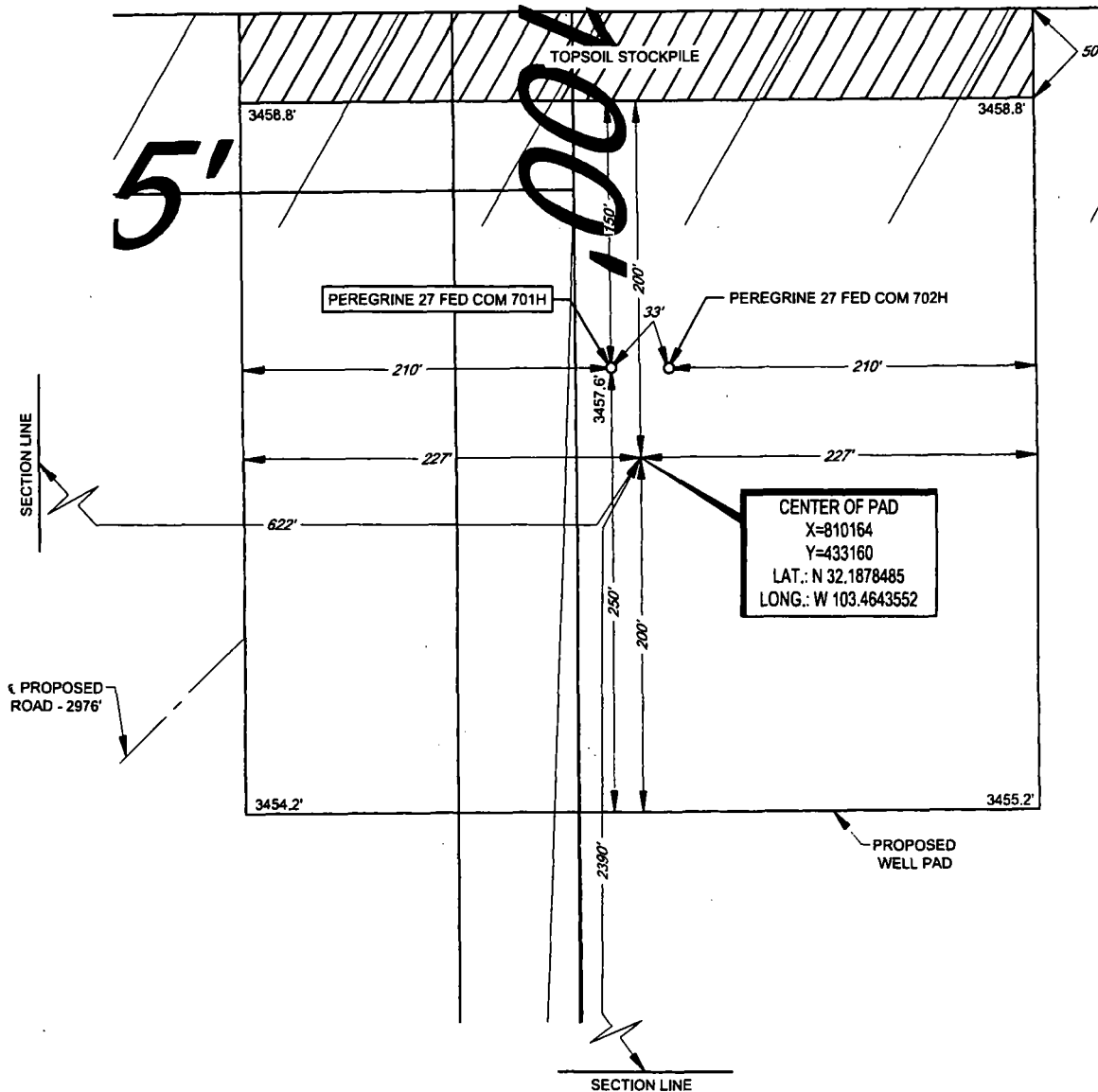
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2803 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1853 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

EXHIBIT 2B

EOG resources, Inc.

SECTION 27, TOWNSHIP 24-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: PEREGRINE 27 FED COM 311H
311H LATITUDE N 32.1879859 311H LONGITUDE W 103.4644084

LEGEND

SECTION LINE
PROPOSED ROAD

CENTER OF PAD IS 2390' FSL & 622' FWL

SCALE: 1" = 100'
0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED
UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER
MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY.
AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE
PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS
SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ORIGINAL DOCUMENT SIZE: 8.5" X 11"



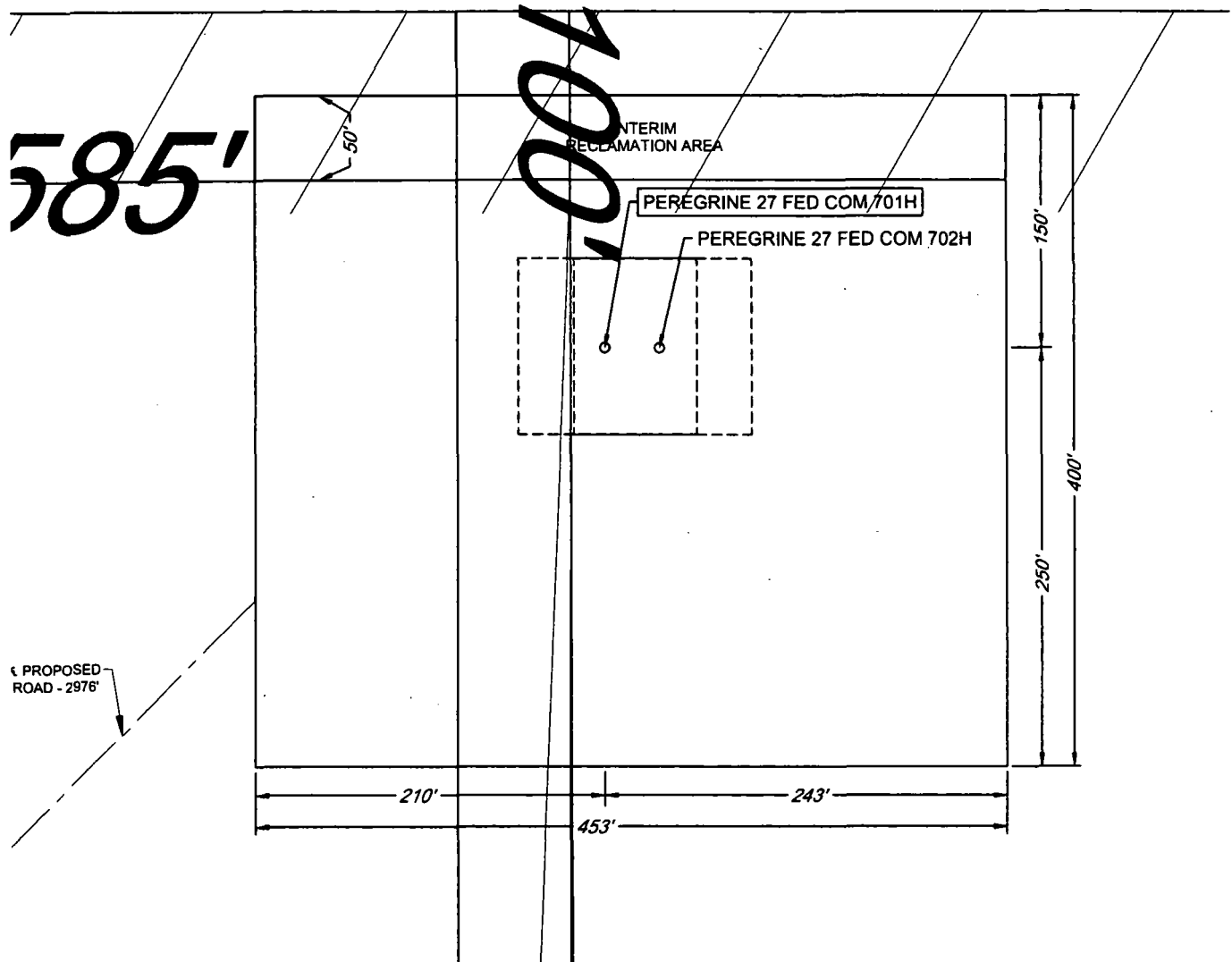
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

EXHIBIT 2C
RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 27, TOWNSHIP 24-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: PEREGRINE 27 FED COM 311H
311H LATITUDE N 32.1879859 311H LONGITUDE W 103.4644084

Geog resources, inc.[illegible]

311H LATITUDE N 32.1879859 311H LONGITUDE W 103.4644084

S:\SURVEY\EOG MIDLAND\PEREGRINE 27 FED COM\FINAL PRODUCTS\LO PEREGRINE 27 FED COM 311H C102.DWG 7/1/2019 4:13:25 PM rdominquez

Revised Permit Information 7/3/2019:

Well Name: Peregrine 27 Fed Com #311H

Location:

SHL: 810' FSL & 513' FWL, Section 27, T-24-S, R-34-E, Lea Co., N.M.

BHL: 2533' FNL & 585' FWL, Section 3, T-25-S, R-34-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' – 1,175'	13.375"	54.5#	J-55	STC	1.125	1.25	1.60
12.25"	0' – 4,000'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
12.25"	4,000' – 5,285'	9.625"	40#	HCL-80	LTC	1.125	1.25	1.60
8.75"	0' – 20,713'	5.5"	20#	HCP-110	LTC	1.125	1.25	1.60

Variance is requested to waive the centralizer requirements for the 9-5/8" FJ casing in the 12-1/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 12-1/4" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" FJ casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4" hole interval to maximize cement bond and zonal isolation.

Cementing Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /sk	Slurry Description
1,175'	710	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	160	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 975')
5,285'	530	9.0	3.5	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface)
	360	14.4	1.20	Tail: Class C + 10% NaCl + 3% MagOx (TOC @ 4,230')
20,713'	550	11.0	3.21	Lead: Class C + 3% CaCl ₂ + 3% Microbond (TOC @ 4,785')
	2,760	14.4	1.2	Tail: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 10,254')

Additive	Purpose
Bentonite Gel	Lightweight/Lost circulation prevention
Calcium Chloride	Accelerator
Cello-flake	Lost circulation prevention
Sodium Metasilicate	Accelerator
MagOx	Expansive agent
Sodium Chloride	Accelerator
FL-62	Fluid loss control
Halad-344	Fluid loss control
Halad-9	Fluid loss control
HR-601	Retarder
Microbond	Expansive Agent

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,175'	Fresh - Gel	8.6-8.8	28-34	N/c
1,175' – 5,285'	Brine	8.6-8.8	28-34	N/c
5,285' – 20,713'	Oil Base	8.8-9.0	58-68	N/c - 6

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

810' FSL
513' FWL
Section 27
T-24-S, R-34-E

Proposed Wellbore
Revised 7/3/2019
API: 30-025-45939

KB: 3,469'
GL: 3,444'

Bit Size: 17-1/2"

13-3/8", 54.5#, J-55, STC 0' - 1,175'

Bit Size: 12-1/4"

9-5/8", 40#, J-55, LTC @ 0' - 4,000'
9-5/8", 40#, HCL-80, LTC @ 4,000' - 5,285'

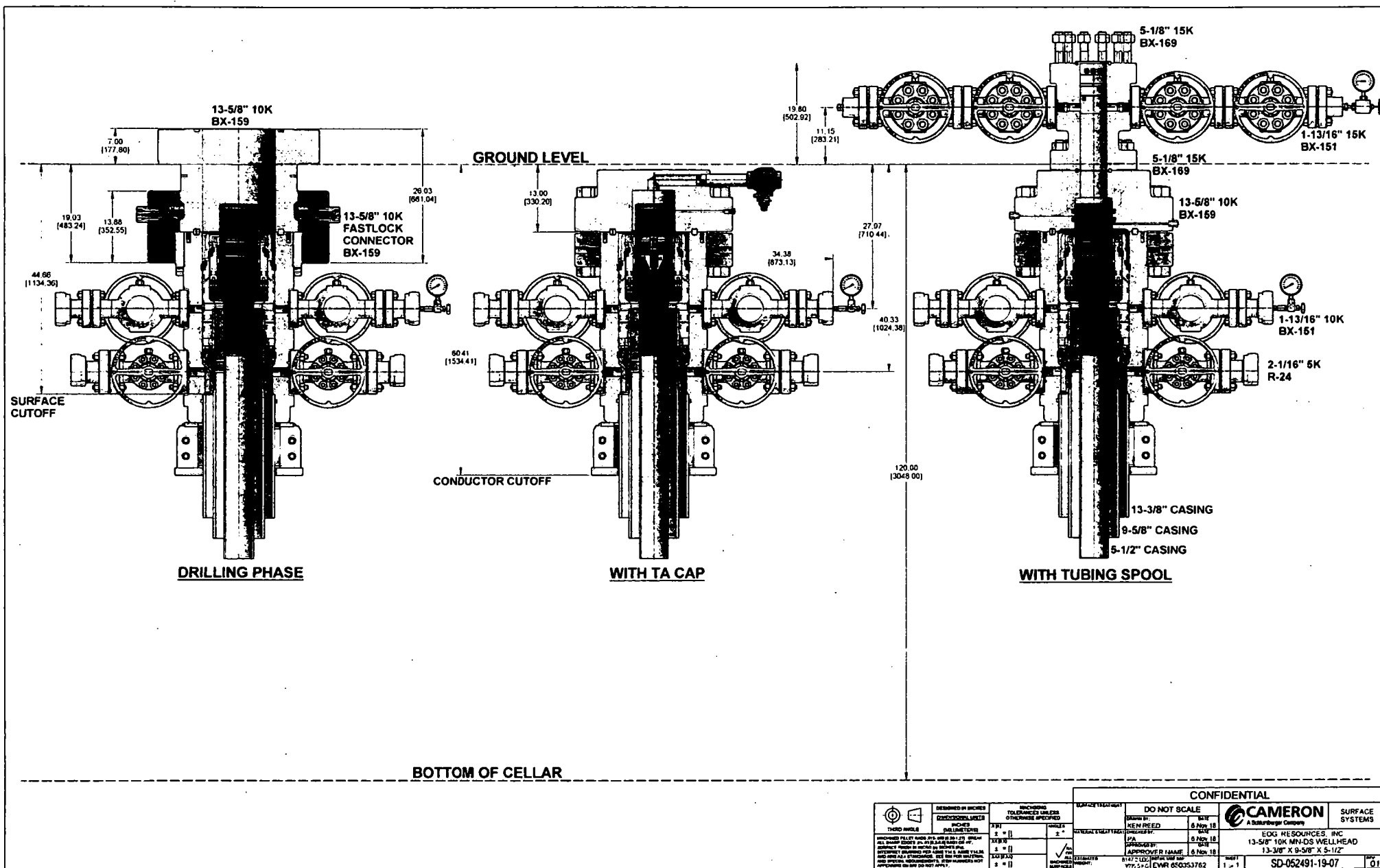
TOC: 4,785'

Bit Size: 8-3/4"

5-1/2", 20#, HCP-110, LTC @ 0' - 20,713'

KOP: 10,254'

Lateral: 20,713' MD, 10,254' TVD
Upper Most Perf:
2540' FSL & 585' FWL Sec. 27
Lower Most Perf:
2533' FNL & 585' FWL Sec. 3
BH Location: 2533' FNL & 585' FWL
Section 3
T-25-S, R-34-E



		DESIGNED BY: MICHAEL DRAWN BY: MICHAEL CHECKED BY: MICHAEL APPROVED BY: MICHAEL		DO NOT SCALE DATE: 8 Nov 18 DRAWN BY: KEN REED CHECKED BY: P.A. APPROVED BY: J. HANNE		CONFIDENTIAL 		SURFACE SYSTEMS EOG RESOURCES, INC. 13-5/8" 10K MDS WELLHEAD 13-3/8" X 9-5/8" X 5-1/2"	
THIRD ANGLE UNLESS OTHERWISE SPECIFIED		DIMENSIONS IN INCHES DIMENSIONS IN FEET		TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DECIMALS ANGLES HOLE SIZES SURFACES		SURFACE SYSTEMS EOG RESOURCES, INC. 13-5/8" 10K MDS WELLHEAD 13-3/8" X 9-5/8" X 5-1/2"		SD-052491-19-07 01	



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Peregrine 27 Fed Com

#311H

OH

Plan: Plan #0.2

Standard Planning Report

03 July, 2019



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Peregrine 27 Fed Com
 Well: #311H
 Wellbore: OH
 Design: Plan #0.2

Local Co-ordinate Reference: Well #311H
 TVD Reference: KB = 25 @ 3469.0usft
 MD Reference: KB = 25 @ 3469.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Lea 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	Peregrine 27 Fed Com		
Site Position:	Northings:	431,580.00 usft	Latitude: 32° 11' 0.630 N
From: Map	Easting:	810,070.00 usft	Longitude: 103° 27' 52.923 W
Position Uncertainty:	0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.46 °

Well	#311H		
Well Position	+N/-S	0.0 usft	Northings: 431,580.00 usft
	+E/-W	0.0 usft	Easting: 810,070.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 3,444.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	9/13/2018	6.77
			Dip Angle (°)
			60.03
			Field Strength (nT)
			47,797.47578274

Design	Plan #0.2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			178.97

Plan Survey Tool Program	Date 7/3/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name
1	0.0	20,712.5 Plan #0.2 (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	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,173.7	17.47	1.80	2,160.2	132.1	4.2	2.00	2.00	0.00	1.80	
7,224.4	17.47	1.80	6,977.8	1,647.9	51.8	0.00	0.00	0.00	0.00	
8,098.0	0.00	0.00	7,838.0	1,780.0	56.0	2.00	-2.00	0.00	180.00	
10,036.5	0.00	0.00	9,776.5	1,780.0	56.0	0.00	0.00	0.00	0.00	KOP(Peregrine 27 Fe
10,786.5	90.00	179.47	10,254.0	1,302.6	60.4	12.00	12.00	23.93	179.47	
12,899.2	90.00	179.47	10,254.0	-810.0	80.0	0.00	0.00	0.00	0.00	POP(Peregrine 27 Fe
20,712.5	90.00	179.43	10,254.0	-8,623.0	155.0	0.00	0.00	0.00	-87.14	PBHL(Peregrine 27 F



Planning Report

Database: EDM 5000.14
 Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Peregrine 27 Fed Com
 Well: #311H
 Wellbore: OH
 Design: Plan #0.2

Local Co-ordinate Reference: Well #311H
 TVD Reference: KB = 25 @ 3469.0usft
 MD Reference: KB = 25 @ 3469.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	2.00	1.80	1,400.0	1.7	0.1	-1.7	2.00	2.00	0.00
1,500.0	4.00	1.80	1,499.8	7.0	0.2	-7.0	2.00	2.00	0.00
1,600.0	6.00	1.80	1,599.5	15.7	0.5	-15.7	2.00	2.00	0.00
1,700.0	8.00	1.80	1,698.7	27.9	0.9	-27.8	2.00	2.00	0.00
1,800.0	10.00	1.80	1,797.5	43.5	1.4	-43.5	2.00	2.00	0.00
1,900.0	12.00	1.80	1,895.6	62.6	2.0	-62.5	2.00	2.00	0.00
2,000.0	14.00	1.80	1,993.1	85.1	2.7	-85.0	2.00	2.00	0.00
2,100.0	16.00	1.80	2,089.6	110.9	3.5	-110.8	2.00	2.00	0.00
2,173.7	17.47	1.80	2,160.2	132.1	4.2	-132.0	2.00	2.00	0.00
2,200.0	17.47	1.80	2,185.3	140.0	4.4	-139.9	0.00	0.00	0.00
2,300.0	17.47	1.80	2,280.7	170.0	5.3	-169.9	0.00	0.00	0.00
2,400.0	17.47	1.80	2,376.1	200.0	6.3	-199.9	0.00	0.00	0.00
2,500.0	17.47	1.80	2,471.5	230.1	7.2	-229.9	0.00	0.00	0.00
2,600.0	17.47	1.80	2,566.8	260.1	8.2	-259.9	0.00	0.00	0.00
2,700.0	17.47	1.80	2,662.2	290.1	9.1	-289.9	0.00	0.00	0.00
2,800.0	17.47	1.80	2,757.6	320.1	10.1	-319.9	0.00	0.00	0.00
2,900.0	17.47	1.80	2,853.0	350.1	11.0	-349.8	0.00	0.00	0.00
3,000.0	17.47	1.80	2,948.4	380.1	12.0	-379.8	0.00	0.00	0.00
3,100.0	17.47	1.80	3,043.8	410.1	12.9	-409.8	0.00	0.00	0.00
3,200.0	17.47	1.80	3,139.2	440.1	13.8	-439.8	0.00	0.00	0.00
3,300.0	17.47	1.80	3,234.5	470.1	14.8	-469.8	0.00	0.00	0.00
3,400.0	17.47	1.80	3,329.9	500.2	15.7	-499.8	0.00	0.00	0.00
3,500.0	17.47	1.80	3,425.3	530.2	16.7	-529.8	0.00	0.00	0.00
3,600.0	17.47	1.80	3,520.7	560.2	17.6	-559.8	0.00	0.00	0.00
3,700.0	17.47	1.80	3,616.1	590.2	18.6	-589.8	0.00	0.00	0.00
3,800.0	17.47	1.80	3,711.5	620.2	19.5	-619.8	0.00	0.00	0.00
3,900.0	17.47	1.80	3,806.9	650.2	20.5	-649.7	0.00	0.00	0.00
4,000.0	17.47	1.80	3,902.3	680.2	21.4	-679.7	0.00	0.00	0.00
4,100.0	17.47	1.80	3,997.6	710.2	22.3	-709.7	0.00	0.00	0.00
4,200.0	17.47	1.80	4,093.0	740.2	23.3	-739.7	0.00	0.00	0.00
4,300.0	17.47	1.80	4,188.4	770.3	24.2	-769.7	0.00	0.00	0.00
4,400.0	17.47	1.80	4,283.8	800.3	25.2	-799.7	0.00	0.00	0.00
4,500.0	17.47	1.80	4,379.2	830.3	26.1	-829.7	0.00	0.00	0.00
4,600.0	17.47	1.80	4,474.6	860.3	27.1	-859.7	0.00	0.00	0.00
4,700.0	17.47	1.80	4,570.0	890.3	28.0	-889.7	0.00	0.00	0.00
4,800.0	17.47	1.80	4,665.3	920.3	29.0	-919.6	0.00	0.00	0.00
4,900.0	17.47	1.80	4,760.7	950.3	29.9	-949.6	0.00	0.00	0.00
5,000.0	17.47	1.80	4,856.1	980.3	30.8	-979.6	0.00	0.00	0.00
5,100.0	17.47	1.80	4,951.5	1,010.3	31.8	-1,009.6	0.00	0.00	0.00
5,200.0	17.47	1.80	5,046.9	1,040.4	32.7	-1,039.6	0.00	0.00	0.00

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Peregrine 27 Fed Com
Well: #311H
Wellbore: OH
Design: Plan #0.2

Local Co-ordinate Reference: Well #311H
TVD Reference: KB = 25 @ 3469.0usft
MD Reference: KB = 25 @ 3469.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
5,300.0	17.47	1.80	5,142.3	1,070.4	33.7	-1,069.6	0.00	0.00	0.00
5,400.0	17.47	1.80	5,237.7	1,100.4	34.6	-1,099.6	0.00	0.00	0.00
5,500.0	17.47	1.80	5,333.0	1,130.4	35.6	-1,129.6	0.00	0.00	0.00
5,600.0	17.47	1.80	5,428.4	1,160.4	36.5	-1,159.6	0.00	0.00	0.00
5,700.0	17.47	1.80	5,523.8	1,190.4	37.5	-1,189.5	0.00	0.00	0.00
5,800.0	17.47	1.80	5,619.2	1,220.4	38.4	-1,219.5	0.00	0.00	0.00
5,900.0	17.47	1.80	5,714.6	1,250.4	39.3	-1,249.5	0.00	0.00	0.00
6,000.0	17.47	1.80	5,810.0	1,280.4	40.3	-1,279.5	0.00	0.00	0.00
6,100.0	17.47	1.80	5,905.4	1,310.5	41.2	-1,309.5	0.00	0.00	0.00
6,200.0	17.47	1.80	6,000.7	1,340.5	42.2	-1,339.5	0.00	0.00	0.00
6,300.0	17.47	1.80	6,096.1	1,370.5	43.1	-1,369.5	0.00	0.00	0.00
6,400.0	17.47	1.80	6,191.5	1,400.5	44.1	-1,399.5	0.00	0.00	0.00
6,500.0	17.47	1.80	6,286.9	1,430.5	45.0	-1,429.5	0.00	0.00	0.00
6,600.0	17.47	1.80	6,382.3	1,460.5	45.9	-1,459.4	0.00	0.00	0.00
6,700.0	17.47	1.80	6,477.7	1,490.5	46.9	-1,489.4	0.00	0.00	0.00
6,800.0	17.47	1.80	6,573.1	1,520.5	47.8	-1,519.4	0.00	0.00	0.00
6,900.0	17.47	1.80	6,668.4	1,550.5	48.8	-1,549.4	0.00	0.00	0.00
7,000.0	17.47	1.80	6,763.8	1,580.5	49.7	-1,579.4	0.00	0.00	0.00
7,100.0	17.47	1.80	6,859.2	1,610.6	50.7	-1,609.4	0.00	0.00	0.00
7,200.0	17.47	1.80	6,954.6	1,640.6	51.6	-1,639.4	0.00	0.00	0.00
7,224.4	17.47	1.80	6,977.8	1,647.9	51.8	-1,646.7	0.00	0.00	0.00
7,300.0	15.96	1.80	7,050.3	1,669.6	52.5	-1,668.4	2.00	-2.00	0.00
7,400.0	13.96	1.80	7,146.9	1,695.4	53.3	-1,694.2	2.00	-2.00	0.00
7,500.0	11.96	1.80	7,244.3	1,717.8	54.0	-1,716.6	2.00	-2.00	0.00
7,600.0	9.96	1.80	7,342.5	1,736.8	54.6	-1,735.6	2.00	-2.00	0.00
7,700.0	7.96	1.80	7,441.3	1,752.4	55.1	-1,751.1	2.00	-2.00	0.00
7,800.0	5.96	1.80	7,540.5	1,764.5	55.5	-1,763.2	2.00	-2.00	0.00
7,900.0	3.96	1.80	7,640.2	1,773.2	55.8	-1,771.9	2.00	-2.00	0.00
8,000.0	1.96	1.80	7,740.0	1,778.3	55.9	-1,777.0	2.00	-2.00	0.00
8,060.0	0.76	1.80	7,800.0	1,779.7	56.0	-1,778.5	2.00	-2.00	0.00
Brushy (Peregrine 27 Fed Com #701H)									
8,098.0	0.00	0.00	7,838.0	1,780.0	56.0	-1,778.7	2.00	-2.00	0.00
8,100.0	0.00	0.00	7,840.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,200.0	0.00	0.00	7,940.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,040.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,140.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,240.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,600.0	0.00	0.00	8,340.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,700.0	0.00	0.00	8,440.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,800.0	0.00	0.00	8,540.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
8,900.0	0.00	0.00	8,640.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,000.0	0.00	0.00	8,740.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,100.0	0.00	0.00	8,840.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,200.0	0.00	0.00	8,940.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,300.0	0.00	0.00	9,040.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,400.0	0.00	0.00	9,140.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,500.0	0.00	0.00	9,240.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,600.0	0.00	0.00	9,340.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,700.0	0.00	0.00	9,440.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,800.0	0.00	0.00	9,540.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,640.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
10,000.0	0.00	0.00	9,740.0	1,780.0	56.0	-1,778.7	0.00	0.00	0.00
10,036.5	0.00	0.00	9,776.5	1,780.0	56.0	-1,778.7	0.00	0.00	0.00

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Peregrine 27 Fed Com
Well: #311H
Wellbore: OH
Design: Plan #0.2

Local Co-ordinate Reference: Well #311H
TVD Reference: KB = 25 @ 3469.0usft
MD Reference: KB = 25 @ 3469.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
KOP(Peregrine 27 Fed Com #311H)									
10,050.0	1.62	179.47	9,790.0	1,779.8	56.0	-1,778.5	12.00	12.00	0.00
10,075.0	4.62	179.47	9,815.0	1,778.4	56.0	-1,777.2	12.00	12.00	0.00
10,100.0	7.62	179.47	9,839.8	1,775.8	56.0	-1,774.5	12.00	12.00	0.00
10,125.0	10.62	179.47	9,864.5	1,771.8	56.1	-1,770.5	12.00	12.00	0.00
10,150.0	13.62	179.47	9,888.9	1,766.6	56.1	-1,765.3	12.00	12.00	0.00
10,175.0	16.62	179.47	9,913.1	1,760.1	56.2	-1,758.8	12.00	12.00	0.00
10,200.0	19.62	179.47	9,936.8	1,752.3	56.3	-1,751.0	12.00	12.00	0.00
10,225.0	22.62	179.47	9,960.1	1,743.3	56.3	-1,742.0	12.00	12.00	0.00
10,250.0	25.62	179.47	9,983.0	1,733.1	56.4	-1,731.8	12.00	12.00	0.00
10,275.0	28.62	179.47	10,005.2	1,721.7	56.5	-1,720.4	12.00	12.00	0.00
10,300.0	31.62	179.47	10,026.8	1,709.1	56.7	-1,707.8	12.00	12.00	0.00
10,325.0	34.62	179.47	10,047.8	1,695.5	56.8	-1,694.2	12.00	12.00	0.00
10,350.0	37.62	179.47	10,068.0	1,680.7	56.9	-1,679.4	12.00	12.00	0.00
10,375.0	40.62	179.47	10,087.3	1,665.0	57.1	-1,663.7	12.00	12.00	0.00
10,400.0	43.62	179.47	10,105.9	1,648.2	57.2	-1,646.9	12.00	12.00	0.00
10,425.0	46.62	179.47	10,123.5	1,630.5	57.4	-1,629.2	12.00	12.00	0.00
10,438.0	48.18	179.47	10,132.3	1,620.9	57.5	-1,619.6	12.00	12.00	0.00
FTP(Peregrine 27 Fed Com #311H)									
10,450.0	49.62	179.47	10,140.2	1,611.9	57.6	-1,610.6	12.00	12.00	0.00
10,475.0	52.62	179.47	10,155.9	1,592.4	57.7	-1,591.1	12.00	12.00	0.00
10,500.0	55.62	179.47	10,170.6	1,572.2	57.9	-1,570.9	12.00	12.00	0.00
10,525.0	58.62	179.47	10,184.1	1,551.2	58.1	-1,549.9	12.00	12.00	0.00
10,550.0	61.62	179.47	10,196.6	1,529.5	58.3	-1,528.2	12.00	12.00	0.00
10,575.0	64.62	179.47	10,207.9	1,507.2	58.5	-1,505.9	12.00	12.00	0.00
10,600.0	67.62	179.47	10,218.0	1,484.3	58.7	-1,483.1	12.00	12.00	0.00
10,625.0	70.62	179.47	10,226.9	1,461.0	59.0	-1,459.7	12.00	12.00	0.00
10,650.0	73.62	179.47	10,234.6	1,437.2	59.2	-1,435.9	12.00	12.00	0.00
10,675.0	76.62	179.47	10,241.0	1,413.0	59.4	-1,411.8	12.00	12.00	0.00
10,700.0	79.62	179.47	10,246.1	1,388.6	59.6	-1,387.3	12.00	12.00	0.00
10,725.0	82.62	179.47	10,250.0	1,363.9	59.9	-1,362.6	12.00	12.00	0.00
10,750.0	85.62	179.47	10,252.6	1,339.0	60.1	-1,337.7	12.00	12.00	0.00
10,775.0	88.62	179.47	10,253.8	1,314.1	60.3	-1,312.8	12.00	12.00	0.00
10,786.5	90.00	179.47	10,254.0	1,302.6	60.4	-1,301.3	12.00	12.00	0.00
10,800.0	90.00	179.47	10,254.0	1,289.1	60.5	-1,287.8	0.00	0.00	0.00
10,900.0	90.00	179.47	10,254.0	1,189.1	61.5	-1,187.8	0.00	0.00	0.00
11,000.0	90.00	179.47	10,254.0	1,089.1	62.4	-1,087.8	0.00	0.00	0.00
11,100.0	90.00	179.47	10,254.0	989.1	63.3	-987.8	0.00	0.00	0.00
11,200.0	90.00	179.47	10,254.0	889.1	64.3	-887.8	0.00	0.00	0.00
11,300.0	90.00	179.47	10,254.0	789.1	65.2	-787.8	0.00	0.00	0.00
11,400.0	90.00	179.47	10,254.0	689.1	66.1	-687.8	0.00	0.00	0.00
11,500.0	90.00	179.47	10,254.0	589.1	67.0	-587.8	0.00	0.00	0.00
11,600.0	90.00	179.47	10,254.0	489.1	68.0	-487.8	0.00	0.00	0.00
11,700.0	90.00	179.47	10,254.0	389.1	68.9	-387.8	0.00	0.00	0.00
11,800.0	90.00	179.47	10,254.0	289.1	69.8	-287.8	0.00	0.00	0.00
11,900.0	90.00	179.47	10,254.0	189.1	70.7	-187.8	0.00	0.00	0.00
12,000.0	90.00	179.47	10,254.0	89.1	71.7	-87.8	0.00	0.00	0.00
12,100.0	90.00	179.47	10,254.0	-10.9	72.6	12.2	0.00	0.00	0.00
12,200.0	90.00	179.47	10,254.0	-110.9	73.5	112.2	0.00	0.00	0.00
12,300.0	90.00	179.47	10,254.0	-210.9	74.4	212.2	0.00	0.00	0.00
12,400.0	90.00	179.47	10,254.0	-310.9	75.4	312.2	0.00	0.00	0.00
12,500.0	90.00	179.47	10,254.0	-410.9	76.3	412.2	0.00	0.00	0.00
12,600.0	90.00	179.47	10,254.0	-510.9	77.2	512.2	0.00	0.00	0.00
12,700.0	90.00	179.47	10,254.0	-610.9	78.2	612.2	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14
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 Survey Calculation Method: Minimum Curvature

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)
12,800.0	90.00	179.47	10,254.0	-710.9	79.1	712.2	0.00	0.00	0.00
12,899.2	90.00	179.47	10,254.0	-810.0	80.0	811.3	0.00	0.00	0.00
POP(Peregrine 27 Fed Com #311H)									
13,000.0	90.00	179.47	10,254.0	-910.8	80.9	912.2	0.00	0.00	0.00
13,100.0	90.00	179.47	10,254.0	-1,010.8	81.9	1,012.1	0.00	0.00	0.00
13,200.0	90.00	179.47	10,254.0	-1,110.8	82.8	1,112.1	0.00	0.00	0.00
13,300.0	90.00	179.47	10,254.0	-1,210.8	83.7	1,212.1	0.00	0.00	0.00
13,400.0	90.00	179.47	10,254.0	-1,310.8	84.7	1,312.1	0.00	0.00	0.00
13,500.0	90.00	179.47	10,254.0	-1,410.8	85.6	1,412.1	0.00	0.00	0.00
13,600.0	90.00	179.47	10,254.0	-1,510.8	86.5	1,512.1	0.00	0.00	0.00
13,700.0	90.00	179.47	10,254.0	-1,610.8	87.4	1,612.1	0.00	0.00	0.00
13,800.0	90.00	179.46	10,254.0	-1,710.8	88.4	1,712.1	0.00	0.00	0.00
13,900.0	90.00	179.46	10,254.0	-1,810.8	89.3	1,812.1	0.00	0.00	0.00
14,000.0	90.00	179.46	10,254.0	-1,910.8	90.3	1,912.1	0.00	0.00	0.00
14,100.0	90.00	179.46	10,254.0	-2,010.8	91.2	2,012.1	0.00	0.00	0.00
14,200.0	90.00	179.46	10,254.0	-2,110.8	92.1	2,112.1	0.00	0.00	0.00
14,300.0	90.00	179.46	10,254.0	-2,210.8	93.1	2,212.1	0.00	0.00	0.00
14,400.0	90.00	179.46	10,254.0	-2,310.8	94.0	2,312.1	0.00	0.00	0.00
14,500.0	90.00	179.46	10,254.0	-2,410.8	94.9	2,412.1	0.00	0.00	0.00
14,600.0	90.00	179.46	10,254.0	-2,510.8	95.9	2,512.1	0.00	0.00	0.00
14,700.0	90.00	179.46	10,254.0	-2,610.8	96.8	2,612.1	0.00	0.00	0.00
14,800.0	90.00	179.46	10,254.0	-2,710.8	97.8	2,712.1	0.00	0.00	0.00
14,900.0	90.00	179.46	10,254.0	-2,810.8	98.7	2,812.1	0.00	0.00	0.00
15,000.0	90.00	179.46	10,254.0	-2,910.8	99.7	2,912.1	0.00	0.00	0.00
15,100.0	90.00	179.46	10,254.0	-3,010.8	100.6	3,012.1	0.00	0.00	0.00
15,200.0	90.00	179.46	10,254.0	-3,110.7	101.5	3,112.1	0.00	0.00	0.00
15,300.0	90.00	179.46	10,254.0	-3,210.7	102.5	3,212.1	0.00	0.00	0.00
15,400.0	90.00	179.46	10,254.0	-3,310.7	103.4	3,312.1	0.00	0.00	0.00
15,500.0	90.00	179.46	10,254.0	-3,410.7	104.4	3,412.1	0.00	0.00	0.00
15,600.0	90.00	179.46	10,254.0	-3,510.7	105.3	3,512.1	0.00	0.00	0.00
15,700.0	90.00	179.46	10,254.0	-3,610.7	106.3	3,612.1	0.00	0.00	0.00
15,800.0	90.00	179.45	10,254.0	-3,710.7	107.2	3,712.0	0.00	0.00	0.00
15,900.0	90.00	179.45	10,254.0	-3,810.7	108.2	3,812.0	0.00	0.00	0.00
16,000.0	90.00	179.45	10,254.0	-3,910.7	109.1	3,912.0	0.00	0.00	0.00
16,100.0	90.00	179.45	10,254.0	-4,010.7	110.1	4,012.0	0.00	0.00	0.00
16,200.0	90.00	179.45	10,254.0	-4,110.7	111.0	4,112.0	0.00	0.00	0.00
16,300.0	90.00	179.45	10,254.0	-4,210.7	112.0	4,212.0	0.00	0.00	0.00
16,400.0	90.00	179.45	10,254.0	-4,310.7	113.0	4,312.0	0.00	0.00	0.00
16,500.0	90.00	179.45	10,254.0	-4,410.7	113.9	4,412.0	0.00	0.00	0.00
16,600.0	90.00	179.45	10,254.0	-4,510.7	114.9	4,512.0	0.00	0.00	0.00
16,700.0	90.00	179.45	10,254.0	-4,610.7	115.8	4,612.0	0.00	0.00	0.00
16,800.0	90.00	179.45	10,254.0	-4,710.7	116.8	4,712.0	0.00	0.00	0.00
16,900.0	90.00	179.45	10,254.0	-4,810.7	117.8	4,812.0	0.00	0.00	0.00
17,000.0	90.00	179.45	10,254.0	-4,910.7	118.7	4,912.0	0.00	0.00	0.00
17,100.0	90.00	179.45	10,254.0	-5,010.7	119.7	5,012.0	0.00	0.00	0.00
17,200.0	90.00	179.45	10,254.0	-5,110.7	120.6	5,112.0	0.00	0.00	0.00
17,300.0	90.00	179.45	10,254.0	-5,210.7	121.6	5,212.0	0.00	0.00	0.00
17,400.0	90.00	179.45	10,254.0	-5,310.6	122.6	5,312.0	0.00	0.00	0.00
17,500.0	90.00	179.45	10,254.0	-5,410.6	123.5	5,412.0	0.00	0.00	0.00
17,600.0	90.00	179.45	10,254.0	-5,510.6	124.5	5,512.0	0.00	0.00	0.00
17,700.0	90.00	179.45	10,254.0	-5,610.6	125.5	5,612.0	0.00	0.00	0.00
17,800.0	90.00	179.45	10,254.0	-5,710.6	126.4	5,712.0	0.00	0.00	0.00
17,900.0	90.00	179.44	10,254.0	-5,810.6	127.4	5,812.0	0.00	0.00	0.00

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Peregrine 27 Fed Com
Well: #311H
Wellbore: OH
Design: Plan #0.2

Local Co-ordinate Reference: Well #311H
TVD Reference: KB = 25 @ 3469.0usft
MD Reference: KB = 25 @ 3469.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
18,000.0	90.00	179.44	10,254.0	-5,910.6	128.4	5,912.0	0.00	0.00	0.00
18,100.0	90.00	179.44	10,254.0	-6,010.6	129.3	6,012.0	0.00	0.00	0.00
18,200.0	90.00	179.44	10,254.0	-6,110.6	130.3	6,112.0	0.00	0.00	0.00
18,300.0	90.00	179.44	10,254.0	-6,210.6	131.3	6,212.0	0.00	0.00	0.00
18,400.0	90.00	179.44	10,254.0	-6,310.6	132.3	6,312.0	0.00	0.00	0.00
18,500.0	90.00	179.44	10,254.0	-6,410.6	133.2	6,412.0	0.00	0.00	0.00
18,600.0	90.00	179.44	10,254.0	-6,510.6	134.2	6,512.0	0.00	0.00	0.00
18,700.0	90.00	179.44	10,254.0	-6,610.6	135.2	6,611.9	0.00	0.00	0.00
18,800.0	90.00	179.44	10,254.0	-6,710.6	136.2	6,711.9	0.00	0.00	0.00
18,900.0	90.00	179.44	10,254.0	-6,810.6	137.1	6,811.9	0.00	0.00	0.00
19,000.0	90.00	179.44	10,254.0	-6,910.6	138.1	6,911.9	0.00	0.00	0.00
19,100.0	90.00	179.44	10,254.0	-7,010.6	139.1	7,011.9	0.00	0.00	0.00
19,200.0	90.00	179.44	10,254.0	-7,110.6	140.1	7,111.9	0.00	0.00	0.00
19,300.0	90.00	179.44	10,254.0	-7,210.6	141.1	7,211.9	0.00	0.00	0.00
19,400.0	90.00	179.44	10,254.0	-7,310.6	142.0	7,311.9	0.00	0.00	0.00
19,500.0	90.00	179.44	10,254.0	-7,410.5	143.0	7,411.9	0.00	0.00	0.00
19,600.0	90.00	179.44	10,254.0	-7,510.5	144.0	7,511.9	0.00	0.00	0.00
19,700.0	90.00	179.44	10,254.0	-7,610.5	145.0	7,611.9	0.00	0.00	0.00
19,800.0	90.00	179.44	10,254.0	-7,710.5	146.0	7,711.9	0.00	0.00	0.00
19,900.0	90.00	179.43	10,254.0	-7,810.5	147.0	7,811.9	0.00	0.00	0.00
20,000.0	90.00	179.43	10,254.0	-7,910.5	147.9	7,911.9	0.00	0.00	0.00
20,100.0	90.00	179.43	10,254.0	-8,010.5	148.9	8,011.9	0.00	0.00	0.00
20,200.0	90.00	179.43	10,254.0	-8,110.5	149.9	8,111.9	0.00	0.00	0.00
20,300.0	90.00	179.43	10,254.0	-8,210.5	150.9	8,211.9	0.00	0.00	0.00
20,400.0	90.00	179.43	10,254.0	-8,310.5	151.9	8,311.9	0.00	0.00	0.00
20,500.0	90.00	179.43	10,254.0	-8,410.5	152.9	8,411.9	0.00	0.00	0.00
20,600.0	90.00	179.43	10,254.0	-8,510.5	153.9	8,511.9	0.00	0.00	0.00
20,700.0	90.00	179.43	10,254.0	-8,610.5	154.9	8,611.9	0.00	0.00	0.00
20,712.5	90.00	179.43	10,254.0	-8,623.0	155.0	8,624.4	0.00	0.00	0.00

PBHL(Peregrine 27 Fed Com #311H) - PBHL Large Nudge(Peregrine 27 Fed Com #701H)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP(Peregrine 27 Fed C - hit/miss target - Shape - Point	0.00	0.00	9,776.5	1,780.0	56.0	433,360.00	810,126.00	32° 11' 18.238 N	103° 27' 52.104 W
FTP(Peregrine 27 Fed C - plan misses target center by 163.4usft at 10438.0usft MD (10132.3 TVD, 1620.9 N, 57.5 E) - Point	0.00	0.00	10,254.0	1,730.0	56.0	433,310.00	810,126.00	32° 11' 17.744 N	103° 27' 52.109 W
POP(Peregrine 27 Fed C - plan hits target center - Point	0.00	0.00	10,254.0	-810.0	80.0	430,770.00	810,150.00	32° 10' 52.608 N	103° 27' 52.069 W
PBHL(Peregrine 27 Fed - plan hits target center - Point	0.00	0.00	10,254.0	-8,623.0	155.0	422,957.00	810,225.00	32° 9' 35.293 N	103° 27' 51.930 W



Lea County, NM (NAD 83 NME)

Peregrine 27 Fed Com #311H

Plan #0.2

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #311H

KB = 25 @ 3489.5ust
Northing 431680.00 Easting 810070.00
Latitude 32° 11' 0.830 N Longitude 103° 27' 52.923 W

SECTION DETAILS

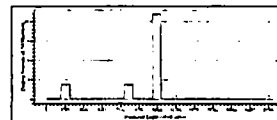
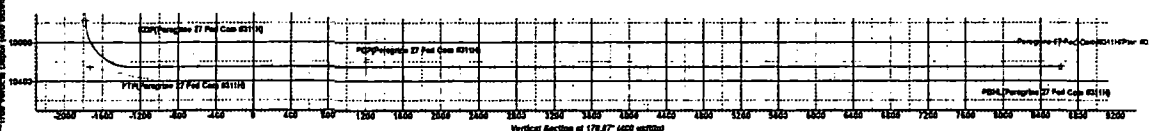
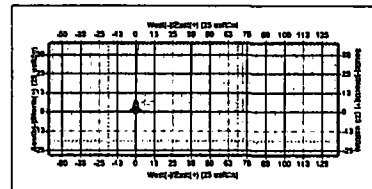
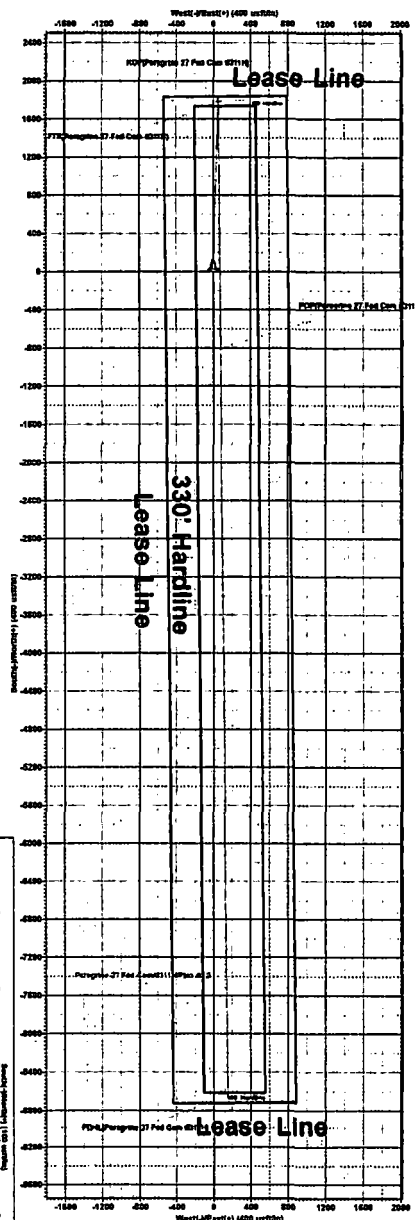
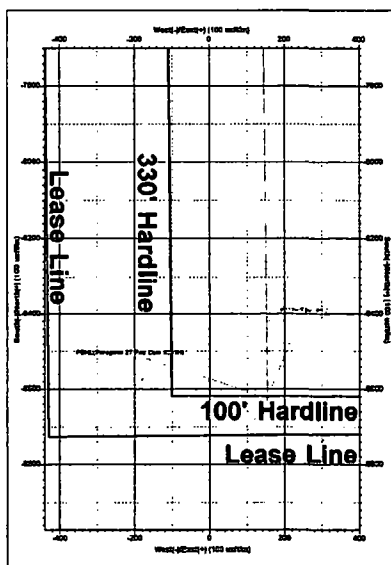
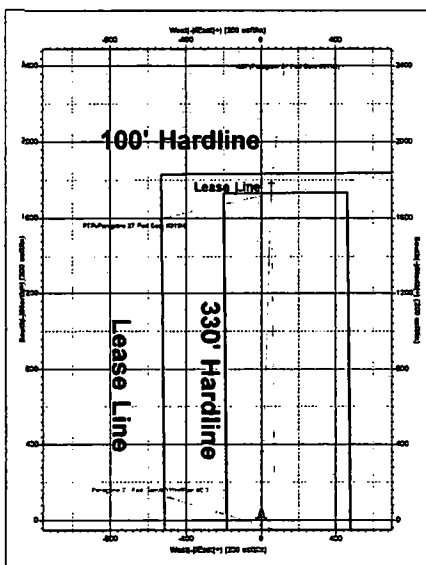
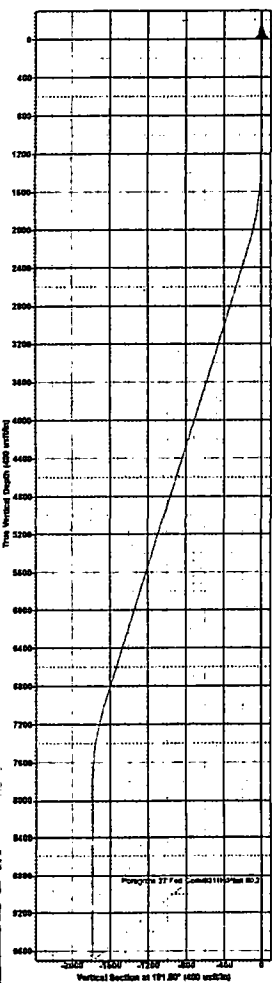
Sec	MD	Inc	Ad	TVD	+NLS	+EJW	Diag	TFace	VSecl	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1300.0	0.00	0.00	1300.0	0.0	0.0	0.00	0.00	0.0	
3	2173.7	17.47	1.80	2160.2	132.1	4.2	2.00	1.80	-132.0	
4	7224.4	17.47	1.80	6877.8	1647.9	81.8	0.00	0.00	-1646.7	
5	8098.0	0.00	0.00	7838.0	1788.0	58.0	2.80	180.00	-1778.7	
6	10038.5	0.00	0.00	9778.5	1788.0	58.0	0.00	0.00	-1778.7	KOP(Peregrine 27 Fed Com #311H)
7	10788.8	80.00	178.47	10254.0	1302.8	80.4	12.80	179.47	-1301.3	POP(Peregrine 27 Fed Com #311H)
8	12899.2	90.00	178.47	10254.0	-810.0	80.0	0.00	0.00	811.3	PBH(Peregrine 27 Fed Com #311H)
9	20712.5	80.00	178.43	19254.0	-8623.0	155.0	0.00	-87.14	8624.4	PBH(Peregrine 27 Fed Com #311H)

CASINO DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+NLS	+EJW	Northing	Easting
Brushy (Peregrine 27 Fed Com #701H)	7800.0	1780.0	72.0	433280.00	810142.00
KOP(Peregrine 27 Fed Com #311H)	9778.5	1780.0	58.0	433380.00	810126.00
FTP(Peregrine 27 Fed Com #311H)	10284.0	1730.0	80.0	433210.00	810126.00
PBHL(Peregrine 27 Fed Com #311H)	10284.0	-8623.0	155.0	432987.00	810225.00
POP(Peregrine 27 Fed Com #311H)	10284.0	-810.0	80.0	430770.00	810150.00
PBH Large Ridge(Peregrine 27 Fed Com #701H)270.0	-4780.0	72.0	421030.00	810142.00	



NOT SCALE TO THIS & NOT TO BE USED FOR ANY OTHER PURPOSES

PECOS DISTRICT DRILLING OPERATIONS CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG RESOURCES INCORPORATED
LEASE NO.:	NMNM123534
WELL NAME & NO.:	PEREGRINE 27 FED COM 311H
SURFACE HOLE FOOTAGE:	810'S & 513'/W
BOTTOM HOLE FOOTAGE:	2533'/N & 585'/W
LOCATION:	SECTION 27, T24S, R34E, NMPM
COUNTY:	LEA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

All previous COAs still apply, except for the following:

A. CASING

1. The 13 3/8" surface casing shall be set at approximately 1,175' (a minimum of 25' into the Rustler Anhydrite and above the salt) and cemented to surface.
 - a. **If cement does not circulate to surface**, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of **6 hours** after pumping cement, ideally between 8-10 hours after completing the cement job.
 - b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.
 - c. If cement falls back, remedial cementing will be done prior to drilling out that string.
 - d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.
- 2) The minimum required fill of cement behind the 9 5/8" intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

3) The minimum required fill of cement behind the 5 1/2" production casing is:

- Cement should tie-back at least **200 feet** into previous string. Operator shall provide method of verification.

B. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi**. **Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi).**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

JJP07102019

GENERAL REQUIREMENTS

1. The BLM is to be notified in advance for a representative to witness:
 - a. Spudding well (minimum of 24 hours)
 - b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
 - c. BOPE tests (minimum of 4 hours)
 - ☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)
 - ☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822
 - ☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612
1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log (one log per well pad is acceptable) run from TD to surface (horizontal well – vertical portion of hole) shall

be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a

larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done.

The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.