

Form 3160-4
(August 2007)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other			6. If Indian, Allottee or Tribe Name		
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____			7. Unit or CA Agreement Name and No.		
2. Name of Operator EOG RESOURCES INCORPORATED			8. Lease Name and Well No. CABALLO 23 FED 709H		
3. Address PO BOX 2267 MIDLAND, TX 79702			9. API Well No. 30-025-45588-00-S1		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 23 T25S R33E Mer NMP At surface SWSE 300FSL 2032FEL 32.109597 N Lat, 103.541161 W Lon Sec 23 T25S R33E Mer NMP At top prod interval reported below SWSE 394FSL 1600FEL 32.109854 N Lat, 103.539766 W Lon Sec 14 T25S R33E Mer NMP At total depth NWSE 2496FSL 1559FEL 32.130230 N Lat, 103.539643 W Lon			10. Field and Pool, or Exploratory BOBCAT DRAW-UPR WOLFCAMP		
14. Date Spudded 03/11/2019			11. Sec., T., R., M., or Block and Survey or Area Sec 23 T25S R33E Mer NMP		
15. Date T.D. Reached 03/28/2019			12. County or Parish LEA		
16. Date Completed ☐ D & A ☒ Ready to Prod. 05/09/2019			13. State NM		
17. Elevations (DF, KB, RT, GL)* 3343 GL					
18. Total Depth: MD 20046 TVD 12445		19. Plug Back T.D.: MD 20015 TVD 12445		20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) 3343 GL			22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☐ No ☒ Yes (Submit analysis)		

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12.250	9.625 J55	40.0		1209		690		0	
8.750	7.625 HCP110	29.7		11773		1688		0	
6.750	5.500 ICYP110	20.0		20031		760		4980	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) UPR WOLFCAMP	12611	20015	12611 TO 20015	3.000	1485	OPEN
B)						
C)						
D)						

26. Perforation Record

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
12611 TO 20015	19,036,360 LBS PROPPANT; 292,939 BBLs LOAD FLUID

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
05/09/2019	05/17/2019	24	→	4187.0	7044.0	7721.0			GAS LIFT
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
48	SI	2782.0	→	4187	7044	7721	1682	POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #468628 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
RUSTLER	1079		BARREN	RUSTLER	1079
TOP OF SALT	1395		BARREN	TOP OF SALT	1395
BASE OF SALT	4691		BARREN	BASE OF SALT	4691
BRUSHY CANYON	7611		OIL & GAS	BRUSHY CANYON	7611
BONE SPRING 1ST	10135		OIL & GAS	BONE SPRING 1ST	10135
BONE SPRING 2ND	10693		OIL & GAS	BONE SPRING 2ND	10693
BONE SPRING 3RD	11864		OIL & GAS	BONE SPRING 3RD	11864
WOLFCAMP	12319		OIL & GAS	WOLFCAMP	12319

32. Additional remarks (include plugging procedure):
PLEASE REFERENCE ATTACHMENTS

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7 Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #468628 Verified by the BLM Well Information System.
For EOG RESOURCES INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by DINAH NEGRETE on 10/03/2019 (20DCN0009SE)

Name (please print) KAY MADDOX

Title REGULATORY SPECIALIST

Signature (Electronic Submission)

Date 06/11/2019

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.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

Revisions to Operator-Submitted EC Data for Well Completion #468628

	Operator Submitted	BLM Revised (AFMSS)
Lease:	NMNM108503	NMNM108503
Agreement:		
Operator:	EOG RESOURCES, INC PO BOX 2267 MIDLAND, TX 79702 Ph: 432-686-3658	EOG RESOURCES INCORPORATED PO BOX 2267 MIDLAND, TX 79702 Ph: 432.686.3689
Admin Contact:	KAY MADDOX REGULATORY SPECIALIST E-Mail: KAY_MADDOX@EOGRESOURCES.COM Cell: 432-638-8475 Ph: 432-686-3658	KAY MADDOX REGULATORY SPECIALIST E-Mail: kay_maddox@eogresources.com Cell: 432-638-8475 Ph: 432-686-3658
Tech Contact:	KAY MADDOX REGULATORY SPECIALIST E-Mail: KAY_MADDOX@EOGRESOURCES.COM Cell: 432-638-8475 Ph: 432-686-3658	KAY MADDOX REGULATORY SPECIALIST E-Mail: kay_maddox@eogresources.com Cell: 432-638-8475 Ph: 432-686-3658
Well Name:	CABALLO 23 FEDERAL	CABALLO 23 FED
Number:	709H	709H
Location:		
State:	NM	NM
County:	LEA	LEA
S/T/R:	Sec 23 T25S R33E Mer NMP	Sec 23 T25S R33E Mer NMP
Surf Loc:	SWSE 300FSL 2032FEL 32.109597 N Lat, 103.541161 W Lon	SWSE 300FSL 2032FEL 32.109597 N Lat, 103.541161 W Lon
Field/Pool:	BOBCAT DRAW;UPR WOLFCAMP	BOBCAT DRAW-UPR WOLFCAMP
Logs Run:		3343 GL
Producing Intervals - Formations:	WOLFCAMP	UPR WOLFCAMP
Porous Zones:	RUSTLER T/SALT B/SALT BRUSHY CANYON 1ST BONE SPRING SAND 2ND BONE SPRING SAND 3RD BONE SPRING SAND WOLFCAMP	RUSTLER TOP OF SALT BASE OF SALT BRUSHY CANYON BONE SPRING 1ST BONE SPRING 2ND BONE SPRING 3RD WOLFCAMP
Markers:	RUSTLER T/SALT B/SALT BRUSHY CANYON 1ST BONE SPRING SAND 2ND BONE SPRING SAND 3RD BONE SPRING SAND WOLFCAMP	RUSTLER TOP OF SALT BASE OF SALT BRUSHY CANYON BONE SPRING 1ST BONE SPRING 2ND BONE SPRING 3RD WOLFCAMP

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

¹ API Number 30-025- 45588	² Pool Code 98094	³ Pool Name BOBCAT DRAW; UPPER WOIFCAMP
⁴ Property Code 38481	⁵ Property Name CABALLO 23 FED	⁶ Well Number #709H
⁷ OGRID No. 7377	⁸ Operator Name EOG RESOURCES, INC.	⁹ Elevation 3343'

¹⁰Surface Location

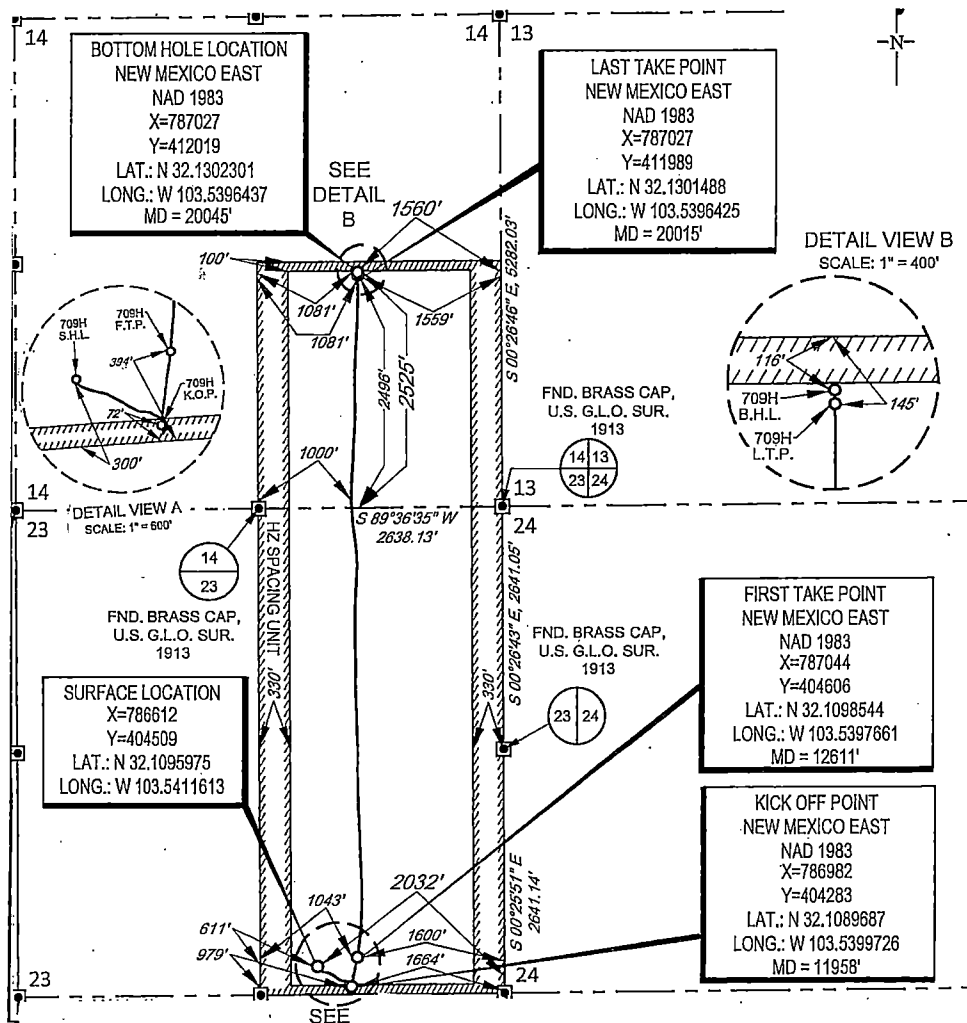
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	23	25-S	33-E	-	300'	SOUTH	2032'	EAST	LEA

¹¹Bottom 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
J	14	25-S	33-E	-	2496'	SOUTH	1559'	EAST	LEA

¹² Dedicated Acres 480.00	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

¹⁷OPERATOR 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 unless 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.

Kay Maddox 6/11/2019
Signature Date

KAY MADDUX
Printed Name

E-mail Address

¹⁸SURVEYOR 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.

01/26/2017
Date of Survey
Signature of Professional Surveyor

NEW MEXICO
PROFESSIONAL SURVEYOR
18329
Certificate Number

SCALE: 1" = 2000'

0' 1000' 2000'

SECTION 23, TOWNSHIP 25-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

FND. BRASS CAP,
U.S. G.L.O. SUR.
1913

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U.S. G.L.O. SUR.
1913

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U.S. G.L.O. SUR.
1913

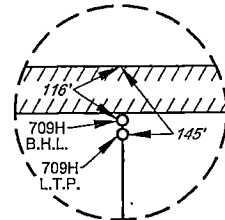
BOTTOM HOLE LOCATION
NEW MEXICO EAST
NAD 1983
X=787027
Y=412019
LAT.: N 32.1302301
LONG.: W 103.5396437
MD = 20045'

LAST TAKE POINT
NEW MEXICO EAST
NAD 1983
X=787027
Y=411989
LAT.: N 32.1301488
LONG.: W 103.5396425
MD = 20015'

FND. BRASS CAP,
U.S. G.L.O. SUR.
1913

POINT	UTM ZONE 13 COORDINATES
SHL	X=2091982.283 Y=11658491.625
KOP	X=2092353.351 Y=11658267.912
FTP	X=2092412.903 Y=11658590.915
LTP	X=2092351.110 Y=11658972.793
BHL	X=2092350.341 Y=11666002.372

DETAIL VIEW B
SCALE: 1" = 400'



FND. BRASS CAP,
U.S. G.L.O. SUR.
1913

SURFACE LOCATION
X=786612
Y=404509
LAT.: N 32.1095975
LONG.: W 103.5411613

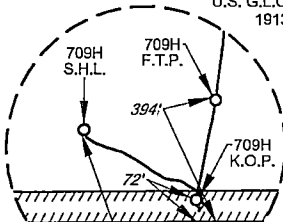
FIRST TAKE POINT
NEW MEXICO EAST
NAD 1983
X=787044
Y=404606
LAT.: N 32.1098544
LONG.: W 103.5397661
MD = 12611'

KICK OFF POINT
NEW MEXICO EAST
NAD 1983
X=786982
Y=404283
LAT.: N 32.1089687
LONG.: W 103.5399726
MD = 11958'

FND. BRASS CAP,
U.S. G.L.O. SUR.
1913

FND. BRASS CAP,
U.S. G.L.O. SUR.
1913

FND. BRASS CAP,
U.S. G.L.O. SUR.
1913



DETAIL VIEW A
SCALE: 1" = 600'

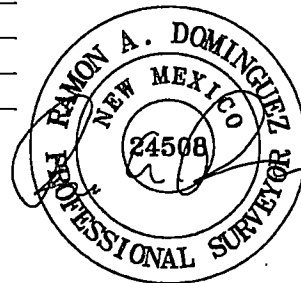
SEE DETAIL A
FND. BRASS CAP,
U.S. G.L.O. SUR.
1913

LEASE NAME & WELL NO.: CABALLO 23 FED #709H
SECTION 23 TWP 25-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3343'
DESCRIPTION 300' FSL & 2032' FEL



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



Ramon A. Dominguez, P.S. No. 24508
MAY 9, 2019



CABALLO 23 FED #709H AS-COMPLETED	REVISION:
DATE: 05/09/19	
FILE: AD_CABALLO_23_FED_709H	
DRAWN BY: H.B.	
SHEET: 1 OF 1	

- NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.
 3. THIS WELL 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.



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Caballo 23 Fed

#709H

OH

Design: OH

Final PVA Report

31 March, 2019



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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	Caballo 23 Fed				
Site Position:		Northing:	404,499.00 usft	Latitude:	32° 6' 34.558 N
From:	Map	Easting:	785,117.00 usft	Longitude:	103° 32' 45.566 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well	#709H					
Well Position	+N-S	0.0 usft	Northing:	404,509.00 usft	Latitude:	32° 6' 34.548 N
	+E-W	0.0 usft	Easting:	785,612.00 usft	Longitude:	103° 32' 28.184 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,343.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/15/2018	6.81	59.95	47,754.59207210

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	2.93	

Survey Program	Date	3/31/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
133.0	20,046.0	Leam MWD #1 (OH)	MWD	OWSG MWD - Standard



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (*/100usft)	Build (*/100usft)	Turn (*/100usft)	High to Plan (usft)	Right to Plan (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0
133.0	0.97	231.25	133.0	-0.7	-0.9	0.73	0.73	0.00	-1.1	0.0	
223.0	0.79	196.27	223.0	-1.8	-1.6	0.62	-0.20	-38.87	-2.2	-1.1	
315.0	0.53	212.97	315.0	-2.7	-2.1	0.35	-0.28	18.15	-3.4	-0.2	
406.0	0.53	209.45	406.0	-3.5	-2.5	0.04	0.00	-3.87	-4.2	-0.5	
528.0	0.09	203.65	528.0	-4.0	-2.8	0.36	-0.36	-4.75	-4.8	-0.9	
688.0	0.09	233.18	688.0	-4.2	-3.0	0.03	0.00	18.46	-4.9	1.6	
783.0	0.18	195.39	783.0	-4.4	-3.1	0.13	0.09	-39.78	-5.1	-1.8	
878.0	0.09	176.76	878.0	-4.6	-3.1	0.10	-0.09	-19.61	-4.5	-3.4	
973.0	0.09	3.96	973.0	-4.6	-3.1	0.19	0.00	-181.89	4.8	2.8	
1,068.0	0.09	103.11	1,068.0	-4.6	-3.0	0.14	0.00	104.37	1.9	-5.1	
1,155.0	0.26	19.08	1,155.0	-4.4	-2.9	0.31	0.20	-96.59	5.1	1.3	
1,257.0	0.53	24.18	1,257.0	-3.8	-2.6	0.27	0.26	5.00	4.5	0.8	
1,447.0	0.53	344.80	1,447.0	-2.1	-2.5	0.19	0.00	-20.73	1.4	2.9	
1,637.0	0.70	339.88	1,636.9	-0.2	-3.1	0.09	0.09	-2.59	-0.9	3.0	
1,827.0	0.44	26.99	1,826.9	1.6	-3.2	0.27	-0.14	24.79	0.0	3.5	
2,016.0	0.53	332.68	2,015.9	3.0	-3.2	0.24	0.05	-28.74	-4.1	1.5	
2,206.0	0.53	295.23	2,205.9	4.1	-4.4	0.18	0.00	-19.71	-5.8	-1.9	
2,397.0	0.53	311.23	2,396.9	5.1	-5.9	0.08	0.00	8.38	-7.8	0.1	
2,586.0	3.34	159.88	2,585.8	0.5	-4.7	2.02	1.49	-80.08	2.1	-4.2	
2,776.0	4.31	156.54	2,775.4	-11.2	0.1	0.52	0.51	-1.76	-10.3	-4.4	
2,966.0	5.10	130.53	2,964.8	-23.3	9.3	1.18	0.42	-13.69	-22.2	-11.7	
3,155.0	5.54	124.38	3,153.0	-33.9	23.3	0.38	0.23	-3.25	-38.3	-14.9	
3,345.0	6.42	112.60	3,341.9	-43.1	40.6	0.79	0.46	-6.20	-51.9	-24.0	
3,535.0	6.51	107.50	3,530.7	-50.5	60.7	0.31	0.05	-2.68	-57.5	-26.6	
3,724.0	5.54	112.95	3,718.7	-57.3	79.3	0.60	-0.51	2.88	-56.9	-17.6	
3,914.0	4.84	104.86	3,907.9	-62.9	95.5	0.53	-0.37	-4.26	-48.5	-21.0	



Final PVA Report

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Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
4,103.0	5.28	101.35	4,096.2	-66.6	111.8	0.28	0.23	-1.86	-41.8	-17.4
4,292.0	3.87	115.06	4,284.6	-71.1	126.1	0.94	-0.75	7.25	-36.6	-3.4
4,482.0	7.12	121.21	4,473.7	-79.9	141.9	1.74	1.71	3.24	-31.7	0.4
4,672.0	7.21	117.34	4,662.2	-91.4	162.6	0.26	0.05	-2.04	-32.2	-1.8
4,861.0	9.50	123.50	4,849.2	-105.5	186.2	1.30	1.21	3.26	-36.7	1.1
5,051.0	6.77	124.73	5,037.2	-120.5	208.4	1.44	-1.44	0.65	-40.5	-0.1
5,241.0	5.54	122.62	5,226.1	-131.9	225.4	0.66	-0.65	-1.11	-37.7	-3.4
5,431.0	5.01	121.91	5,415.3	-141.2	240.1	0.28	-0.28	-0.37	-32.0	-5.1
5,621.0	4.75	120.33	5,604.7	-149.6	254.0	0.15	-0.14	-0.83	-24.8	-6.7
5,810.0	4.57	111.02	5,793.0	-156.2	267.7	0.41	-0.10	-4.93	-15.8	-8.6
6,000.0	6.60	100.64	5,982.1	-160.9	285.5	1.19	1.07	-5.46	-10.4	-5.4
6,190.0	4.40	93.44	6,171.2	-163.4	303.6	1.21	-1.16	-3.79	-6.9	2.0
6,380.0	3.96	101.00	6,360.7	-165.1	317.3	0.37	-0.23	3.98	1.7	11.0
6,569.0	3.17	126.13	6,549.4	-169.4	327.9	0.92	-0.42	13.30	18.0	9.3
6,758.0	4.31	117.70	6,738.0	-175.8	338.4	0.67	0.60	-4.46	27.2	11.6
6,948.0	4.13	122.97	6,927.5	-182.8	350.5	0.22	-0.09	2.77	37.4	8.1
7,138.0	3.08	121.91	7,117.1	-189.3	360.5	0.55	-0.55	-0.56	48.4	7.5
7,328.0	2.73	124.20	7,306.8	-194.5	368.6	0.19	-0.18	1.21	62.2	3.8
7,518.0	2.64	120.86	7,496.6	-199.3	376.1	0.09	-0.05	-1.76	73.7	6.4
7,707.0	2.11	146.88	7,685.5	-204.4	381.8	0.63	-0.28	13.77	69.5	-28.8
7,897.0	1.58	148.98	7,875.4	-209.6	385.0	0.28	-0.28	1.11	62.4	-31.3
8,087.0	1.85	162.87	8,065.3	-214.8	387.3	0.26	0.14	7.31	47.5	-44.7
8,276.0	1.93	156.37	8,254.2	-220.6	389.4	0.12	0.04	-3.44	46.0	-39.4
8,465.0	1.58	165.33	8,443.1	-226.1	391.4	0.23	-0.19	4.74	33.6	-45.6
8,654.0	1.67	167.44	8,632.0	-231.3	392.6	0.06	0.05	1.12	26.5	-46.7
8,843.0	1.85	177.46	8,820.9	-237.0	393.4	0.19	0.10	5.30	12.2	-50.1
9,033.0	1.85	185.90	9,010.8	-243.1	393.2	0.14	0.00	4.44	-1.4	-50.9



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	EW (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
9,223.0	1.41	218.24	9,200.8	-248.0	391.4	0.53	-0.23	17.02	-33.3	-40.7
9,413.0	1.85	239.86	9,390.7	-251.4	387.3	0.39	0.23	11.38	-51.2	-24.7
9,609.0	2.37	233.18	9,586.6	-255.4	381.3	0.29	0.27	-3.41	-55.2	-30.9
9,799.0	2.02	179.39	9,776.4	-261.1	378.2	1.06	-0.18	-28.31	-13.4	-65.9
9,988.0	2.37	37.54	9,965.4	-261.3	380.7	2.20	0.19	-75.05	49.9	41.5
10,178.0	0.79	19.26	10,155.3	-257.0	383.5	0.86	-0.83	-9.62	29.4	53.8
10,367.0	1.32	327.23	10,344.3	-253.9	382.7	0.55	0.28	-27.53	-27.3	55.3
10,556.0	1.32	326.70	10,533.2	-250.3	380.4	0.01	0.00	-0.28	-32.2	55.0
10,746.0	0.44	268.69	10,723.2	-248.5	378.4	0.80	-0.46	-30.53	-65.6	0.0
10,935.0	0.53	304.73	10,912.2	-248.0	377.0	0.17	0.05	19.07	-54.5	39.0
11,125.0	2.46	321.60	11,102.1	-244.3	373.7	1.03	1.02	8.88	-45.8	53.4
11,314.0	1.49	341.46	11,291.0	-238.8	370.4	0.62	-0.51	10.51	-31.2	67.1
11,504.0	1.23	324.94	11,481.0	-234.8	368.5	0.25	-0.14	-8.69	-53.4	54.8
11,693.0	1.06	31.04	11,669.9	-231.6	368.2	0.67	-0.09	34.97	25.9	72.9
11,810.0	0.70	27.17	11,786.9	-230.0	369.1	0.31	-0.31	-3.31	19.1	74.4
11,905.0	0.88	358.87	11,881.9	-228.8	369.3	0.45	0.19	-29.79	-19.7	74.3
11,999.0	5.10	9.59	11,975.7	-223.9	370.0	4.51	4.49	11.40	-10.4	76.8
12,008.2	5.79	9.73	11,984.9	-223.1	370.2	7.50	7.49	1.55	-11.0	76.8
KOP (Caballo 23 Fed Com #709H)										
12,094.0	12.22	10.29	12,069.6	-209.9	372.5	7.50	7.49	0.65	-16.4	75.4
12,145.0	16.66	11.45	12,119.0	-197.4	374.9	8.72	8.70	2.27	-16.0	73.2
HL Crossing, MD:12145.0', TVD:12119.0', N/S:-197.4', EW:374.9', INC:16.66										
12,189.0	20.49	12.05	12,160.7	-183.7	377.8	8.72	8.71	1.37	-14.8	70.1
12,234.0	26.03	13.81	12,202.0	-166.4	381.8	12.41	12.31	3.91	-12.1	65.8
12,284.0	32.98	12.58	12,245.5	-142.4	387.4	13.95	13.90	-2.46	-13.0	59.3
12,379.0	45.73	8.18	12,318.8	-83.2	397.9	13.73	13.42	-4.63	-16.0	46.7



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3365.0ustf (Nabors M7502)
Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0ustf (Nabors M7502)
Well:	#709H	North Reference:	Gnd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Daslog:	OH	Database:	EDM 5000.14

Survey	MD (ustf)	Inc (°)	Azi (grnd_north_azim)	TVD (ustf)	NIS (ustf)	EW (ustf)	DLeg (°100ustf)	Build (°100ustf)	Turn (°100ustf)	High to Plan (ustf)	Right to Plan (ustf)
12,401.1	46.53		9.38	12,334.2	-67.5	400.4	5.32	3.61	5.42	-14.8	44.3
FTP (Caballo 23 Fed Com #709H)	12,474.0	49.24	13.11	12,383.0	-14.5	410.9	5.32	3.72	5.12	-6.6	32.7
12,527.0	52.67		11.00	12,416.4	25.8	419.5	7.17	6.47	-3.98	1.4	22.4
12,570.0	57.51		9.41	12,441.0	60.5	425.7	11.66	11.26	-3.70	9.0	15.2
12,602.0	62.43		8.54	12,457.0	87.8	430.0	15.55	15.37	-2.72	14.8	10.6
12,665.0	72.19		7.48	12,481.3	145.3	438.1	15.57	15.49	-1.68	24.7	2.3
12,697.0	77.38		7.46	12,488.7	175.9	442.1	16.22	16.22	0.00	28.7	-1.8
12,728.0	82.22		7.48	12,485.2	206.1	446.1	15.61	15.61	0.00	31.8	-5.8
12,797.0	91.01		7.66	12,489.3	274.4	455.2	12.74	12.74	0.26	35.6	-15.0
12,855.0	90.84		5.72	12,498.3	332.0	461.9	3.36	-0.28	-3.34	35.0	-22.3
12,950.0	98.36		4.14	12,489.9	426.1	470.1	9.12	8.97	-1.66	27.1	-31.2
13,045.0	98.31		2.91	12,475.3	519.8	475.8	1.99	-1.11	-1.29	13.1	-37.7
13,139.0	93.39		0.63	12,465.7	613.3	478.7	5.76	-5.23	-2.43	3.9	-41.3
13,235.0	90.92		359.57	12,462.1	709.2	478.9	2.80	-2.57	-1.10	0.8	-42.3
13,329.0	89.25		357.99	12,462.0	803.2	476.9	2.45	-1.78	-1.68	1.2	-41.0
13,424.0	90.31		358.87	12,462.3	898.1	474.3	1.45	1.12	0.93	2.0	-39.1
13,475.9	89.59		358.58	12,462.4	950.0	473.1	1.50	-1.39	-0.56	2.4	-38.4
FTP (Caballo 23 Fed Com #709H)	13,519.0	88.99	358.34	12,462.9	993.1	472.0	1.50	-1.39	-0.56	3.1	-37.5
13,614.0	87.58		356.93	12,465.7	1,088.0	468.0	2.10	-1.48	-1.48	6.3	-34.3
13,709.0	87.93		356.76	12,469.5	1,182.7	462.8	0.41	0.37	-0.18	10.3	-29.8
13,804.0	88.37		356.58	12,472.5	1,277.5	457.3	0.50	0.46	-0.19	13.7	-25.1
13,898.0	91.28		358.34	12,472.8	1,371.4	453.1	3.82	3.10	1.87	14.2	-21.6
13,992.0	90.48		357.64	12,471.4	1,465.4	449.8	1.13	-0.85	-0.74	13.1	-19.1
14,087.0	90.48		357.81	12,470.6	1,560.3	446.1	0.18	0.00	0.18	12.6	-16.0
14,182.0	89.16		355.88	12,470.9	1,655.1	440.8	2.46	-1.39	-2.03	13.3	-11.5



Final PVA Report

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Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,277.0	90.13	357.99	12,471.5	1,750.0	435.8	2.44	1.02	2.22	14.2	-7.2	
14,372.0	90.22	359.22	12,471.2	1,845.0	433.5	1.30	0.09	1.29	14.2	-5.6	
14,468.0	91.63	358.87	12,469.6	1,940.9	431.9	1.51	1.47	-0.36	12.9	-4.7	
14,563.0	95.14	359.39	12,464.0	2,035.7	430.4	3.73	3.69	0.55	7.6	-4.0	
14,658.0	94.79	359.39	12,455.8	2,130.4	429.4	0.37	-0.37	0.00	-0.3	-3.8	
14,753.0	96.55	359.22	12,446.4	2,224.9	428.3	1.86	1.85	-0.18	-9.3	-3.4	
14,848.0	93.21	0.27	12,438.3	2,319.5	427.8	3.68	-3.52	1.11	-17.1	-3.7	
14,943.0	89.16	358.87	12,436.4	2,414.5	427.1	4.51	-4.26	-1.47	-18.7	-3.7	
15,038.0	86.88	358.69	12,439.7	2,509.4	425.1	2.41	-2.40	-0.19	-15.1	-2.4	
15,133.0	87.76	358.16	12,444.1	2,604.3	422.5	1.08	0.93	-0.56	-10.4	-0.5	
15,228.0	88.20	357.81	12,447.4	2,699.1	419.2	0.59	0.46	-0.37	-6.7	2.1	
15,323.0	87.49	357.46	12,451.0	2,794.0	415.2	0.83	-0.75	-0.37	-2.8	5.3	
15,418.0	88.29	357.64	12,454.5	2,888.8	411.2	0.86	0.84	0.19	1.0	8.6	
15,513.0	88.99	358.52	12,456.8	2,983.8	408.0	1.18	0.74	0.93	3.6	11.1	
15,608.0	90.66	359.22	12,457.1	3,078.7	406.1	1.91	1.76	0.74	4.2	12.2	
15,703.0	91.10	359.57	12,455.6	3,173.7	405.1	0.59	0.46	0.37	3.0	12.5	
15,798.0	92.24	0.10	12,452.8	3,268.7	404.8	1.32	1.20	0.56	0.6	12.0	
15,893.0	89.69	359.39	12,451.2	3,363.7	404.4	2.79	-2.68	-0.75	-0.7	11.7	
15,987.0	88.11	357.99	12,453.0	3,457.6	402.3	2.25	-1.68	-1.49	1.4	13.1	
16,082.0	88.20	358.52	12,456.1	3,552.5	399.4	0.57	0.09	0.56	4.8	15.3	
16,177.0	89.25	359.39	12,458.2	3,647.5	397.7	1.44	1.11	0.92	7.2	16.3	
16,272.0	88.29	359.57	12,460.2	3,742.4	396.8	1.03	-1.01	0.19	9.6	16.4	
16,367.0	89.34	0.80	12,462.2	3,837.4	397.1	1.70	1.11	1.29	11.9	15.4	
16,462.0	87.93	2.21	12,464.5	3,932.4	399.6	2.10	-1.48	1.48	14.4	12.1	
16,471.8	88.05	2.21	12,464.8	3,942.2	400.0	1.21	1.21	0.00	14.8	11.7	
TGT 2 (Caballo 23 Fed Com #709H)											
16,557.0	89.08	2.21	12,467.0	4,027.3	403.3	1.21	1.21	0.00	16.9	7.7	



Final PVA Report

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Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	EW (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
16,652.0	91.19	3.09	12,466.7	4,122.1	407.6	2.41	2.22	0.93	16.5	2.6	
16,747.0	90.22	2.38	12,465.6	4,217.0	412.2	1.27	-1.02	-0.75	15.2	-2.6	
16,842.0	89.34	0.63	12,465.9	4,312.0	414.7	2.06	-0.93	-1.84	15.4	-5.9	
16,937.0	90.31	358.87	12,466.2	4,407.0	414.3	2.12	1.02	-1.85	15.6	-6.2	
17,032.0	89.96	355.88	12,466.0	4,501.9	409.9	3.17	-0.37	-3.15	15.2	-2.6	
17,127.0	87.85	353.07	12,467.8	4,596.4	400.8	3.70	-2.22	-2.96	16.9	5.8	
17,222.0	87.23	352.19	12,471.9	4,690.5	388.6	1.13	-0.65	-0.93	20.9	17.3	
17,317.0	89.25	352.36	12,474.8	4,784.6	375.8	2.13	2.13	0.18	23.7	29.3	
17,412.0	91.19	355.18	12,474.4	4,879.0	365.5	3.60	2.04	2.97	23.2	38.9	
17,506.0	91.54	354.47	12,472.2	4,972.6	357.0	0.84	0.37	-0.76	20.9	46.6	
17,601.0	90.84	359.57	12,470.2	5,067.4	352.1	5.42	-0.74	5.37	18.7	50.9	
17,696.0	91.80	2.73	12,468.0	5,162.4	354.0	3.48	1.01	3.33	16.3	48.2	
17,791.0	91.89	2.38	12,465.0	5,257.2	358.2	0.38	0.09	-0.37	13.1	43.3	
17,886.0	92.77	2.21	12,461.1	5,352.1	362.0	0.94	0.93	-0.18	9.1	38.7	
17,981.0	92.15	3.96	12,457.0	5,446.9	367.2	1.95	-0.65	1.84	4.9	32.9	
18,076.0	88.11	2.91	12,456.8	5,541.7	372.8	4.39	-4.25	-1.11	4.6	26.5	
18,171.0	89.78	2.73	12,458.6	5,636.5	377.5	1.77	1.76	-0.19	6.2	21.1	
18,266.0	87.32	4.67	12,461.0	5,731.3	383.6	3.30	-2.59	2.04	8.5	14.2	
18,361.0	89.08	2.38	12,464.0	5,826.1	389.5	3.04	1.85	-2.41	11.3	7.6	
18,456.0	88.81	1.33	12,465.7	5,921.0	392.6	1.14	-0.28	-1.11	12.9	3.8	
18,551.0	88.55	359.04	12,467.9	6,016.0	392.9	2.43	-0.27	-2.41	15.0	2.8	
18,624.2	93.09	358.23	12,466.9	6,089.1	391.1	6.30	6.20	-1.10	13.8	4.0	
TGT 3 (Caballo 23 Fed Com #709H)											
18,646.0	94.44	357.99	12,465.4	6,110.9	390.4	6.30	6.20	-1.11	12.4	4.5	
18,741.0	93.12	358.87	12,459.2	6,205.6	387.8	1.67	-1.39	0.93	6.4	6.4	
18,836.0	93.56	359.92	12,453.6	6,300.4	386.8	1.20	0.46	1.11	1.0	6.6	
18,930.0	89.60	2.21	12,451.0	6,394.4	388.6	4.87	-4.21	2.44	-1.3	4.2	



Final PVA Report

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Site:	Caballo 23 Fed	MD Reference:	KB = 22' @ 3365.0usft (Nabors M7502)
Well:	#709H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (*/100usft)	Build (*/100usft)	Turn (*/100usft)	High to Plan (usft)	Right to Plan (usft)	
19,025.0	87.58	1.33	12,453.4	6,489.3	391.5	2.32	-2.13	-0.93	1.2	0.5	
19,120.0	88.81	2.03	12,456.4	6,584.2	394.3	1.49	1.29	0.74	4.4	-3.0	
19,215.0	89.52	2.56	12,457.7	6,679.1	398.1	0.93	0.75	0.56	6.0	-7.5	
19,310.0	91.36	4.32	12,457.0	6,773.9	403.8	2.68	1.94	1.85	5.5	-14.0	
19,405.0	88.90	2.56	12,456.8	6,868.7	409.5	3.18	-2.59	-1.85	5.4	-20.4	
19,500.0	90.40	1.86	12,457.4	6,963.7	413.1	1.74	1.58	-0.74	6.2	-24.8	
19,594.0	92.86	0.45	12,454.7	7,057.6	415.0	3.02	2.62	-1.50	3.8	-27.4	
19,689.0	91.63	1.68	12,451.0	7,152.5	416.8	1.83	-1.29	1.29	0.2	-29.9	
19,784.0	89.60	359.04	12,450.0	7,247.5	417.4	3.51	-2.14	-2.78	-0.6	-31.2	
19,879.0	91.98	0.10	12,448.7	7,342.5	416.7	2.74	2.51	1.12	-1.7	-31.3	
19,991.0	90.66	358.87	12,446.1	7,454.4	415.7	1.61	-1.18	-1.10	-4.1	-31.1	
Final MWD Survey (MD=19991.0')											
20,046.0	90.66	358.87	12,445.4	7,509.4	414.6	0.00	0.00	0.00	-4.6	-30.5	
Final Projection to Bit (MD=20046.0') - PBHL (Caballo 23 Fed Com #709H)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
12,145.0	12,119.0	-197.4	374.9	HL Crossing, MD:12145.0', TVD:12119.0', N/S:-197.4', E/W:374.9', INC:16.66
19,991.0	12,446.1	7,454.4	415.7	Final MWD Survey (MD=19991.0')
20,046.0	12,445.4	7,509.4	414.6	Final Projection to Bit (MD=20046.0')

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------



Lea County, NM (NAD 83 NME)

Caballo 23 Fed #709H

Nabors M7502

Plan # 1

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: #709H

KB = 22' @ 3365.0usft (Nabors M7502) 3343.0
Northing 404509.00 Easting 766612.00 Latitude 32° 6' 34.548 N Longitude 103° 32' 28.164 W

Azimuths to Grid North
True North: 0.42°
Magnetic North: 8.38°
Magnetic Field
Strength: 47754 Gauss
Dip Angle: 59.55°
Date: 8/15/2018
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.38°
To convert a Magnetic Direction to a True Direction, Add 6.81° East
To convert a True Direction to a Grid Direction, Subtract 0.42°

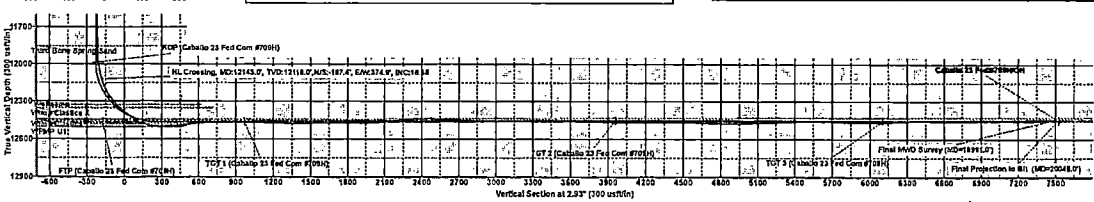
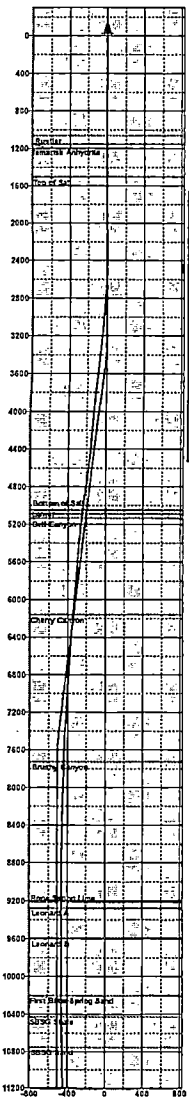
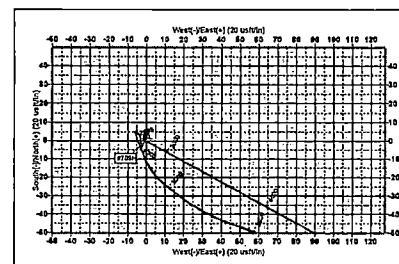
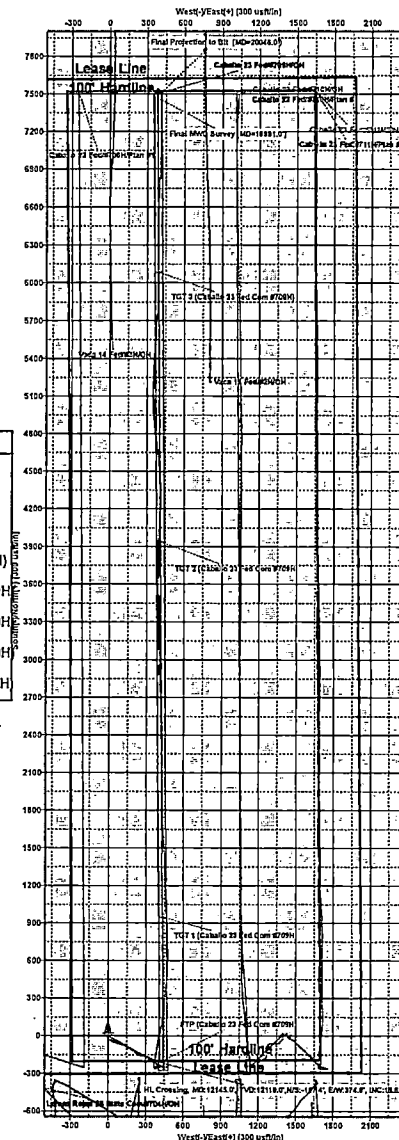
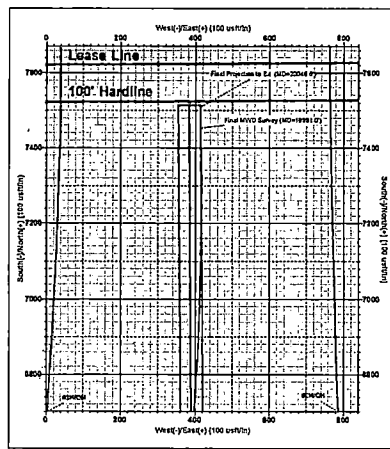
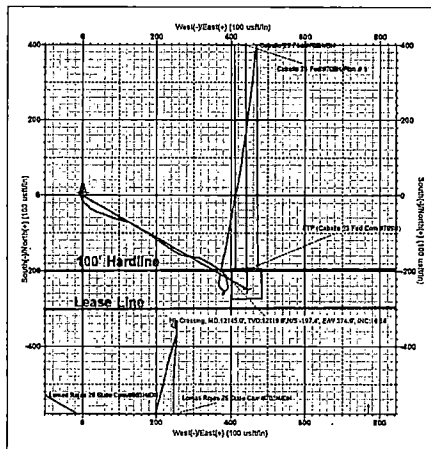
SECTION DETAILS

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	3232.0	0.00	0.00	3232.0	0.0	0.0	0.00	0.00	0.0	
3	3581.9	7.00	119.09	3581.1	-10.4	18.7	2.00	119.09	-9.4	
4	7401.3	7.00	119.09	7371.9	-236.6	425.3	0.00	0.00	-214.6	
5	7751.2	0.00	0.00	7721.0	-247.0	444.0	2.00	180.00	-224.0	
6	12016.7	0.00	0.00	11986.5	-247.0	444.0	0.00	0.00	-224.0	
7	12769.3	90.32	359.56	12464.0	233.1	440.3	12.00	359.56	255.3	KOP (Caballo 23 Fed Com #709H)
8	13485.4	90.32	359.56	12460.0	949.1	434.8	0.00	0.00	970.1	TGT 1 (Caballo 23 Fed Com #709H)
9	13491.6	90.19	359.56	12460.0	955.4	434.7	2.00	180.00	976.3	
10	16478.5	90.19	359.56	12450.0	3942.1	411.7	0.00	0.00	3958.0	TGT 2 (Caballo 23 Fed Com #709H)
11	16492.1	89.92	359.56	12450.0	3955.7	411.6	2.00	-180.00	3971.6	
12	18625.3	89.92	359.56	12453.0	6088.8	395.1	0.00	0.00	6101.0	TGT 3 (Caballo 23 Fed Com #709H)
13	18639.4	90.12	359.56	12453.0	6098.9	395.0	2.00	0.03	6111.1	
14	20051.5	90.12	359.56	12450.0	7515.0	384.1	0.00	0.00	7524.8	PBHL (Caballo 23 Fed Com #709H)

CASING DETAILS
No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP (Caballo 23 Fed Com #709H)	11986.5	-247.0	444.0	404262.00	787056.00
PBHL (Caballo 23 Fed Com #709H)	12450.0	7515.0	384.1	412024.00	786956.00
TGT 2 (Caballo 23 Fed Com #709H)	12450.0	3942.1	411.7	405451.10	787023.56
TGT 3 (Caballo 23 Fed Com #709H)	12453.0	6088.8	395.1	410597.80	787007.00
TGT 1 (Caballo 23 Fed Com #709H)	12460.0	949.1	434.8	405458.10	787046.77
FTP (Caballo 23 Fed Com #709H)	12464.0	-197.0	444.9	404312.00	787055.00



Lea County, NM (NAD 83 NME)
Caballo 23 Fed #709H
Nabors M7502
Plan # 1

Form 3160-5
(June 2015)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.
NMNM108503

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 28. Well Name and No.
CABALLO 23 FED 709H9. API Well No.
30-025-45588-00-X110. Field and Pool or Exploratory Area
RED HILLS11. County or Parish, State
LEA COUNTY, NM

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
EOG RESOURCES INCORPORATED
Contact: KAY MADDOX
E-Mail: kay_maddox@eogresources.com3a. Address
PO BOX 2267
MIDLAND, TX 797023b. Phone No. (include area code)
Ph: 432-686-3658

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

Sec 23 T25S R33E SWSE 300FSL 2032FEL
32.109596 N Lat, 103.541161 W Lon**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Production Start-up
	☐ Convert to Injection	☐ Plug Back	☐ 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 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.

04/02/2019 RIG RELEASED
 04/05/2019 MIRU PREP TO FRAC, TEST VOID 5000 PSI, SEALS & FLANGES TO 8500 PSI
 04/25/2019 BEGIN PERF & FRAC
 05/02/2019 FINISH 25 STAGES PERF & FRAC 12,611 -20,015', 1485 3 1/8" SHOTS FRAC W/19,036,360
 LBS PROPPANT, 292,939 BBLS LOAD FLUID
 05/05/2019 DRILLED OUT PLUGS AND CLEAN OUT WELLBORE
 05/09/2019 OPENED WELL TO FLOWBACK
 DATE OF FIRST PRODUCTION

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #468555 verified by the BLM Well Information System For EOG RESOURCES INCORPORATED, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 06/11/2019 (19PP2139SE)	
Name (Printed/Typed) KAY MADDOX	Title REGULATORY SPECIALIST
Signature (Electronic Submission)	Date 06/11/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED	JONATHON SHEPARD Title PETROELUM ENGINEER	Date 06/12/2019
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 ****

PM

Revisions to Operator-Submitted EC Data for Sundry Notice #468555

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	STARTUP SR	STARTUP SR
Lease:	NMNM108503	NMNM108503
Agreement:		
Operator:	EOG RESOURCES, INC PO BOX 2267 ATTENTION; KAY MADDUX MIDLAND, TX 79702 Ph: 432-686-3658	EOG RESOURCES INCORPORATED PO BOX 2267 MIDLAND, TX 79702 Ph: 432.686.3689
Admin Contact:	KAY MADDUX REGULATORY SPECIALIST E-Mail: kay_maddox@eogresources.com Cell: 432-638-8475 Ph: 432-686-3658	KAY MADDUX REGULATORY SPECIALIST E-Mail: kay_maddox@eogresources.com Cell: 432-638-8475 Ph: 432-686-3658
Tech Contact:	KAY MADDUX REGULATORY SPECIALIST E-Mail: kay_maddox@eogresources.com Cell: 432-638-8475 Ph: 432-686-3658	KAY MADDUX REGULATORY SPECIALIST E-Mail: kay_maddox@eogresources.com Cell: 432-638-8475 Ph: 432-686-3658
Location:		
State:	NM	NM
County:	LEA	LEA
Field/Pool:	BOBCAT DRAW;UPPER WOLFCA	RED HILLS
Well/Facility:	CABALLO 23 FEDERAL 709H Sec 23 T25S R33E Mer NMP SWSE 300FSL 2032FEL 32.109597 N Lat, 103.541161 W Lon	CABALLO 23 FED 709H Sec 23 T25S R33E SWSE 300FSL 2032FEL 32.109596 N Lat, 103.541161 W Lon

Bureau of Land Management

Hobbs Field Office

414 W. Taylor

Hobbs, New Mexico

505.393.3612

WATER PRODUCTION & DISPOSAL INFORMATION

Well: CABALLO 23 FEDERAL #705H 30-025-45584
CABALLO 23 FEDERAL #706H 30-025-45585
CABALLO 23 FEDERAL #709H 30-025-45588
CABALLO 23 FEDERAL #710H 30-025-45589
CABALLO 23 FEDERAL #711H 30-025-45623
Sec 23 T25S, R33E
LEA COUNTY, NEW MEXICO

1. Name of formations producing water on lease: WOLFCAMP
2. Amount of water produced from all formations in barrels per day 5000-6000 BWPD
3. How water is stored on lease Tanks: 4- 400 bbl tanks
4. How water is moved to disposal facility Pipeline/Trucked
5. Disposal Facility:
 - a. Facility Operators name EOG RESOURCES INC
 - b. Name of facility or well name & number
 - c. Water goes to EOG Water Gathering System, then to Lomas Rojas
Reuse pit to be recycled – some water disposed at
BLACK BEAR 36 STATE #5
30-025-40585
H-36-25S-33E
Permit no SWD 1359
 - d. Type of facility or wells SWD



Rcvd 6/11/2020 - NMOCD

EOG Resources, Inc.
P.O. Box 2267
Midland, TX 79702
(432) 686-3600

June 11, 2019

State of New Mexico
Oil Conservation Division – District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Request for exception to Rule 107 J
Tubingless Completion
CABALLO 23 FEDERAL #709H 30-025-45588

EOG Resources, Inc. requests an exception to NMOCD Rule 107 J regarding required production tubing. EOG requests a tubingless completion for the well listed above to allow greater flowback after frac stimulation.

The plan is to install production tubing as soon as flow decreases, which should occur within 6 months.

Thank you for your consideration of this request. If additional information is needed, please contact me at 432 686-3658.

Sincerely,

EOG Resources, Inc.

Kay Maddox
Regulatory Analyst

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 06/11/2019

☐ Original

Operator & OGRID No.: EOG Resources Inc 7377

☒ Amended - Reason for Amendment: COMPLETED WELL

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
CABALLO FEDERAL #709H	23 30-025-45588	23-25S-33E	300' FSL & 2032' FEL	6800 MCFD	1630 mcf total flared	New Well

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to ENTERPRISE & REGENCY and will be connected to EOG Resources Inc low/high pressure gathering system located in LEA County, New Mexico. It will require N/A' of pipeline to connect the facility to low/high pressure gathering system. EOG Resources Inc provides (periodically) to ENTERPRISE & REGENCY a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, EOG Resources Inc and ENTERPRISE & REGENCY have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at ENTERPRISE & REGENCY Processing Plant located in LEA County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

Intent ☐ As Drilled ☒API #
30-025-45588

Operator Name: EOG RESOURCES, INC	Property Name: CABALLO 23 FEDERAL	Well Number 709H
--------------------------------------	--------------------------------------	---------------------

Kick Off Point (KOP)

UL O	Section 23	Township 25S	Range 33E	Lot	Feet 72	From N/S SOUTH	Feet 1664	From E/W EAST	County LEA
Latitude 32.1089687					Longitude 103.5399726			NAD 1983	

First Take Point (FTP)

UL O	Section 23	Township 25S	Range 33E	Lot	Feet 394	From N/S SOUTH	Feet 1600	From E/W EAST	County LEA
Latitude 32.1098544					Longitude 103.5397661			NAD 1983	

Last Take Point (LTP)

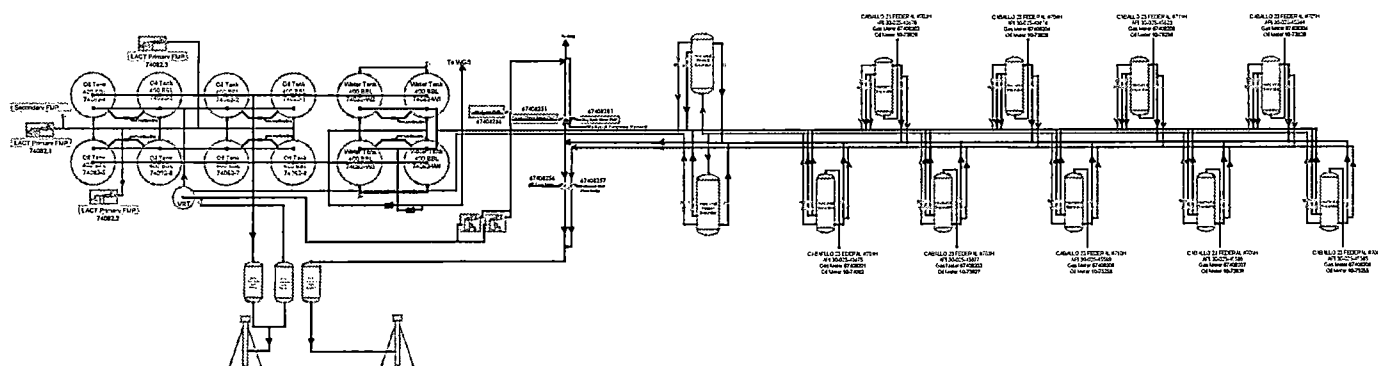
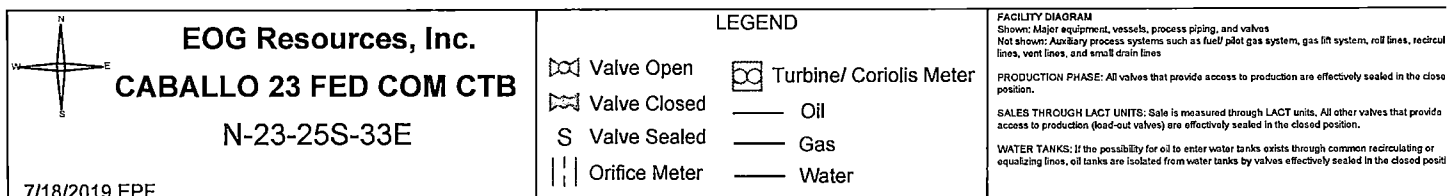
UL J	Section 14	Township 25S	Range 33E	Lot	Feet 2496	From N/S SOUTH	Feet 1559	From E/W EAST	County LEA
Latitude 32.1301488					Longitude 103.5396425			NAD 1983	

Is this well the defining well for the Horizontal Spacing Unit? ☒Is this well an infill well? ☐

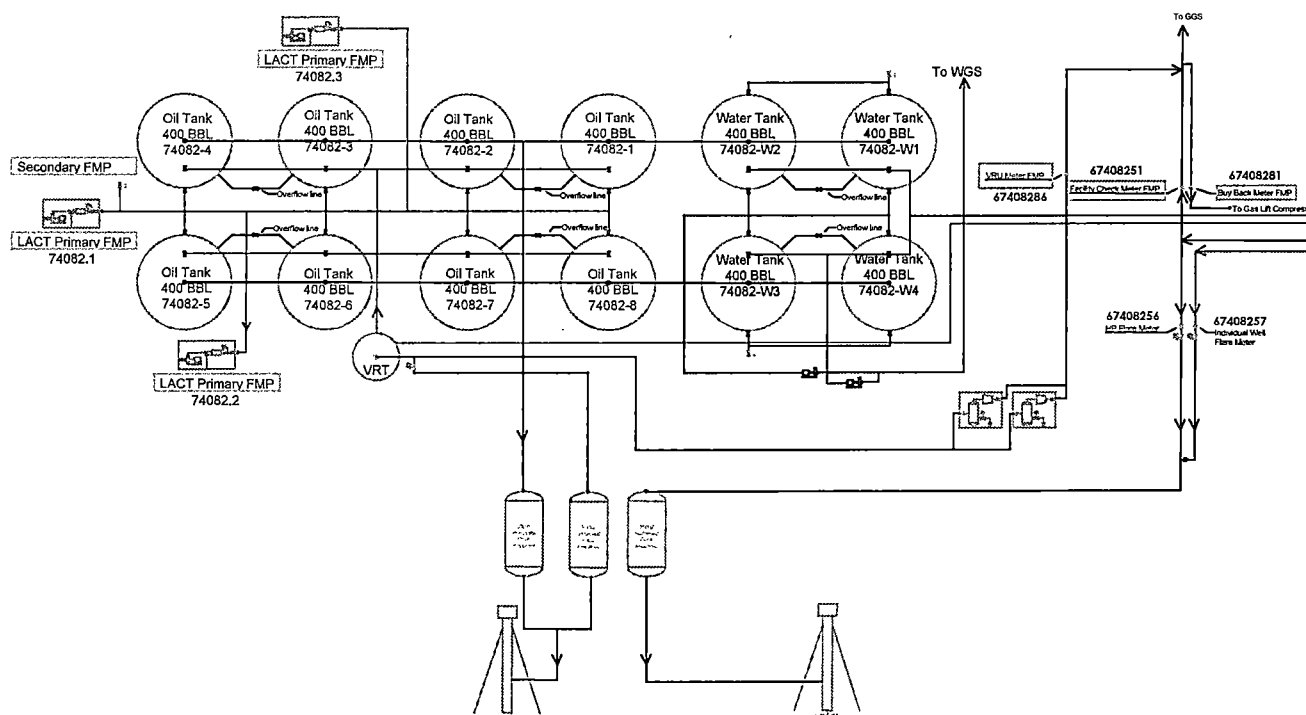
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

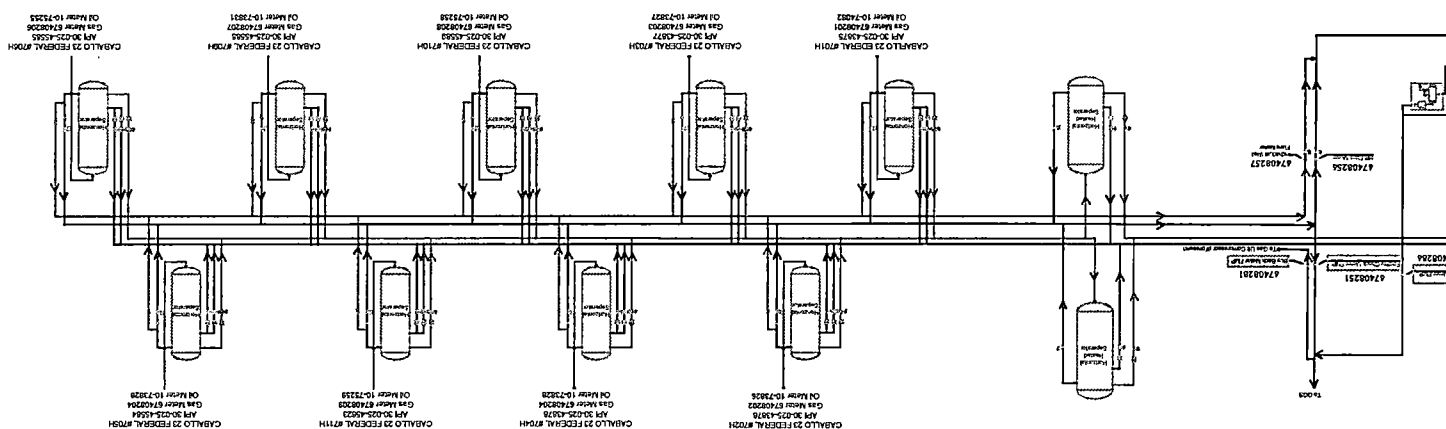
API #		
Operator Name: EOG RESOURCES, INC	Property Name:	Well Number

KZ 06/29/2018



Facility Overview: Please see pages 2 and 3 for details.





District I

1625 N. French Dr., Hobbs, NM 88240

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104

Revised August 1, 2011

District II 811 S. First St., Artesia, NM 88210

District III 1000 Rio Brazos Rd., Aztec, NM 87410

Oil Conservation Division

Submit one copy to appropriate District Office

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

1220 South St. Francis Dr.
Santa Fe, NM 87505☐ AMENDED REPORT**I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT**

¹ Operator name and Address EOG RESOURCES INC PO BOX 2267 MIDLAND, TX 79702		² OGRID Number 7377
		³ Reason for Filing Code/ Effective Date NW 05/09/2019
⁴ API Number 30 - 025-45588	⁵ Pool Name BOBCAT DRAW; UPPER WOLFCAMP	⁶ Pool Code 98094
⁷ Property Code 38481	CABALLO 23 FEDERAL	⁹ Well Number 709H

II. ¹⁰ Surface Location

UL or lot no. O	Section 23	Township 25S	Range 33E	Lot Idn	Feet from the 300'	North/South SOUTH	Feet from the 2032'	East/West line EAST	County LEA
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¹¹ Bottom Hole Location

UL or lot no. J	Section 14	Township 25S	Range 33E	Lot Idn	Feet from the 2496'	North/South SOUTH	Feet from the 1559'	East/West line EAST	County LEA
¹² Lse Code S	¹³ Producing Method Code FLOWING	¹⁴ Gas Connection Date	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
372812	EOGRM	OIL
151618	ENTERPRISE FIELD SERVICES	GAS
298751	REGENCY FIELD SRVICES, LLC	GAS
36785	DCP MIDSTREAM	GAS

IV. Well Completion Data

²¹ Spud Date 03/11/2019	²² Ready Date 05/09/2019	²³ TD 20,046'	²⁴ PBDT 20,015'	²⁵ Perforations 12,611-20,015'	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
12 1/4"	9 5/8"	1,209'	690 SXS CL C/CIRC		
8 3/4"	7 5/8"	11,773'	1688 SXS CL C/CIRC		
6 3/4"	5 1/2"	20,031'	760 SXS CL H/TOC 4980' CBL		

V. Well Test Data

³¹ Date New Oil 05/09/2019	³² Gas Delivery Date 05/09/2019	³³ Test Date 05/17/2019	³⁴ Test Length 24HRS	³⁵ Tbg. Pressure	³⁶ Csg. Pressure 2782
³⁷ Choke Size 48	³⁸ Oil 4187 BOPD	³⁹ Water 7721 BWPD	⁴⁰ Gas 7044 MCFPD		⁴¹ Test Method
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Kay Maddox</i>			OIL CONSERVATION DIVISION Approved by: KS		