

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

DEC 08 2019

FORM 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.  
NMNM121934

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

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

8. Well Name and No.  
MAS VERDE 25 FEDERAL COM 701H

9. API Well No.  
30-015-46389-00-X1

10. Field and Pool or Exploratory Area  
PURPLE SAGE-WOLFCAMP (GAS)

11. County or Parish, State  
EDDY COUNTY, NM

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  
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 25 T25S R25E SWSW 720FSL 287FWL  
32.095558 N Lat, 104.357025 W Lon

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Drilling Operations
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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 recomplete 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 recompletion 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:  
 HSU change to 640 acres  
 BHL change to Sec. 24 T-25-S R-25-E 230 FNL 330 FWL  
 Fix cement volume in bottom hole plug

**Carlsbad Field Office**  
**OCD Artesia**  
**SEE ATTACHED FOR CONDITIONS OF APPROVAL**

*All previous COAs still apply, except for the following:*

14. I hereby certify that the foregoing is true and correct.  
 Electronic Submission #490296 verified by the BLM Well Information System  
 For EOG RESOURCES INCORPORATED, sent to the Carlsbad  
 Committed to AFMSS for processing by PRISCILLA PEREZ on 11/13/2019 (20PP0385SE)

Name (Printed/Typed) BEN HOCHER Title REGULATORY ASSOC.

Signature (Electronic Submission) Date 10/29/2019

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By JEREMY PORTER Title PETROLEUM ENGINEER Date 11/18/2019

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 Carlsbad

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 \*\***

*1/28/20 KS*

**Revisions to Operator-Submitted EC Data for Sundry Notice #490296**

	<b>Operator Submitted</b>	<b>BLM Revised (AFMSS)</b>
Sundry Type:	DRG NOI	DRG NOI
Lease:	NMNM121934	NMNM121934
Agreement:		
Operator:	EOG RESOURCES INC PO BOX 2267 MIDLAND, TX 79702 Ph: 432-636-3600	EOG RESOURCES INCORPORATED MIDLAND, TX 79702 Ph: 432.686.3600
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: 432-686-3623	BEN HOCHER REGULATORY ASSOC. E-Mail: Ben_Hocher@eogresources.com  Ph: 432-636-3600
Location:		
State:	NM	NM
County:	EDDY COUNTY	EDDY
Field/Pool:	98220 PURPLE SAGE; WOLF	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	MAS VERDE 25 FED COM 701H Sec 25 T25S R25E 720FSL 287FWL	MAS VERDE 25 FEDERAL COM 701H Sec 25 T25S R25E SWSW 720FSL 287FWL 32.095558 N Lat, 104.357025 W Lon

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 Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources  
Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

FORM C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-015-46389	<sup>2</sup> Pool Code 98220	<sup>3</sup> Pool Name PURPLE SAGE; WOLFCAMP (GAS)
<sup>4</sup> Property Code 326217	<sup>5</sup> Property Name MAS VERDE 25 FEDERAL COM	
<sup>7</sup> OGRID No. 7377	<sup>8</sup> Operator Name EOG RESOURCES, INC.	<sup>6</sup> Well Number 701H
		<sup>9</sup> Elevation 3549'

<sup>10</sup>Surface Location

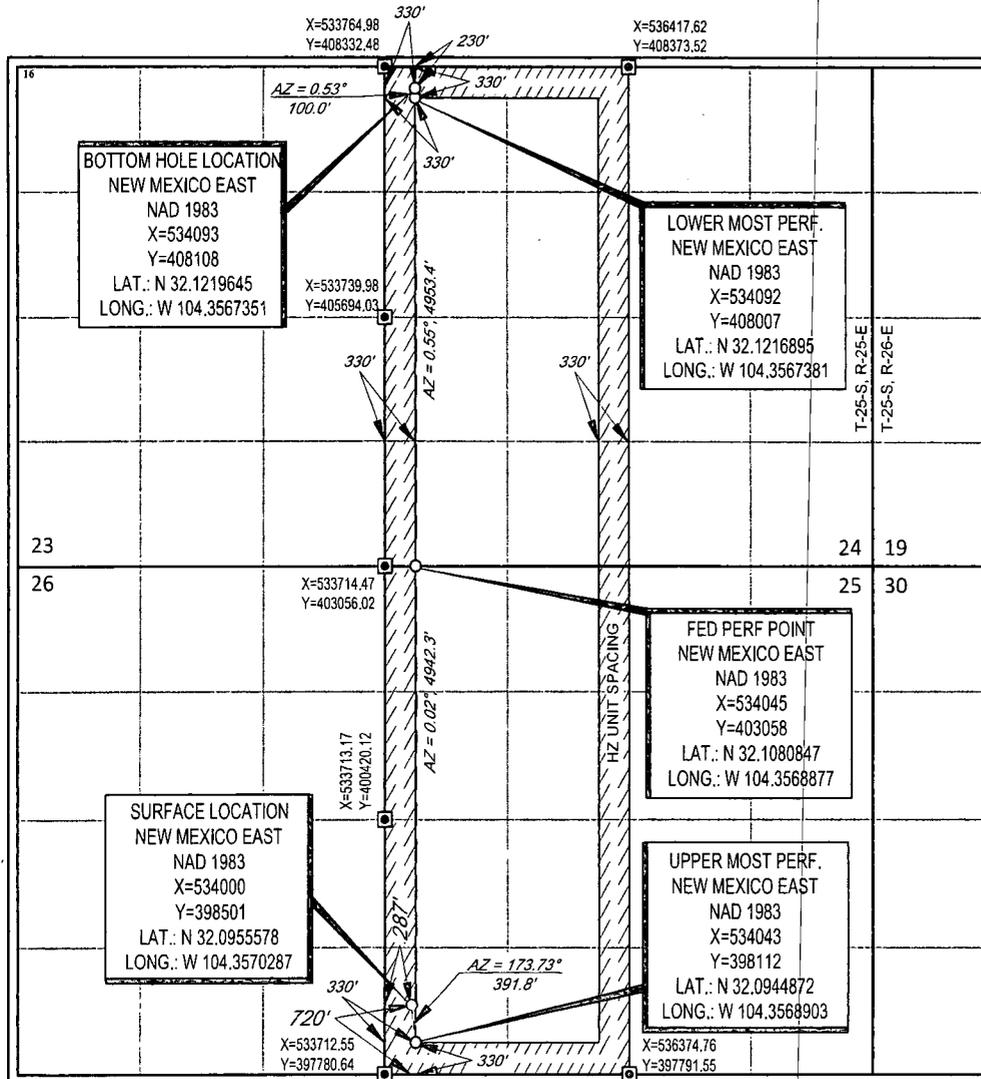
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	25	25-S	25-E	-	720'	SOUTH	287'	WEST	EDDY

<sup>11</sup>Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	24	25-S	25-E	-	230'	NORTH	330'	WEST	EDDY

<sup>12</sup> Dedicated Acres 640.00	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
---	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



<sup>17</sup>OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or released mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Emily Follis* 10/29/19  
Signature Date

Emily Follis  
Printed Name

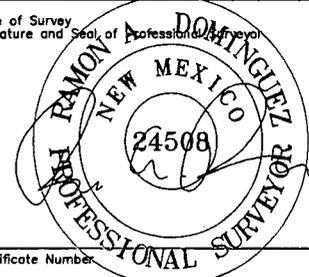
emily\_follis@eogresources.com  
E-mail Address

<sup>18</sup>SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

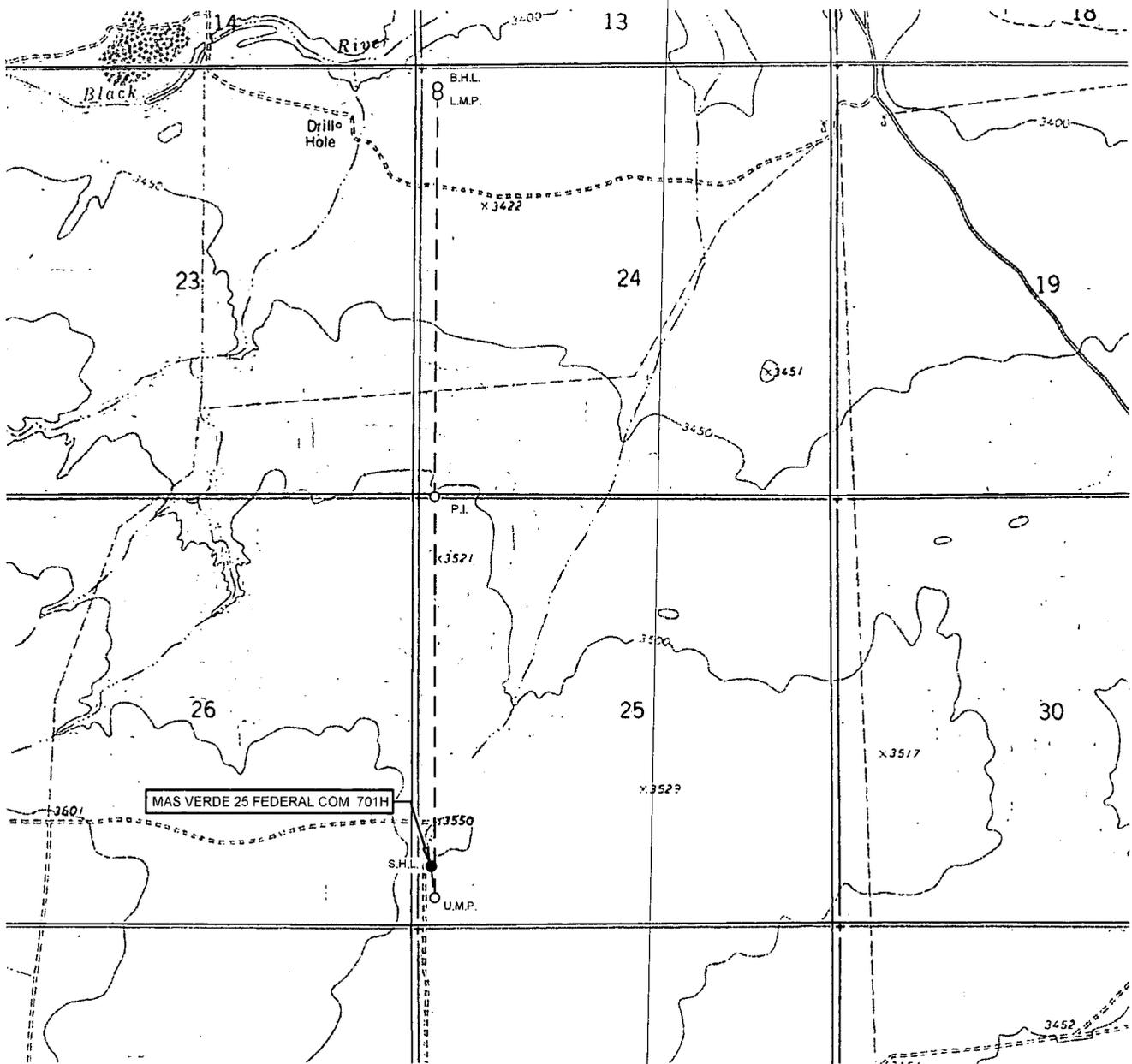
06/28/2018  
Date of Survey

*Ramon A. Dominguez*  
Signature and Seal of Professional Surveyor  
Date of Survey



Certificate Number

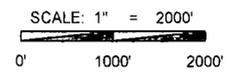
# LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: MAS VERDE 25 FEDERAL COM 701H

SECTION 25 TWP 25-S RGE 25-E SURVEY N.M.P.M.  
 COUNTY EDDY STATE NM ELEVATION 3549'  
 DESCRIPTION 720' FSL & 287' FWL

LATITUDE N 32.0955578 LONGITUDE W 104.3570287



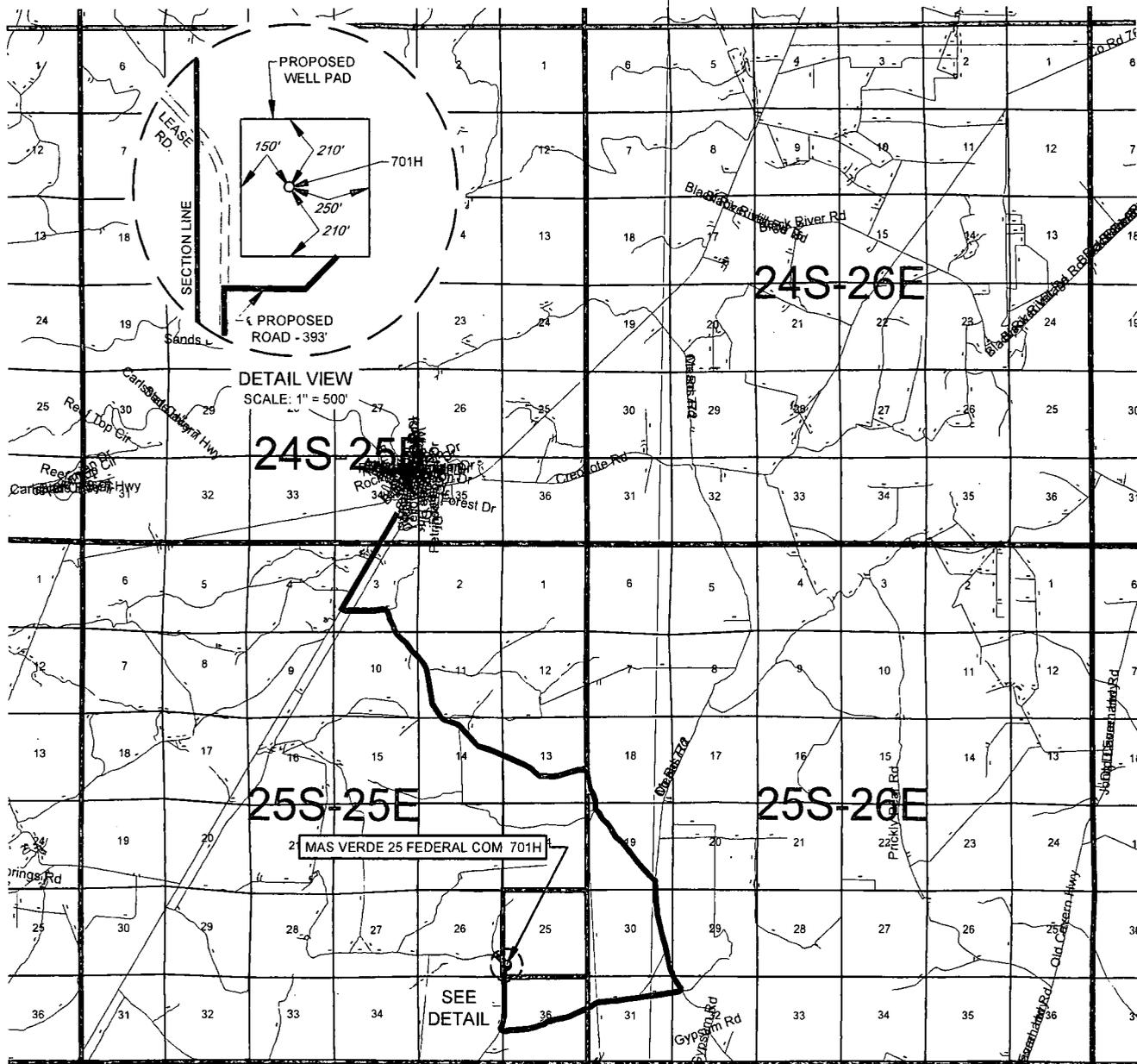
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS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



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) 882-1653 OR (800) 767-1653 • FAX (432) 682-1743  
 WWW.TOPOGRAPHIC.COM

EXHIBIT 2  
VICINITY MAP



LEASE NAME & WELL NO.: MAS VERDE 25 FEDERAL COM 701H

SECTION 25 TWP 25-S RGE 25-E SURVEY N.M.P.M.  
 COUNTY EDDY STATE NM  
 DESCRIPTION 720' FSL & 287' FWL

DISTANCE & DIRECTION

FROM INT. OF BLACK RIVER VILLAGE RD., & US-180. GO SOUTHWEST ON US-180 ±6.7 MILES. THENCE SOUTHEAST (LEFT) ON A WHITES CITY RD. ±6.83 MILES, THENCE WEST (RIGHT) ON A LEASE RD. ±2.2 MILES, THENCE (RIGHT) NORTH ON A LEASE RD. ±0.7 MILES, THENCE (RIGHT) EAST ON A PROPOSED RD ±393 TO A POINT ±258 FEET SOUTHEAST 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'

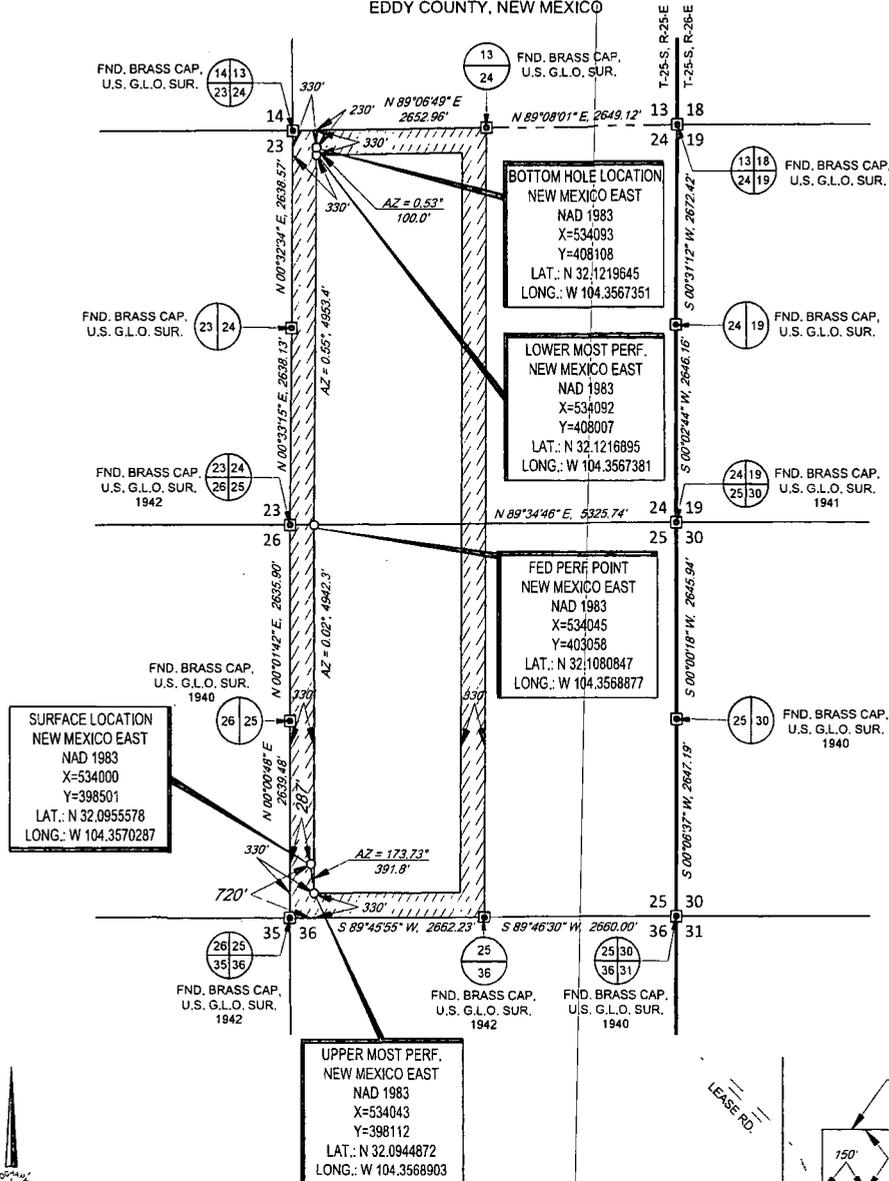


**TOPOGRAPHIC**  
 LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 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 2A**

SECTION 25, TOWNSHIP 25-S, RANGE 25-E, N.M.P.M.  
EDDY COUNTY, NEW MEXICO



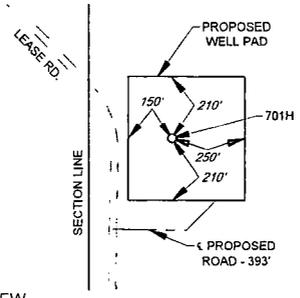
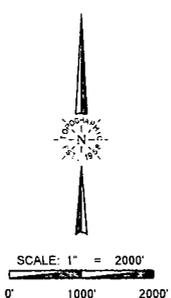
**SURFACE LOCATION**  
NEW MEXICO EAST  
NAD 1983  
X=534000  
Y=398501  
LAT.: N 32.0955578  
LONG.: W 104.3570287

**BOTTOM HOLE LOCATION**  
NEW MEXICO EAST  
NAD 1983  
X=534093  
Y=408108  
LAT.: N 32.1219645  
LONG.: W 104.3567351

**LOWER MOST PERF.**  
NEW MEXICO EAST  
NAD 1983  
X=534092  
Y=408007  
LAT.: N 32.1216895  
LONG.: W 104.3567381

**FED PERF POINT**  
NEW MEXICO EAST  
NAD 1983  
X=534045  
Y=403058  
LAT.: N 32.1080847  
LONG.: W 104.3568877

**UPPER MOST PERF.**  
NEW MEXICO EAST  
NAD 1983  
X=534043  
Y=398112  
LAT.: N 32.0944872  
LONG.: W 104.3568903



DETAIL VIEW  
SCALE: 1" = 500'

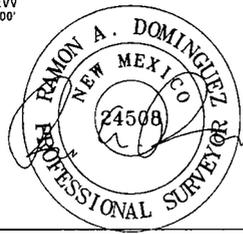
LEASE NAME & WELL NO.: MAS VERDE 25 FEDERAL COM 701H

SECTION 25 TWP 25-S RGE 25-E SURVEY N.M.P.M.  
COUNTY EDDY STATE NM  
DESCRIPTION 720' FSL & 287' FWL

**DISTANCE & DIRECTION**  
FROM INT. OF BLACK RIVER VILLAGE RD., & US-180, GO SOUTHWEST ON US-180 ±6.7 MILES, THENCE SOUTHEAST (LEFT) ON A WHITES CITY RD. ±6.83 MILES, THENCE WEST (RIGHT) ON A LEASE RD. ±2.2 MILES, THENCE (RIGHT) NORTH ON A LEASE RD. ±0.7 MILES, THENCE (RIGHT) EAST ON A PROPOSED RD ±393 TO A POINT ±258 FEET SOUTHEAST 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.



Ramon A. Dominguez, P.S. No. 24508

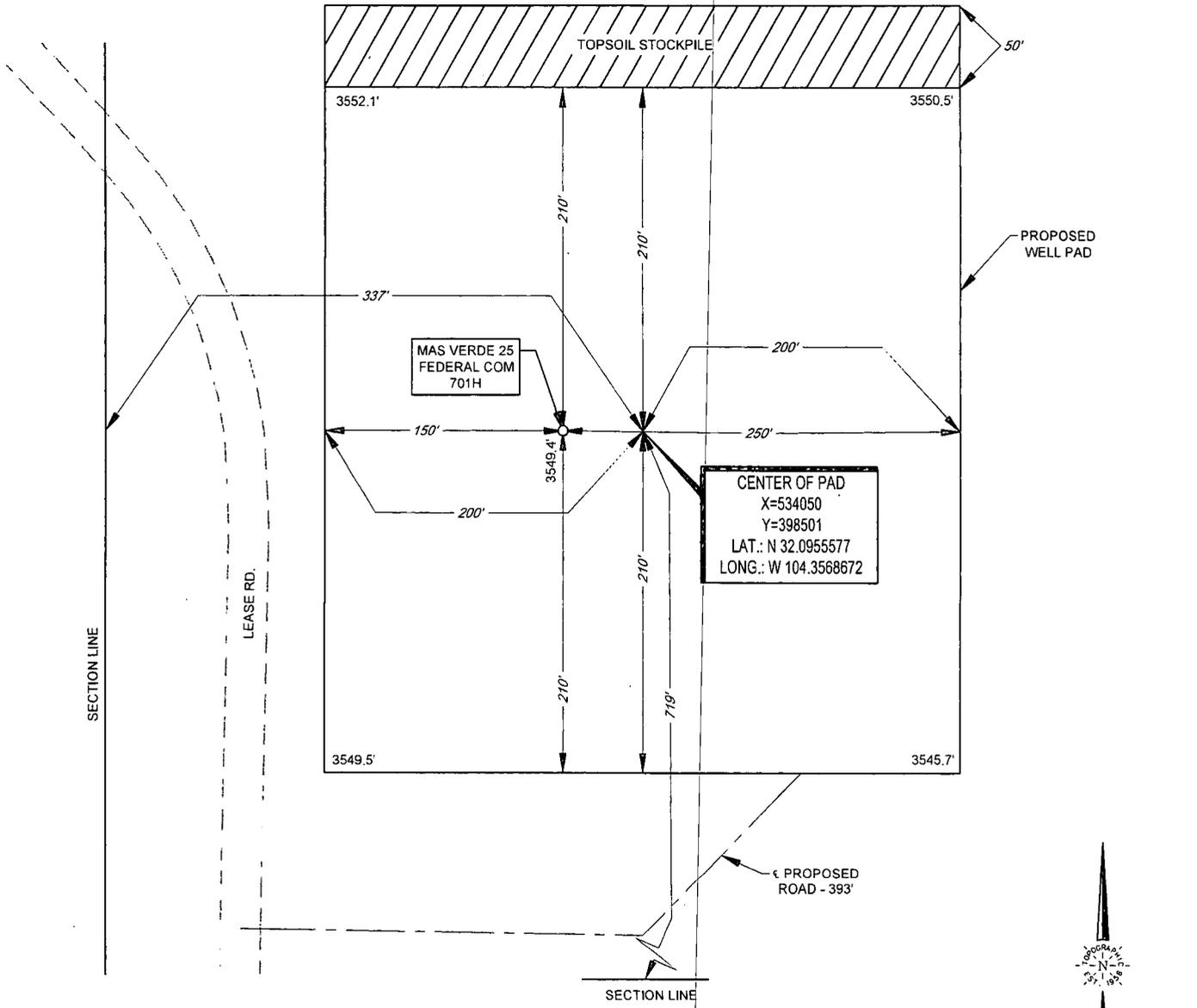
**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY  
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140  
TELEPHONE: (817) 744-7512 • FAX: (817) 744-7554  
2803 NORTH BIG SPRING • MIDLAND, TEXAS 79705  
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX: (432) 682-1743  
WWW.TOPOGRAPHIC.COM

# EXHIBIT 2B

## eog resources, inc.

SECTION 25, TOWNSHIP 25-S, RANGE 25-E, N.M.P.M.  
EDDY COUNTY, NEW MEXICO

DETAIL VIEW  
SCALE: 1" = 100'

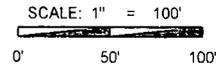


**LEGEND**

- SECTION LINE
- - - PROPOSED ROAD
- == == == ROAD WAY

LEASE NAME & WELL NO.: MAS VERDE 25 FEDERAL COM 701H  
 701H LATITUDE N 32.0955578 701H LONGITUDE W 104.3570287

CENTER OF PAD IS 719' FSL & 337' FWL



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

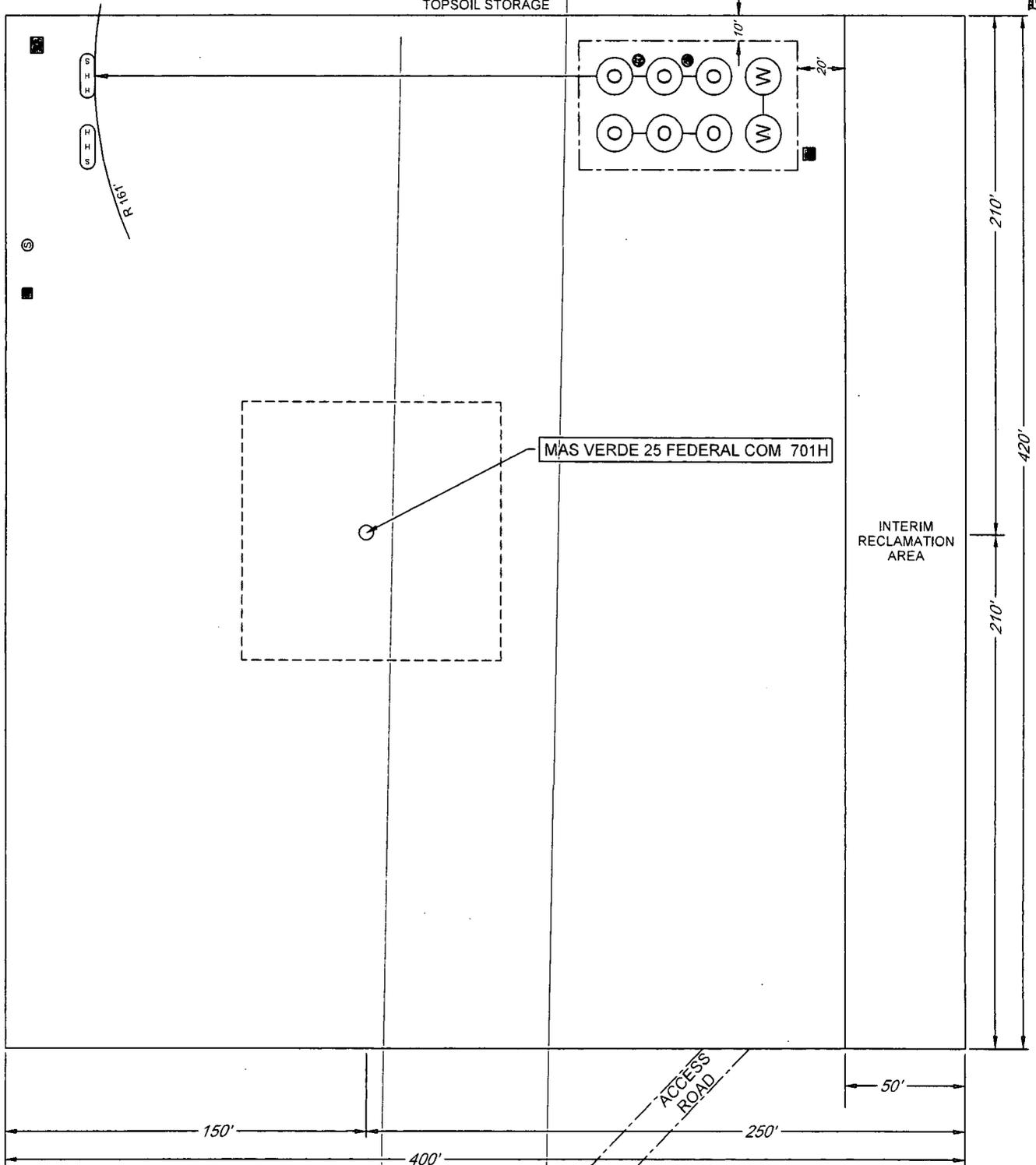
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140  
 TELEPHONE: (817) 744-7512 • FAX (817) 744-7554  
 2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705  
 TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743  
 WWW.TOPOGRAPHIC.COM

# EXHIBIT 2C

## RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 25, TOWNSHIP 25-S, RANGE 25-E, N.M.P.M.  
EDDY COUNTY, NEW MEXICO

DETAIL VIEW  
SCALE: 1" = 60'  
TOPSOIL STORAGE



### LEGEND

- |  |                              |  |                 |
|--|------------------------------|--|-----------------|
|  | 500 BBL OIL TANK             |  | FLARE SEPARATOR |
|  | 500 BBL WATER TANK           |  | VRU             |
|  | 36 x 15 HEATER/<br>SEPARATOR |  | 48 X 25 VRT     |
|  |                              |  | FP FLARE        |
|  |                              |  | OP FLARE        |

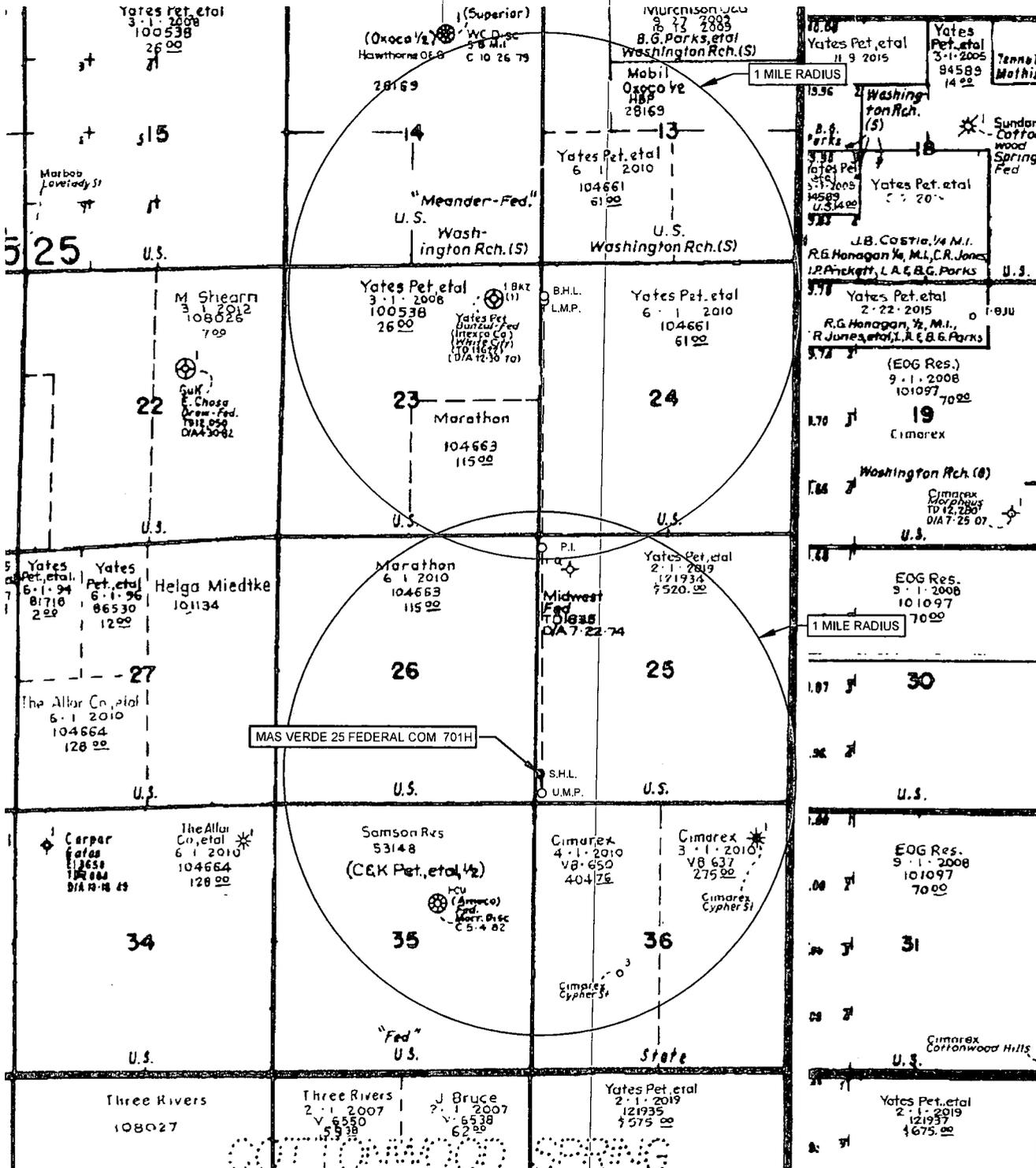
LEASE NAME & WELL NO.: MAS VERDE 25 FEDERAL COM. 701H

701H LATITUDE N 32.0955578 701H LONGITUDE W 104.3570287

EXHIBIT 3



SECTION 25, TOWNSHIP 25-S, RANGE 25-E, N.M.P.M.  
EDDY COUNTY, NEW MEXICO



MAS VERDE 25 FEDERAL COM 701H

LEASE NAME & WELL NO.: MAS VERDE 25 FEDERAL COM 701H  
701H LATITUDE N 32.0955578 701H LONGITUDE W 104.3570287

SCALE: NTS

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.



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

**Revised Permit Information 10/29/19:**

Well Name: Mas Verde 25 Fed Com #701H

Location:

SHL: 720' FSL & 287' FWL, Section 25, T-25-S, R-25-E, Eddy Co., N.M.

BHL: 230' FNL & 330' FWL, Section 24, T-25-S, R-25-E, Eddy Co., N.M.

**Casing Program:**

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF <sub>min</sub> Collapse	DF <sub>min</sub> Burst	DF <sub>min</sub> Tension
17.5"	0 – 500'	13.375"	54.5#	J-55	STC	1.125	1.25	1.60
12.25"	0 – 1,600'	9.625"	40#	HCP-110	LTC	1.125	1.25	1.60
8.75"	0'-8,667'	5.5"	20#	P-110 EC	DWC/C-IS MS	1.125	1.25	1.60
8.5"	8,667'- 18,466'	5.5"	20#	P-110 EC	DWC/C-IS MS	1.125	1.25	1.60

Variance is requested to waive the centralizer requirements for the 7-5/8" 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.

**CONTINGNECY PLAN**

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF <sub>min</sub> Collapse	DF <sub>min</sub> Burst	DF <sub>min</sub> Tension
17.5"	0 – 500'	13.375"	54.5#	J-55	STC	1.125	1.25	1.60
12.25"	0 – 1,600'	9.625"	40#	HCP-110	LTC	1.125	1.25	1.60
8.75"	0'-8,200'	7.625"	29.7#	HCP-110	MO-FXL	1.125	1.25	1.60
6.75"	0'-18,466'	5.5"	20#	P-110 EC	VAM SFC	1.125	1.25	1.60

A 7-5/8" casing string is added in the contingency plan and it will be set as a section of the pilot hole. A whipstock will be set in the 7-5/8" casing at the KOP (7,917'), and a hole will be milled out to begin the curve to the lateral section.

Variance is also requested to waive any centralizer requirements for the 5-1/2" FJ casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

**Cementing Program:**

<b>Depth</b>	<b>No. Sacks</b>	<b>Wt. ppg</b>	<b>Yld Ft<sup>3</sup>/ft</b>	<b>Slurry Description</b>
500' 13-3/8"	210	13.5	1.74	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	160	14.8	1.35	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 300')
1,600' 9-5/8"	250	12.7	2.22	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface)
	110	14.8	1.32	Tail: Class C + 10% NaCl + 3% MagOx (TOC @ 1,280')
10,750'	1,120	14.8	1.33	Bottom hole plug: Class H + 5% Salt + 3% Microbond (TOC @ 7,917')
18,466' 5-1/2"	690	11.0	3.21	Lead: Class C + 3% CaCl <sub>2</sub> + 3% Microbond (TOC @ 1,100')
	2,780	14.4	1.2	Tail: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 7,917')

**CONTINGENCY PLAN**

<b>Depth</b>	<b>No. Sacks</b>	<b>Wt. ppg</b>	<b>Yld Ft<sup>3</sup>/ft</b>	<b>Slurry Description</b>
500' 13-3/8"	210	13.5	1.74	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	160	14.8	1.35	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 300')
1,600' 9-5/8"	250	12.7	2.22	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface)
	110	14.8	1.32	Tail: Class C + 10% NaCl + 3% MagOx (TOC @ 1,280')
8,200' 7-5/8"	210	10.8	3.67	Lead: Class C + 3% CaCl <sub>2</sub> + 3% Microbond (TOC @ 1,100')
	100	14.8	2.38	Tail: Class H + 0.6% Halad-9 + 0.45% HR-601 + 3% Microbond (TOC @ 6,700')
10,750'	670	14.8	1.33	Bottom hole plug: Class H + 5% Salt + 3% Microbond (TOC @ 7,917')
18,466' 5-1/2"	890	14.8	1.31	Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 7,417')

<b>Additive</b>	<b>Purpose</b>
Bentonite Gel	Lightweight/Lost circulation prevention
Calcium Chloride	Accelerator
Cello-flake	Lost circulation prevention
Sodium Metasilicate	Accelerator
MagOx	Expansive agent
Pre-Mag-M	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.

Per BLM request, pilot hole will be filled with cement to KOP.

**Mud Program:**

<b>Depth</b>	<b>Type</b>	<b>Weight (ppg)</b>	<b>Viscosity</b>	<b>Water Loss</b>
0 – 500'	Fresh - Gel	8.6-8.8	28-34	N/c
500' – 1,600'	Brine	10.0-10.2	28-34	N/c
1,600' – 7,917'	Oil Base	10.0-10.5	58-68	3 - 6
7,917' – 10,750'	Oil Base	10.0-12.5	58-68	3 - 6
Pilot Hole				
7,917' – 18,466'	Oil Base	10.0-10.5	58-68	3 - 6
Lateral				

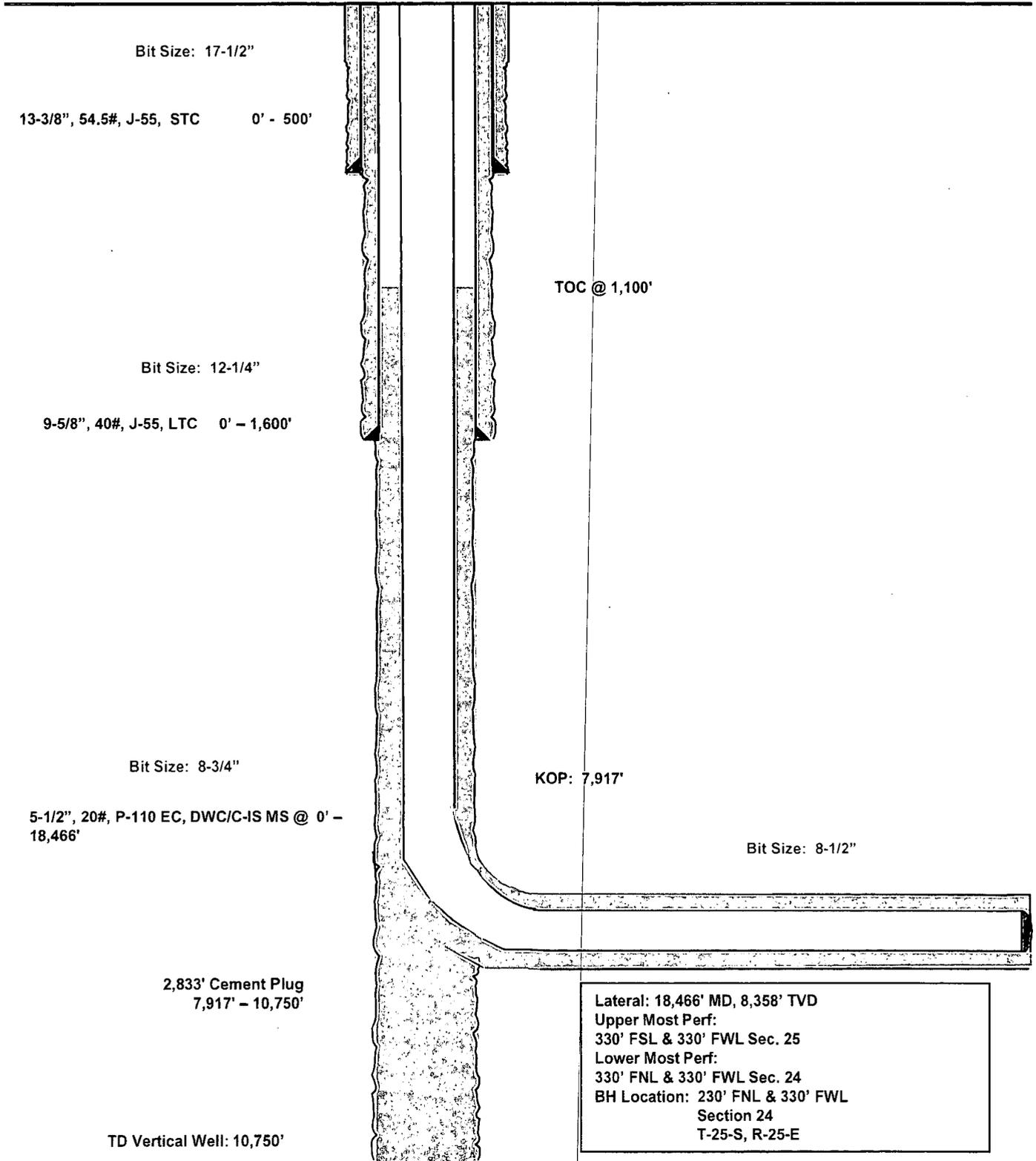
Mas Verde 25 Fed Com #701H

Eddy County, New Mexico  
Revised Wellbore 10/29/2019

720' FSL  
287' FWL  
Section 25  
T-25-S, R-25-E

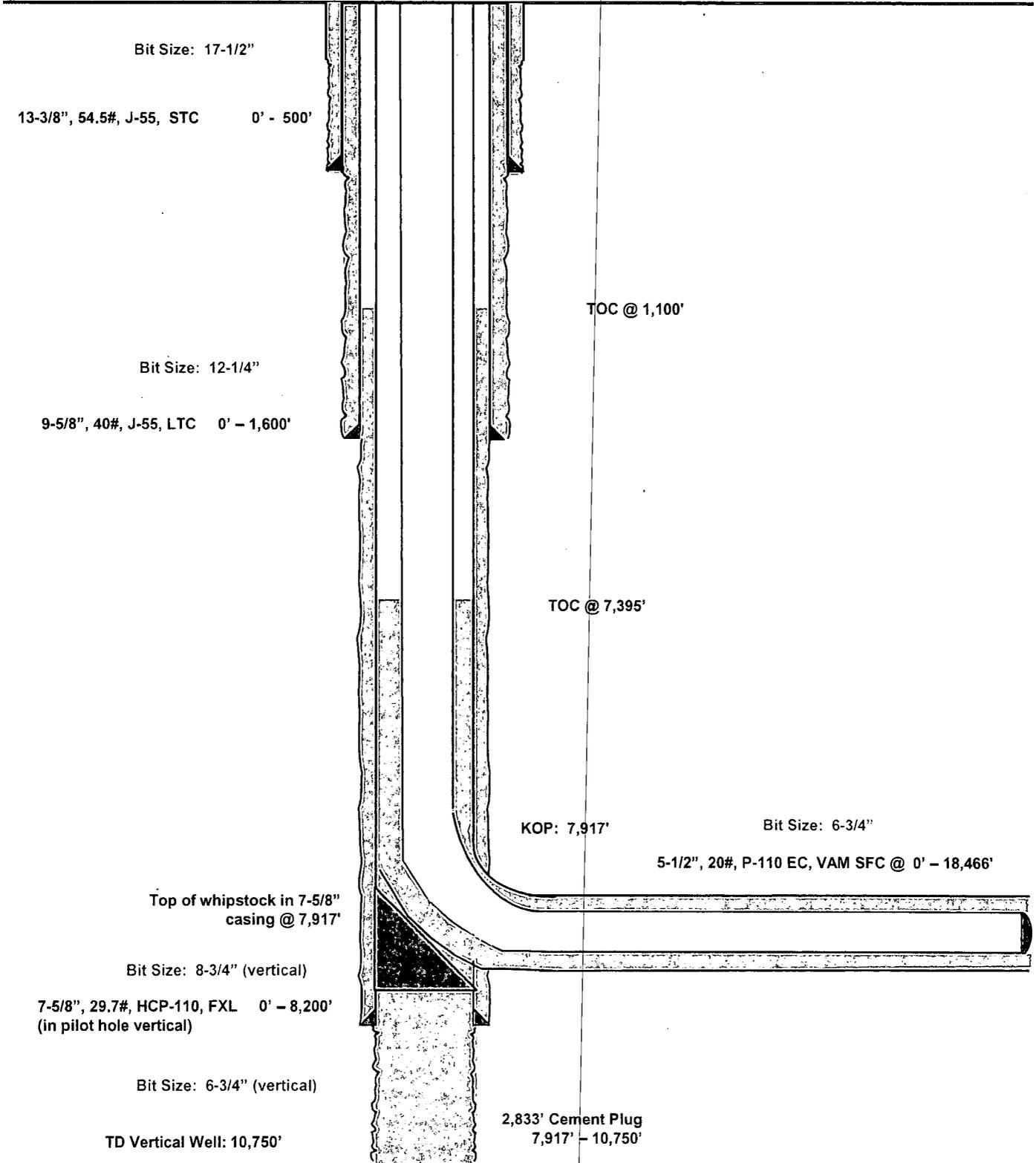
API: 30-015-46389

KB: 3,574'  
GL: 3,549'



Mas Verde 25 Fed Com #701H

Eddy County, New Mexico  
Revised Contingency Wellbore





## **EOG Resources - Midland**

**Eddy County, NM (NAD 83 NME)**

**Mas Verde 25 Federal Com**

**#701H**

**OH**

**Plan: Plan #0.2**

## **Standard Planning Report**

**29 October, 2019**





Planning Report

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #701H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3574.0usft
Project:	Eddy County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3574.0usft
Site:	Mas Verde 25 Federal Com	North Reference:	Grid
Well:	#701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.2		

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		
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00		
1,815.4	6.31	176.32	1,814.7	-17.3	1.1	2.00	2.00	0.00	176.32		
7,601.4	6.31	176.32	7,565.8	-651.7	41.9	0.00	0.00	0.00	0.00		
7,916.8	0.00	0.00	7,880.5	-669.0	43.0	2.00	-2.00	0.00	180.00	KOP(MV 25 FC #701H)	
8,463.2	65.57	0.00	8,315.2	-389.0	43.0	12.00	12.00	0.00	0.00	FTP(MV 25 FC #701H)	
8,666.8	90.00	0.02	8,357.9	-191.6	43.0	12.00	12.00	0.01	0.06		
13,415.3	90.00	0.02	8,358.0	4,557.0	45.0	0.00	0.00	0.00	0.00	Fed PP (MV 25 FC #701H)	
16,111.1	90.00	0.73	8,358.0	7,252.7	62.8	0.03	0.00	0.03	89.92		
18,465.6	90.00	0.73	8,358.0	9,607.0	93.0	0.00	0.00	0.00	0.00	PBHL(MV 25 FC #701H)	



Planning Report

Database	EDM 5000.14	Local Co-ordinate Reference	Well #701H
Company	EOG Resources - Midland	TVD Reference	KB = 25 @ 3574.0usft
Project	Eddy County, NM (NAD 83 NME)	MD Reference	KB = 25 @ 3574.0usft
Site	Mas Verde 25 Federal Com	North Reference	Grid
Well	#701H	Survey Calculation Method	Minimum Curvature
Wellbore	OH		
Design	Plan #0.2		

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	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	2.00	176.32	1,600.0	-1.7	0.1	-1.7	2.00	2.00	0.00
1,700.0	4.00	176.32	1,699.8	-7.0	0.4	-7.0	2.00	2.00	0.00
1,800.0	6.00	176.32	1,799.5	-15.7	1.0	-15.7	2.00	2.00	0.00
1,815.4	6.31	176.32	1,814.7	-17.3	1.1	-17.3	2.00	2.00	0.00
1,900.0	6.31	176.32	1,898.9	-26.6	1.7	-26.6	0.00	0.00	0.00
2,000.0	6.31	176.32	1,998.2	-37.5	2.4	-37.5	0.00	0.00	0.00
2,100.0	6.31	176.32	2,097.6	-48.5	3.1	-48.5	0.00	0.00	0.00
2,200.0	6.31	176.32	2,197.0	-59.5	3.8	-59.4	0.00	0.00	0.00
2,300.0	6.31	176.32	2,296.4	-70.4	4.5	-70.4	0.00	0.00	0.00
2,400.0	6.31	176.32	2,395.8	-81.4	5.2	-81.4	0.00	0.00	0.00
2,500.0	6.31	176.32	2,495.2	-92.4	5.9	-92.3	0.00	0.00	0.00
2,600.0	6.31	176.32	2,594.6	-103.3	6.6	-103.3	0.00	0.00	0.00
2,700.0	6.31	176.32	2,694.0	-114.3	7.3	-114.2	0.00	0.00	0.00
2,800.0	6.31	176.32	2,793.4	-125.3	8.1	-125.2	0.00	0.00	0.00
2,900.0	6.31	176.32	2,892.8	-136.2	8.8	-136.1	0.00	0.00	0.00
3,000.0	6.31	176.32	2,992.2	-147.2	9.5	-147.1	0.00	0.00	0.00
3,100.0	6.31	176.32	3,091.6	-158.2	10.2	-158.0	0.00	0.00	0.00
3,200.0	6.31	176.32	3,191.0	-169.1	10.9	-169.0	0.00	0.00	0.00
3,300.0	6.31	176.32	3,290.4	-180.1	11.6	-180.0	0.00	0.00	0.00
3,400.0	6.31	176.32	3,389.8	-191.0	12.3	-190.9	0.00	0.00	0.00
3,500.0	6.31	176.32	3,489.2	-202.0	13.0	-201.9	0.00	0.00	0.00
3,600.0	6.31	176.32	3,588.6	-213.0	13.7	-212.8	0.00	0.00	0.00
3,700.0	6.31	176.32	3,688.0	-223.9	14.4	-223.8	0.00	0.00	0.00
3,800.0	6.31	176.32	3,787.3	-234.9	15.1	-234.7	0.00	0.00	0.00
3,900.0	6.31	176.32	3,886.7	-245.9	15.8	-245.7	0.00	0.00	0.00
4,000.0	6.31	176.32	3,986.1	-256.8	16.5	-256.7	0.00	0.00	0.00
4,100.0	6.31	176.32	4,085.5	-267.8	17.2	-267.6	0.00	0.00	0.00
4,200.0	6.31	176.32	4,184.9	-278.8	17.9	-278.6	0.00	0.00	0.00
4,300.0	6.31	176.32	4,284.3	-289.7	18.6	-289.5	0.00	0.00	0.00
4,400.0	6.31	176.32	4,383.7	-300.7	19.3	-300.5	0.00	0.00	0.00
4,500.0	6.31	176.32	4,483.1	-311.7	20.0	-311.4	0.00	0.00	0.00
4,600.0	6.31	176.32	4,582.5	-322.6	20.7	-322.4	0.00	0.00	0.00
4,700.0	6.31	176.32	4,681.9	-333.6	21.4	-333.4	0.00	0.00	0.00
4,800.0	6.31	176.32	4,781.3	-344.5	22.1	-344.3	0.00	0.00	0.00
4,900.0	6.31	176.32	4,880.7	-355.5	22.9	-355.3	0.00	0.00	0.00
5,000.0	6.31	176.32	4,980.1	-366.5	23.6	-366.2	0.00	0.00	0.00
5,100.0	6.31	176.32	5,079.5	-377.4	24.3	-377.2	0.00	0.00	0.00
5,200.0	6.31	176.32	5,178.9	-388.4	25.0	-388.1	0.00	0.00	0.00



Planning Report

Database	EDM 5000.14	Local Co-ordinate Reference	Well #701H
Company	EOG Resources - Midland	TVD Reference	KB = 25 @ 3574.0usft
Project	Eddy County, NM (NAD 83 NME)	MD Reference	KB = 25 @ 3574.0usft
Site	Mas Verde 25 Federal Com	North Reference	Grid
Well	#701H	Survey Calculation Method	Minimum Curvature
Wellbore	OH		
Design	Plan #0.2		

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	6.31	176.32	5,278.3	-399.4	25.7	-399.1	0.00	0.00	0.00	
5,400.0	6.31	176.32	5,377.7	-410.3	26.4	-410.1	0.00	0.00	0.00	
5,500.0	6.31	176.32	5,477.1	-421.3	27.1	-421.0	0.00	0.00	0.00	
5,600.0	6.31	176.32	5,576.5	-432.3	27.8	-432.0	0.00	0.00	0.00	
5,700.0	6.31	176.32	5,675.8	-443.2	28.5	-442.9	0.00	0.00	0.00	
5,800.0	6.31	176.32	5,775.2	-454.2	29.2	-453.9	0.00	0.00	0.00	
5,900.0	6.31	176.32	5,874.6	-465.1	29.9	-464.8	0.00	0.00	0.00	
6,000.0	6.31	176.32	5,974.0	-476.1	30.6	-475.8	0.00	0.00	0.00	
6,100.0	6.31	176.32	6,073.4	-487.1	31.3	-486.8	0.00	0.00	0.00	
6,200.0	6.31	176.32	6,172.8	-498.0	32.0	-497.7	0.00	0.00	0.00	
6,300.0	6.31	176.32	6,272.2	-509.0	32.7	-508.7	0.00	0.00	0.00	
6,400.0	6.31	176.32	6,371.6	-520.0	33.4	-519.6	0.00	0.00	0.00	
6,500.0	6.31	176.32	6,471.0	-530.9	34.1	-530.6	0.00	0.00	0.00	
6,600.0	6.31	176.32	6,570.4	-541.9	34.8	-541.5	0.00	0.00	0.00	
6,700.0	6.31	176.32	6,669.8	-552.9	35.5	-552.5	0.00	0.00	0.00	
6,800.0	6.31	176.32	6,769.2	-563.8	36.2	-563.4	0.00	0.00	0.00	
6,900.0	6.31	176.32	6,868.6	-574.8	36.9	-574.4	0.00	0.00	0.00	
7,000.0	6.31	176.32	6,968.0	-585.8	37.6	-585.4	0.00	0.00	0.00	
7,100.0	6.31	176.32	7,067.4	-596.7	38.4	-596.3	0.00	0.00	0.00	
7,200.0	6.31	176.32	7,166.8	-607.7	39.1	-607.3	0.00	0.00	0.00	
7,300.0	6.31	176.32	7,266.2	-618.6	39.8	-618.2	0.00	0.00	0.00	
7,400.0	6.31	176.32	7,365.6	-629.6	40.5	-629.2	0.00	0.00	0.00	
7,500.0	6.31	176.32	7,465.0	-640.6	41.2	-640.1	0.00	0.00	0.00	
7,601.4	6.31	176.32	7,565.8	-651.7	41.9	-651.3	0.00	0.00	0.00	
7,700.0	4.34	176.32	7,663.9	-660.8	42.5	-660.4	2.00	-2.00	0.00	
7,800.0	2.34	176.32	7,763.7	-666.6	42.8	-666.2	2.00	-2.00	0.00	
7,900.0	0.34	176.32	7,863.7	-669.0	43.0	-668.5	2.00	-2.00	0.00	
7,916.8	0.00	0.00	7,880.5	-669.0	43.0	-668.6	2.00	-2.00	0.00	
7,925.0	0.98	0.00	7,888.7	-668.9	43.0	-668.5	12.00	12.00	0.00	
7,950.0	3.98	0.00	7,913.7	-667.8	43.0	-667.4	12.00	12.00	0.00	
7,975.0	6.98	0.00	7,938.6	-665.5	43.0	-665.0	12.00	12.00	0.00	
8,000.0	9.98	0.00	7,963.3	-661.8	43.0	-661.3	12.00	12.00	0.00	
8,025.0	12.98	0.00	7,987.8	-656.8	43.0	-656.3	12.00	12.00	0.00	
8,050.0	15.98	0.00	8,012.0	-650.5	43.0	-650.1	12.00	12.00	0.00	
8,075.0	18.99	0.00	8,035.8	-643.0	43.0	-642.6	12.00	12.00	0.00	
8,100.0	21.99	0.00	8,059.2	-634.3	43.0	-633.8	12.00	12.00	0.00	
8,125.0	24.99	0.00	8,082.2	-624.3	43.0	-623.9	12.00	12.00	0.00	
8,150.0	27.99	0.00	8,104.5	-613.2	43.0	-612.7	12.00	12.00	0.00	
8,175.0	30.99	0.00	8,126.3	-600.9	43.0	-600.4	12.00	12.00	0.00	
8,200.0	33.99	0.00	8,147.4	-587.4	43.0	-587.0	12.00	12.00	0.00	
8,225.0	36.99	0.00	8,167.7	-572.9	43.0	-572.5	12.00	12.00	0.00	
8,250.0	39.99	0.00	8,187.3	-557.4	43.0	-556.9	12.00	12.00	0.00	
8,275.0	42.99	0.00	8,206.0	-540.8	43.0	-540.4	12.00	12.00	0.00	
8,300.0	45.99	0.00	8,223.9	-523.3	43.0	-522.9	12.00	12.00	0.00	
8,325.0	48.99	0.00	8,240.8	-504.9	43.0	-504.4	12.00	12.00	0.00	
8,350.0	51.99	0.00	8,256.7	-485.6	43.0	-485.1	12.00	12.00	0.00	
8,375.0	54.99	0.00	8,271.5	-465.5	43.0	-465.1	12.00	12.00	0.00	
8,400.0	57.99	0.00	8,285.3	-444.7	43.0	-444.2	12.00	12.00	0.00	
8,425.0	60.99	0.00	8,298.0	-423.1	43.0	-422.7	12.00	12.00	0.00	
8,450.0	63.99	0.00	8,309.6	-400.9	43.0	-400.5	12.00	12.00	0.00	
8,463.2	65.57	0.00	8,315.2	-389.0	43.0	-388.6	12.00	12.00	0.00	
8,475.0	66.99	0.00	8,319.9	-378.2	43.0	-377.8	12.00	12.00	0.01	
8,500.0	69.99	0.00	8,329.1	-354.9	43.0	-354.5	12.00	12.00	0.01	
8,525.0	72.99	0.01	8,337.0	-331.2	43.0	-330.8	12.00	12.00	0.01	



Planning Report

Database	EDM 5000.14	Local Co-ordinate Reference	Well #701H
Company	EOG Resources - Midland	TVD Reference	KB = 25 @ 3574.0usft
Project	Eddy County, NM (NAD 83 NME)	MD Reference	KB = 25 @ 3574.0usft
Site	Mas Verde 25 Federal Com	North Reference	Grid
Well	#701H	Survey Calculation Method	Minimum Curvature
Wellbore	OH		
Design	Plan #0.2		

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)	
8,550.0	75.99	0.01	8,343.7	-307.2	43.0	-306.7	12.00	12.00	0.01	
8,575.0	78.99	0.01	8,349.1	-282.8	43.0	-282.3	12.00	12.00	0.01	
8,600.0	81.99	0.02	8,353.3	-258.1	43.0	-257.7	12.00	12.00	0.01	
8,625.0	84.99	0.02	8,356.1	-233.3	43.0	-232.8	12.00	12.00	0.01	
8,650.0	87.99	0.02	8,357.6	-208.3	43.0	-207.9	12.00	12.00	0.01	
8,666.8	90.00	0.02	8,357.9	-191.6	43.0	-191.1	12.00	12.00	0.01	
8,700.0	90.00	0.02	8,357.9	-158.3	43.1	-157.9	0.00	0.00	0.00	
8,800.0	90.00	0.02	8,357.9	-58.3	43.1	-57.9	0.00	0.00	0.00	
8,900.0	90.00	0.02	8,357.9	41.7	43.1	42.1	0.00	0.00	0.00	
9,000.0	90.00	0.02	8,357.9	141.7	43.2	142.1	0.00	0.00	0.00	
9,100.0	90.00	0.02	8,357.9	241.7	43.2	242.1	0.00	0.00	0.00	
9,200.0	90.00	0.02	8,357.9	341.7	43.3	342.1	0.00	0.00	0.00	
9,300.0	90.00	0.02	8,357.9	441.7	43.3	442.1	0.00	0.00	0.00	
9,400.0	90.00	0.02	8,357.9	541.7	43.3	542.1	0.00	0.00	0.00	
9,500.0	90.00	0.02	8,357.9	641.7	43.4	642.1	0.00	0.00	0.00	
9,600.0	90.00	0.02	8,358.0	741.7	43.4	742.1	0.00	0.00	0.00	
9,700.0	90.00	0.02	8,358.0	841.7	43.5	842.1	0.00	0.00	0.00	
9,800.0	90.00	0.02	8,358.0	941.7	43.5	942.1	0.00	0.00	0.00	
9,900.0	90.00	0.02	8,358.0	1,041.7	43.6	1,042.1	0.00	0.00	0.00	
10,000.0	90.00	0.02	8,358.0	1,141.7	43.6	1,142.0	0.00	0.00	0.00	
10,100.0	90.00	0.02	8,358.0	1,241.7	43.6	1,242.0	0.00	0.00	0.00	
10,200.0	90.00	0.02	8,358.0	1,341.7	43.7	1,342.0	0.00	0.00	0.00	
10,300.0	90.00	0.02	8,358.0	1,441.7	43.7	1,442.0	0.00	0.00	0.00	
10,400.0	90.00	0.02	8,358.0	1,541.7	43.8	1,542.0	0.00	0.00	0.00	
10,500.0	90.00	0.02	8,358.0	1,641.7	43.8	1,642.0	0.00	0.00	0.00	
10,600.0	90.00	0.02	8,358.0	1,741.7	43.8	1,742.0	0.00	0.00	0.00	
10,700.0	90.00	0.02	8,358.0	1,841.7	43.9	1,842.0	0.00	0.00	0.00	
10,800.0	90.00	0.02	8,358.0	1,941.7	43.9	1,942.0	0.00	0.00	0.00	
10,900.0	90.00	0.02	8,358.0	2,041.7	44.0	2,042.0	0.00	0.00	0.00	
11,000.0	90.00	0.02	8,358.0	2,141.7	44.0	2,142.0	0.00	0.00	0.00	
11,100.0	90.00	0.02	8,358.0	2,241.7	44.0	2,242.0	0.00	0.00	0.00	
11,200.0	90.00	0.02	8,358.0	2,341.7	44.1	2,342.0	0.00	0.00	0.00	
11,300.0	90.00	0.02	8,358.0	2,441.7	44.1	2,442.0	0.00	0.00	0.00	
11,400.0	90.00	0.02	8,358.0	2,541.7	44.2	2,542.0	0.00	0.00	0.00	
11,500.0	90.00	0.02	8,358.0	2,641.7	44.2	2,642.0	0.00	0.00	0.00	
11,600.0	90.00	0.02	8,358.0	2,741.7	44.3	2,742.0	0.00	0.00	0.00	
11,700.0	90.00	0.02	8,358.0	2,841.7	44.3	2,842.0	0.00	0.00	0.00	
11,800.0	90.00	0.02	8,358.0	2,941.7	44.3	2,942.0	0.00	0.00	0.00	
11,900.0	90.00	0.02	8,358.0	3,041.7	44.4	3,042.0	0.00	0.00	0.00	
12,000.0	90.00	0.02	8,358.0	3,141.7	44.4	3,142.0	0.00	0.00	0.00	
12,100.0	90.00	0.02	8,358.0	3,241.7	44.5	3,242.0	0.00	0.00	0.00	
12,200.0	90.00	0.02	8,358.0	3,341.7	44.5	3,342.0	0.00	0.00	0.00	
12,300.0	90.00	0.02	8,358.0	3,441.7	44.5	3,442.0	0.00	0.00	0.00	
12,400.0	90.00	0.02	8,358.0	3,541.7	44.6	3,541.9	0.00	0.00	0.00	
12,500.0	90.00	0.02	8,358.0	3,641.7	44.6	3,641.9	0.00	0.00	0.00	
12,600.0	90.00	0.02	8,358.0	3,741.7	44.7	3,741.9	0.00	0.00	0.00	
12,700.0	90.00	0.02	8,358.0	3,841.7	44.7	3,841.9	0.00	0.00	0.00	
12,800.0	90.00	0.02	8,358.0	3,941.7	44.7	3,941.9	0.00	0.00	0.00	
12,900.0	90.00	0.02	8,358.0	4,041.7	44.8	4,041.9	0.00	0.00	0.00	
13,000.0	90.00	0.02	8,358.0	4,141.7	44.8	4,141.9	0.00	0.00	0.00	
13,100.0	90.00	0.02	8,358.0	4,241.7	44.9	4,241.9	0.00	0.00	0.00	
13,200.0	90.00	0.02	8,358.0	4,341.7	44.9	4,341.9	0.00	0.00	0.00	
13,300.0	90.00	0.02	8,358.0	4,441.7	45.0	4,441.9	0.00	0.00	0.00	
13,400.0	90.00	0.02	8,358.0	4,541.7	45.0	4,541.9	0.00	0.00	0.00	



Planning Report

Database	EDM 5000.14	Local Co-ordinate Reference	Well #701H
Company	EOG Resources - Midland	TVD Reference	KB = 25 @ 3574.0usft
Project	Eddy County, NM (NAD 83 NME)	MD Reference	KB = 25 @ 3574.0usft
Site	Mas Verde 25 Federal Com	North Reference	Grid
Well:	#701H	Survey Calculation Method	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.2		

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)	
13,415.3	90.00	0.02	8,358.0	4,557.0	45.0	4,557.2	0.00	0.00	0.00	
13,500.0	90.00	0.05	8,358.0	4,641.7	45.1	4,641.9	0.03	0.00	0.03	
13,600.0	90.00	0.07	8,358.0	4,741.7	45.2	4,741.9	0.03	0.00	0.03	
13,700.0	90.00	0.10	8,358.0	4,841.7	45.3	4,841.9	0.03	0.00	0.03	
13,800.0	90.00	0.13	8,358.0	4,941.7	45.5	4,941.9	0.03	0.00	0.03	
13,900.0	90.00	0.15	8,358.0	5,041.7	45.7	5,041.9	0.03	0.00	0.03	
14,000.0	90.00	0.18	8,358.0	5,141.7	46.0	5,141.9	0.03	0.00	0.03	
14,100.0	90.00	0.20	8,358.0	5,241.7	46.4	5,241.9	0.03	0.00	0.03	
14,200.0	90.00	0.23	8,358.0	5,341.7	46.7	5,341.9	0.03	0.00	0.03	
14,300.0	90.00	0.26	8,358.0	5,441.7	47.2	5,441.9	0.03	0.00	0.03	
14,400.0	90.00	0.28	8,358.0	5,541.7	47.6	5,541.9	0.03	0.00	0.03	
14,500.0	90.00	0.31	8,358.0	5,641.7	48.2	5,641.9	0.03	0.00	0.03	
14,600.0	90.00	0.34	8,358.0	5,741.7	48.7	5,741.9	0.03	0.00	0.03	
14,700.0	90.00	0.36	8,358.0	5,841.7	49.3	5,841.9	0.03	0.00	0.03	
14,800.0	90.00	0.39	8,358.0	5,941.7	50.0	5,941.9	0.03	0.00	0.03	
14,900.0	90.00	0.41	8,358.0	6,041.7	50.7	6,041.9	0.03	0.00	0.03	
15,000.0	90.00	0.44	8,358.0	6,141.7	51.4	6,141.9	0.03	0.00	0.03	
15,100.0	90.00	0.47	8,358.0	6,241.7	52.2	6,241.9	0.03	0.00	0.03	
15,200.0	90.00	0.49	8,358.0	6,341.7	53.1	6,341.9	0.03	0.00	0.03	
15,300.0	90.00	0.52	8,358.0	6,441.7	53.9	6,441.9	0.03	0.00	0.03	
15,400.0	90.00	0.55	8,358.0	6,541.6	54.9	6,541.9	0.03	0.00	0.03	
15,500.0	90.00	0.57	8,358.0	6,641.6	55.9	6,641.9	0.03	0.00	0.03	
15,600.0	90.00	0.60	8,358.0	6,741.6	56.9	6,741.9	0.03	0.00	0.03	
15,700.0	90.00	0.63	8,358.0	6,841.6	57.9	6,841.9	0.03	0.00	0.03	
15,800.0	90.00	0.65	8,358.0	6,941.6	59.1	6,941.9	0.03	0.00	0.03	
15,900.0	90.00	0.68	8,358.0	7,041.6	60.2	7,041.9	0.03	0.00	0.03	
16,000.0	90.00	0.70	8,358.0	7,141.6	61.4	7,141.9	0.03	0.00	0.03	
16,100.0	90.00	0.73	8,358.0	7,241.6	62.7	7,241.9	0.03	0.00	0.03	
16,111.1	90.00	0.73	8,358.0	7,252.7	62.8	7,253.0	0.03	0.00	0.03	
16,200.0	90.00	0.73	8,358.0	7,341.6	64.0	7,341.9	0.00	0.00	0.00	
16,300.0	90.00	0.73	8,358.0	7,441.6	65.2	7,441.9	0.00	0.00	0.00	
16,400.0	90.00	0.73	8,358.0	7,541.6	66.5	7,541.9	0.00	0.00	0.00	
16,500.0	90.00	0.73	8,358.0	7,641.6	67.8	7,641.9	0.00	0.00	0.00	
16,600.0	90.00	0.73	8,358.0	7,741.6	69.1	7,741.9	0.00	0.00	0.00	
16,700.0	90.00	0.73	8,358.0	7,841.6	70.4	7,841.9	0.00	0.00	0.00	
16,800.0	90.00	0.73	8,358.0	7,941.5	71.7	7,941.9	0.00	0.00	0.00	
16,900.0	90.00	0.73	8,358.0	8,041.5	72.9	8,041.9	0.00	0.00	0.00	
17,000.0	90.00	0.73	8,358.0	8,141.5	74.2	8,141.9	0.00	0.00	0.00	
17,100.0	90.00	0.73	8,358.0	8,241.5	75.5	8,241.9	0.00	0.00	0.00	
17,200.0	90.00	0.73	8,358.0	8,341.5	76.8	8,341.9	0.00	0.00	0.00	
17,300.0	90.00	0.73	8,358.0	8,441.5	78.1	8,441.9	0.00	0.00	0.00	
17,400.0	90.00	0.73	8,358.0	8,541.5	79.3	8,541.9	0.00	0.00	0.00	
17,500.0	90.00	0.73	8,358.0	8,641.5	80.6	8,641.9	0.00	0.00	0.00	
17,600.0	90.00	0.73	8,358.0	8,741.5	81.9	8,741.9	0.00	0.00	0.00	
17,700.0	90.00	0.73	8,358.0	8,841.5	83.2	8,841.9	0.00	0.00	0.00	
17,800.0	90.00	0.73	8,358.0	8,941.5	84.5	8,941.9	0.00	0.00	0.00	
17,900.0	90.00	0.73	8,358.0	9,041.5	85.8	9,041.9	0.00	0.00	0.00	
18,000.0	90.00	0.73	8,358.0	9,141.4	87.0	9,141.9	0.00	0.00	0.00	
18,100.0	90.00	0.73	8,358.0	9,241.4	88.3	9,241.9	0.00	0.00	0.00	
18,200.0	90.00	0.73	8,358.0	9,341.4	89.6	9,341.9	0.00	0.00	0.00	
18,300.0	90.00	0.73	8,358.0	9,441.4	90.9	9,441.9	0.00	0.00	0.00	
18,400.0	90.00	0.73	8,358.0	9,541.4	92.2	9,541.9	0.00	0.00	0.00	
18,465.6	90.00	0.73	8,358.0	9,607.0	93.0	9,607.4	0.00	0.00	0.00	



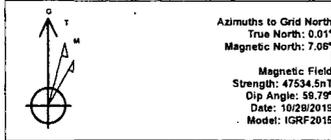
Planning Report

Database	EDM 5000.14	Local Co-ordinate Reference	Well #701H
Company	EOG Resources - Midland	TVD Reference	KB = 25 @ 3574.0usft
Project	Eddy County, NM (NAD 83 NME)	MD Reference	KB = 25 @ 3574.0usft
Site	Mas Verde 25 Federal Com	North Reference	Grid
Well	#701H	Survey Calculation Method	Minimum Curvature
Wellbore	OH		
Design	Plan #0.2		

Design Targets										
Target Name	Dip Angle	Dip Dir	TVD	+N/S	+E/W	Northing	Eastings	Latitude	Longitude	
hit/miss/target	(?)	(?)	(usft)	(usft)	(usft)	(usft)	(usft)			
KOP(MV 25 FC #701H) - plan hits target center - Point	0.00	0.00	7,880.5	-669.0	43.0	397,832.00	534,043.00	32.0937175°N	104.3568889°W	
FTP(MV 25 FC #701H) - plan hits target center - Point	0.00	360.00	8,315.2	-389.0	43.0	398,112.00	534,043.00	32.0944872°N	104.3568891°W	
PBHL(MV 25 FC #701H) - plan hits target center - Point	0.00	360.00	8,358.0	9,607.0	93.0	408,108.00	534,093.00	32.1219658°N	104.3567346°W	
Fed PP (MV 25 FC #701) - plan hits target center - Point	0.00	360.00	8,358.0	4,557.0	45.0	403,058.00	534,045.00	32.1080836°N	104.3568861°W	



Eddy County, NM (NAD 83 NME)  
 Mas Verde 25 Federal Com #701H  
 Plan #0.2



To convert a Magnetic Direction to a Grid Direction, Add 7.06°  
 To convert a Magnetic Direction to a True Direction, Add 7.05° East  
 To convert a True Direction to a Grid Direction, Add 0.01°

PROJECT DETAILS: Eddy 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: #701H

KB = 25 @ 3574.0usft		3549.0	
Northing	Easting	Latitude	Longitude
398501.00	534000.00	32.0955595°N	104.3570282°W

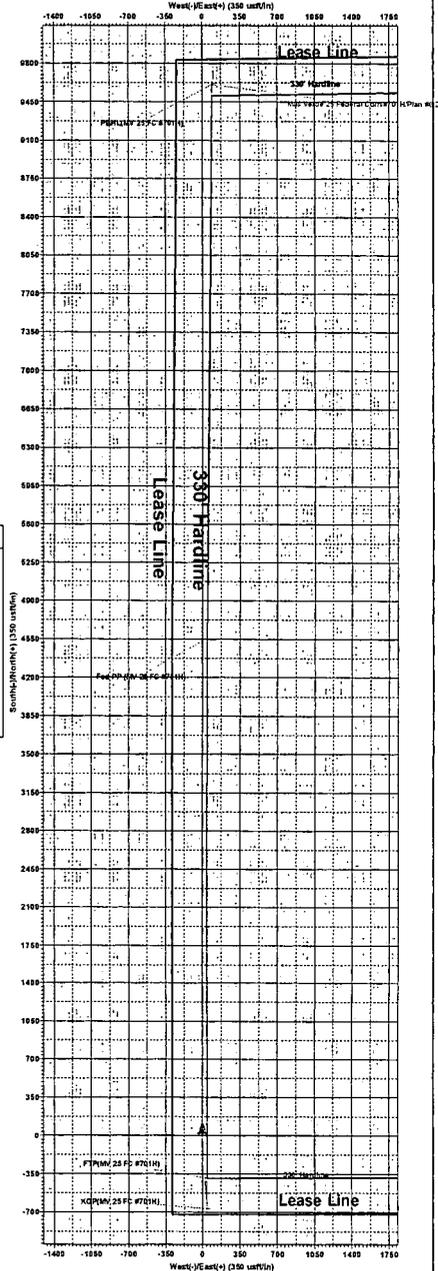
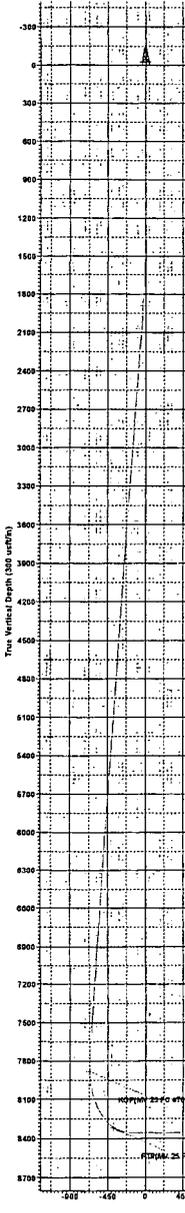
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1815.4	6.31	176.32	1814.7	-17.3	1.1	2.00	176.32	-17.3	
4	7601.4	6.31	176.32	7565.8	-651.7	41.9	0.00	0.00	-651.3	
5	7916.8	0.00	0.00	7880.5	-669.0	43.0	2.00	180.00	-668.6	KOP(MV 25 FC #701H)
6	8463.2	65.57	0.00	8315.2	-389.0	43.0	12.00	0.00	-388.6	FTP(MV 25 FC #701H)
7	8666.8	90.00	0.02	8357.9	-191.6	43.0	12.00	0.06	-191.1	
8	13415.3	90.00	0.02	8358.0	4557.0	45.0	0.00	0.00	4557.2	Fed PP (MV 25 FC #701H)
9	16111.1	90.00	0.73	8358.0	7252.7	62.8	0.03	89.92	7253.0	
10	18465.6	90.00	0.73	8358.0	9607.0	93.0	0.00	0.00	9607.5	PBHL(MV 25 FC #701H)

CASING DETAILS  
 No casing data is available

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP(MV 25 FC #701H)	7880.5	-669.0	43.0	398112.00	534043.00
FTP(MV 25 FC #701H)	8315.2	-389.0	43.0	398112.00	534043.00
Fed PP (MV 25 FC #701H)	8358.0	4557.0	45.0	403058.00	534045.00
PBHL(MV 25 FC #701H)	8358.0	9607.0	93.0	408108.00	534093.00



**PECOS DISTRICT  
DRILLING CONDITIONS OF APPROVAL**

<b>OPERATOR'S NAME:</b>	<b>EOG RESOURCES</b>
<b>LEASE NO.:</b>	<b>NMNM121934</b>
<b>WELL NAME &amp; NO.:</b>	<b>MAS VERDE 25 FED COM 701H</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>720' FSL &amp; 287' FEL</b>
<b>BOTTOM HOLE FOOTAGE:</b>	<b>360' FSL &amp; 2439' FWL</b>
<b>LOCATION:</b>	<b>Section 25, T. 25 S., R 25 E., NMPM</b>
<b>COUNTY:</b>	<b>Eddy County, New Mexico</b>

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input type="radio"/> Medium	<input checked="" type="radio"/> Critical
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input checked="" type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

**All previous COAs still apply, except for the following:**

**A. CASING**

**Primary Casing Design**

1. The 13-3/8 inch surface casing shall be set at approximately **500 feet** (a minimum of **70 feet (Eddy County)**) into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the 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 six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
  - ❖ In Critical Cave/Karst Areas cement must circulate to surface on first 3 casing strings.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. Operator shall provide method of verification. **Excess cement calculates to 19%, additional cement might be required.**

#### **Pilot Hole**

Operator must set plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the plug. Note plug top on subsequent drilling report. BLM is to be contacted (**575-361-2822 Eddy County**) prior to tag. Required plug top for **8 3/4** inch pilot hole will be **7,917** feet (proposed kick-off point).

#### **Alternate Casing Design:**

4. The **13-3/8** inch surface casing shall be set at approximately **500** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the 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 six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

5. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
  - ❖ In Critical Cave/Karst Areas cement must circulate to surface on first 3 casing strings.
6. The minimum required fill of cement behind the **7-5/8** inch second intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess cement calculates to 19%, additional cement might be required.**

### **Pilot Hole**

Operator must set plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the plug. Note plug top on subsequent drilling report. BLM is to be contacted (**575-361-2822 Eddy County**) prior to tag. Required plug top for **6 3/4** inch pilot hole will be **7,917** feet (proposed kick-off point).

7. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification. **Excess cement calculates to 23%, additional cement will be required.**

### **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 **5000 (5M)** 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.

### C. SPECIAL REQUIREMENT (S)

#### Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

**JJP11182019**

## GENERAL REQUIREMENTS

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)

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 2<sup>nd</sup> 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 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: 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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. 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.
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 not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- 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. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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 if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. 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.