17-336

Form 3160-3
(March 2012)

OCD Hobbs

HOBBS OCD
JUN 26 2017
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FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NMNM108503
	6. If Indian, Allotee or Tribe Name
	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. CABALLO 23 FED COM 702H (38481)
2. Name of Operator EOG RESOURCES INC (7377)	9. API Well No. 30-025-43876
3a. Address 1111 Bagby Sky Lobby2 Houston TX 77002	3b. Phone No. *(include area code)* (713)651-7000
	10. Field and Pool, or Exploratory RED HILLS / WC-025 S253336D (78094)
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface SWSW / 494 FSL / 461 FWL / LAT 32.1101361 / LONG -103.5501712 At proposed prod. zone NWNW / 230 FNL / 907 FWL / LAT 32.1371729 / LONG -103.5487245	11. Sec., T. R. M. or Blk. and Survey or Area SEC 23 / T25S / R33E / NMP
14. Distance in miles and direction from nearest town or post office* 20 miles	12. County or Parish LEA / 13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 230 feet	16. No. of acres in lease 1480	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 577 feet	19. Proposed Depth 12402 feet / 22499 feet	20. BLM/BIA Bond No. on file FED: NM2308
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3342 feet	22. Approximate date work will start* 07/01/2017	23. Estimated duration 25 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature (Electronic Submission)	Name *(Printed/Typed)* Stan Wagner / Ph: (432)686-3689	Date 02/15/2017
Title Regulatory Specialsit		
Approved by *(Signature)* (Electronic Submission)	Name *(Printed/Typed)* Cody Layton / Ph: (575)234-5959	Date 06/09/2017
Title Supervisor Multiple Resources	Office CARLSBAD	

Application approval 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.
Conditions of approval, if any, are attached.

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.

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

KZ
06/26/17

APD ID: 10400011280
Operator Name: EOG RESOURCES INC
Well Name: CABALLO 23 FED COM
Well Type: OIL WELL

Submission Date: 02/15/2017
Federal/Indian APD: FED
Well Number: 702H
Well Work Type: Drill

Highlight All Changes

Application

Section 1 - General

APD ID: 10400011280
Tie to previous NOS?
Submission Date: 02/15/2017

BLM Office: CARLSBAD
User: Stan Wagner
Title: Regulatory Specialsit

Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM108503
Lease Acres: 1480

Surface access agreement in place?
Allotted?
Reservation:

Agreement in place? NO
Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO
APD Operator: EOG RESOURCES INC

Operator letter of designation:

Keep application confidential? NO

Operator Info

Operator Organization Name: EOG RESOURCES INC
Operator Address: 1111 Bagby Sky Lobby2
Zip: 77002
Operator PO Box:
Operator City: Houston
State: TX
Operator Phone: (713)651-7000
Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO
Mater Development Plan name:

Well in Master SUPO? NO
Master SUPO name:

Well in Master Drilling Plan? NO
Master Drilling Plan name:

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Well Name: CABALLO 23 FED COM **Well Number:** 702H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** RED HILLS **Pool Name:** WC-025 S253336D

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** CABALLO 23 FED COM **Number:** 701H/702H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 20 Miles **Distance to nearest well:** 577 FT **Distance to lease line:** 230 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Caballo 23 Fed COM 702H signed C-102_02-14-2017.pdf

Well work start Date: 07/01/2017 **Duration:** 25 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.1101361	**Longitude:** -103.5501712	
SHL	**Elevation:** 3342	**MD:** 0	**TVD:** 0
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMNM108503	
	NS-Foot: 494	**NS Indicator:** FSL	
	EW-Foot: 461	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 33E	**Section:** 23
	Aliquot: SWSW	**Lot:**	**Tract:**

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.1089253	**Longitude:** -103.549	
KOP	**Elevation:** -8555	**MD:** 11921	**TVD:** 11897
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMNM108503	
	NS-Foot: 56	**NS Indicator:** FSL	
	EW-Foot: 883	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 33E	**Section:** 23
	Aliquot: SWSW	**Lot:**	**Tract:**
	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.1096852	**Longitude:** -103.549	
PPP	**Elevation:** -9016	**MD:** 12492	**TVD:** 12358
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMNM108503	
	NS-Foot: 330	**NS Indicator:** FSL	
	EW-Foot: 907	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 33E	**Section:** 23
	Aliquot: SWSW	**Lot:**	**Tract:**
	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.1368986	**Longitude:** -103.549	
EXIT	**Elevation:** -9060	**MD:** 22399	**TVD:** 12402
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMNM124212	
	NS-Foot: 330	**NS Indicator:** FNL	
	EW-Foot: 907	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 33E	**Section:** 14
	Aliquot: NWNW	**Lot:**	**Tract:**
	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.1371729	**Longitude:** -103.5487245	
BHL	**Elevation:** -9060	**MD:** 22499	**TVD:** 12402
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMNM124212	
	NS-Foot: 230	**NS Indicator:** FNL	
	EW-Foot: 907	**EW Indicator:** FWL	

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Twsp: 25S **Range:** 33E **Section:** 14

Aliquot: NWNW **Lot:** **Tract:**

Drilling Plan

Section 1 - Geologic Formations

ID: Surface formation **Name:** RUSTLER

Lithology(ies):

ANHYDRITE

Elevation: 2217 **True Vertical Depth:** 1125 **Measured Depth:** 1125

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 1 **Name:** TOP SALT

Lithology(ies):

SALT

Elevation: 587 **True Vertical Depth:** 1630 **Measured Depth:** 1630

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 2 **Name:** BASE OF SALT

Lithology(ies):

SALT

Elevation: -2583 **True Vertical Depth:** 4800 **Measured Depth:** 4800

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 3 **Name:** LAMAR

Lithology(ies):

LIMESTONE

Elevation: -2831 **True Vertical Depth:** 5048 **Measured Depth:** 5048

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 4 **Name:** BELL CANYON

Lithology(ies):

SANDSTONE

Elevation: -2870 **True Vertical Depth:** 5087 **Measured Depth:** 5087

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 5 **Name:** CHERRY CANYON

Lithology(ies):

SANDSTONE

Elevation: -3952 **True Vertical Depth:** 6169 **Measured Depth:** 6169

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 6 **Name:** BRUSHY CANYON

Lithology(ies):

SANDSTONE

Elevation: -5430 **True Vertical Depth:** 7647 **Measured Depth:** 7647

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 7 **Name:** BONE SPRING LIME

Lithology(ies):

LIMESTONE

Elevation: -6975 **True Vertical Depth:** 9192 **Measured Depth:** 9192

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 8 **Name:** BONE SPRING 1ST

Lithology(ies):

SANDSTONE

Elevation: -7951 **True Vertical Depth:** 10168 **Measured Depth:** 10168

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 9 **Name:** BONE SPRING 2ND

Lithology(ies):

SANDSTONE

Elevation: -8510 **True Vertical Depth:** 10727 **Measured Depth:** 10727

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

ID: Formation 10 **Name:** BONE SPRING 3RD

Lithology(ies):

SANDSTONE

Elevation: -9597 **True Vertical Depth:** 11814 **Measured Depth:** 11814

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 11 **Name:** WOLFCAMP

Lithology(ies):

SHALE

Elevation: -10055 **True Vertical Depth:** 12272 **Measured Depth:** 12272

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 12402

Equipment: The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil and Gas order No. 2.
Requesting Variance? YES

Variance request: Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line). Variance is requested to wave 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. Variance is also requested to wave 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.
Testing Procedure: Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 3500/ 250 psig. The surface casing will be tested to 1500 psi for 30 minutes. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 3500/ 250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Choke Diagram Attachment:

Caballo 23 Fed Com 702H 5 M Choke Manifold Diagram (3-21-14)_02-14-2017.pdf

BOP Diagram Attachment:

Caballo 23 Fed Com 702H 5 M BOP Diagram (8-14-14)_02-14-2017.pdf

Section 3 - Casing

String Type: SURFACE **Other String Type:**

Hole Size: 14.75

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: 3342

Bottom setting depth MD: 1150 **Bottom setting depth TVD:** 1150

Bottom setting depth MSL: 2192

Calculated casing length MD: 1150

Casing Size: 10.75 **Other Size**

Grade: J-55 **Other Grade:**

Weight: 40.5

Joint Type: STC **Other Joint Type:**

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Caballo 23 Fed Com 702H BLM Plan_02-14-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

String Type: INTERMEDIATE **Other String Type:**

Hole Size: 9.875

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: 3342

Bottom setting depth MD: 1000 **Bottom setting depth TVD:** 1000

Bottom setting depth MSL: 2342

Calculated casing length MD: 1000

Casing Size: 7.625 **Other Size**

Grade: HCP-110 **Other Grade:**

Weight: 29.7

Joint Type: LTC **Other Joint Type:** Flushmax III

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Caballo 23 Fed Com 702H BLM Plan_02-14-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

String Type: PRODUCTION **Other String Type:**

Hole Size: 6.75

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: 3342

Bottom setting depth MD: 10800 **Bottom setting depth TVD:** 10800

Bottom setting depth MSL: -7458

Calculated casing length MD: 10800

Casing Size: 5.5 **Other Size**

Grade: OTHER **Other Grade:** P-110EC

Weight: 20

Joint Type: OTHER **Other Joint Type:** DWC/C-IS MS

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Caballo 23 Fed Com 702H BLM Plan_02-14-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

String Type: PRODUCTION **Other String Type:**

Hole Size: 6.75

Top setting depth MD: 10800 **Top setting depth TVD:** 10800

Top setting depth MSL: -7458

Bottom setting depth MD: 22499 **Bottom setting depth TVD:** 12402

Bottom setting depth MSL: -9060

Calculated casing length MD: 11699

Casing Size: 5.5 **Other Size**

Grade: OTHER **Other Grade:** P-110EC

Weight: 20

Joint Type: OTHER **Other Joint Type:** VAM SFC

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Caballo 23 Fed Com 702H BLM Plan_02-14-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

String Type: INTERMEDIATE **Other String Type:**

Hole Size: 8.75

Top setting depth MD: 3000 **Top setting depth TVD:** 3000

Top setting depth MSL: 342

Bottom setting depth MD: 11300 **Bottom setting depth TVD:** 11300

Bottom setting depth MSL: -7958

Calculated casing length MD: 8300

Casing Size: 7.625 **Other Size**

Grade: HCP-110 **Other Grade:**

Weight: 29.7

Joint Type: OTHER **Other Joint Type:** Flushmax III

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Caballo 23 Fed Com 702H BLM Plan_02-14-2017.pdf

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

String Type: INTERMEDIATE **Other String Type:**

Hole Size: 9.875

Top setting depth MD: 1000 **Top setting depth TVD:** 1000

Top setting depth MSL: 3342

Bottom setting depth MD: 3000 **Bottom setting depth TVD:** 3000

Bottom setting depth MSL: 342

Calculated casing length MD: 2000

Casing Size: 7.625 **Other Size**

Grade: OTHER **Other Grade:** P-110EC

Weight: 29.7

Joint Type: OTHER **Other Joint Type:** SLIJ II

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.125 **Burst Design Safety Factor:** 1.25

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.6

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.6

Casing Design Assumptions and Worksheet(s):

Caballo 23 Fed Com 702H BLM Plan_02-14-2017.pdf

Section 4 - Cement

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 0 **Cement Type:** 0

Additives: 0 **Quantity (sks):** 0 **Yield (cu.ff./sk):** 0

Density: 0 **Volume (cu.ft.):** 0 **Percent Excess:**

Casing String Type: PRODUCTION

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 0 **Cement Type:** 0

Additives: 0 **Quantity (sks):** 0 **Yield (cu.ff./sk):** 0

Density: 0 **Volume (cu.ft.):** 0 **Percent Excess:** 0

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 0 **Cement Type:** 0

Additives: 0 **Quantity (sks):** 0 **Yield (cu.ff./sk):** 0

Density: 0 **Volume (cu.ft.):** 0 **Percent Excess:**

Casing String Type: SURFACE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 1150 **Cement Type:** Class C

Additives: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface) **Quantity (sks):** 400 **Yield (cu.ff./sk):** 1.73

Density: 13.5 **Volume (cu.ft.):** 692 **Percent Excess:** 25

Tail

Bottom MD Segment: 1150 **Cement Type:** Class C

Top MD of Segment: 1150 **Quantity (sks):** 200 **Yield (cu.ff./sk):** 1.34

Additives: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate **Volume (cu.ft.):** 268 **Percent Excess:** 25

Density: 14.8

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 11300 **Cement Type:** Class C

Additives: Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ surface) **Quantity (sks):** 2250 **Yield (cu.ff./sk):** 1.38

Volume (cu.ft.): 3105 **Percent Excess:** 25

Density: 14.8

Tail

Top MD of Segment: 11300 **Bottom MD Segment:** 11300 **Cement Type:** Class H

Additives: 50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped conventionally **Quantity (sks):** 550 **Yield (cu.ff./sk):** 1.2

Volume (cu.ft.): 660 **Percent Excess:** 25

Density: 14.4

Casing String Type: PRODUCTION

Stage Tool Depth:

Lead

Top MD of Segment: 10800 **Bottom MD Segment:** 22499 **Cement Type:** Class H

Additives: Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10800') **Quantity (sks):** 850 **Yield (cu.ff./sk):** 1.26

Volume (cu.ft.): 1071 **Percent Excess:** 25

Density: 14.1

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: (A) A Kelly cock will be kept in the drill string at all times. (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times. (C) H2S monitoring and detection equipment will be utilized from surface casing point to TD.
Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be utilized on the circulating system to monitor pit volume, flow rate, pump pressure and stroke rate.

Circulating Medium Table

Top Depth: 1150 **Bottom Depth:** 11300

Mud Type: SALT SATURATED

Min Weight (lbs./gal.): 8.8 **Max Weight (lbs./gal.):** 10

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Top Depth: 11300 **Bottom Depth:** 22499

Mud Type: OIL-BASED MUD

Min Weight (lbs./gal.): 10 **Max Weight (lbs./gal.):** 11.5

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Top Depth: 0 **Bottom Depth:** 1150

Mud Type: WATER-BASED MUD

Min Weight (lbs./gal.): 8.6 **Max Weight (lbs./gal.):** 8.8

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Open-hole logs are not planned for this well.

List of open and cased hole logs run in the well:

DS

Coring operation description for the well:

None

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7416 **Anticipated Surface Pressure:** 4687.55

Anticipated Bottom Hole Temperature(F): 181

Anticipated abnormal proessures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Caballo 23 Fed Com 702H H2S Plan Summary_02-14-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Caballo 23 Fed Com 702H Planning Report_02-14-2017.pdf
Caballo 23 Fed Com 702H Planning Report_02-14-2017.pdf
Caballo 23 Fed Com 702H Wall Plot_02-14-2017.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Caballo 23 Fed Com 702H 5.500in 20.00 VST P110EC DWC_C-IS MS Spec Sheet_02-14-2017.pdf
Caballo 23 Fed Com 702H 5.500in 20.00 VST P110EC VAM SFC Spec Sheet_02-14-2017.pdf
Caballo 23 Fed Com 702H 7.625in 29.70 P-110 FlushMax III Spec Sheet_02-14-2017.pdf
Caballo 23 Fed Com 702H BLM Plan_02-14-2017.pdf
Caballo 23 Fed Com 702H Proposed Wellbore_02-14-2017.pdf
Caballo 23 Fed Com 702H Rig Layout_02-14-2017.pdf
Caballo 23 Fed Com 702H 7.625in 29.7 P110EC VAM SLIJ-II_02-14-2017.pdf

Other Variance attachment:

Caballo 23 Fed Com 702H Co-Flex Hose Certification_02-14-2017.PDF
Caballo 23 Fed Com 702H Co-Flex Hose Test Chart_02-14-2017.pdf

SUPO

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

CABALLO_23_FED_COM_702H vicinity map_02-13-2017.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Caballo 23 Fed Com infrastructure sketch_02-13-2017.pdf

CABALLO_23_FED_COM_702H well site_02-13-2017.pdf

New road type: RESOURCE

Length: 78 Feet **Width (ft.):** 24

Max slope (%): 2 **Max grade (%):** 20

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 24

New road access erosion control: Newly constructed or reconstructed roads will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road. We plan to grade and water twice a year.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: 6" of Compacted Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: An adequate amount of topsoil/root zone will be stripped by dozer from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram / survey plat.

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: No drainage crossings

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

CABALLO_23_FED_COM_702H_ radius map_02-13-2017.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Estimated Production Facilities description:

Production Facilities description: Caballo 23 Fed Com Central Battery SW/4 of section 23

Production Facilities map:

Caballo 23 Fed Com infrastructure sketch_02-13-2017.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Water source use type: OTHER **Water source type:** RECYCLED

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: WATER RIGHT

Source land ownership: FEDERAL

Water source transport method: PIPELINE,TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 0 **Source volume (acre-feet):** 0

Source volume (gal): 0

Water source and transportation map:

Caballo 23 Fed Com Water Source and Caliche_02-13-2017.pdf

Water source comments:

New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Caliche will be supplied from pits shown on the attached caliche source map. Caliche utilized for the drilling pad will be obtained either from an existing approved mineral pit, or by benching into a hill, which will allow the pad to be level with existing caliche from the cut, or extracted by "Flipping" the well location. A mineral material permit will be obtained from BLM prior to excavating any caliche on Federal Lands. Amount will vary for each pad. The procedure for "Flipping" a well location is as follows: * -An adequate amount of topsoil/root zone (usually top 6 inches of soil) will be stripped from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram/survey plat. -An area will be used within the proposed well site dimensions to excavate caliche. Subsoil will be removed and stockpiled within the surveyed well pad dimensions. -Once caliche/surfacing mineral is found, the mineral material will be excavated and stock piled within the approved drilling pad dimensions. -Then, subsoil will be pushed back in the excavated hole and caliche will be spread accordingly across the entire well pad and road (if available). -Neither caliche, nor subsoil will be stock piled outside of the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat. * In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit or other established mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or federal land.

Construction Materials source location attachment:

Caballo 23 Fed Com Water Source and Caliche_02-13-2017.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drill fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly. Human waste and grey water will be properly contained of and disposed of properly. After drilling and completion operations; trash, chemicals, salts, frac sand, and other waste material will be removed and disposed of properly at a state approved disposal facility.

Amount of waste: 0 barrels

Waste disposal frequency : Daily

Safe containment description: Steel Tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Trucked to NMOCD approved disposal facility

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Closed Loop System. Drill cuttings will be disposed of into steel tanks and taken to an NMOCD approved disposal facility.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

CABALLO_23_FED_COM_702H pad site_02-13-2017.pdf

CABALLO_23_FED_COM_702H well site_02-13-2017.pdf

Caballo 23 Fed Com 702H Rig Layout_02-14-2017.pdf

Comments: Exhibit 2A-Wellsite & Exhibit 2B-Padsite Rig Layout Exhibit 4

Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

Recontouring attachment:

CABALLO_23_FED_COM_702H interim reclamation_02-13-2017.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.

Drainage/Erosion control reclamation: The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

Wellpad long term disturbance (acres): 2.772039 **Wellpad short term disturbance (acres):** 4.178145

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Access road long term disturbance (acres): 0.42975 **Access road short term disturbance (acres):** 0.42975

Pipeline long term disturbance (acres): 0.64944905 **Pipeline short term disturbance (acres):** 1.0824151

Other long term disturbance (acres): 0 **Other short term disturbance (acres):** 0

Total long term disturbance: 3.851238 **Total short term disturbance:** 5.69031

Reconstruction method: In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. Areas planned for interim reclamation will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Topsoil redistribution: Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts and fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Soil treatment: Re-seed according to BLM standards. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

Existing Vegetation at the well pad: Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respreads evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Seed harvest description attachment:

Seed Management

Seed Table

Seed type: **Seed source:**

Seed name:

Source name: **Source address:**

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: **Proposed seeding season:**

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Stan **Last Name:** Wagner

Phone: (432)686-3689 **Email:** stan_wagner@eogresources.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds. Weeds will be treated if found.
Weed treatment plan attachment:

Monitoring plan description: Reclamation will be completed within 6 months of well plugging. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds.
Monitoring plan attachment:

Success standards: N/A

Pit closure description: NA

Pit closure attachment:

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Fee Owner: Oliver Kiehne **Fee Owner Address:** P.O. Box 135 Orla, TX 79770

Phone: (575)399-9281 **Email:**

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: surface use agreement

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information: An onsite meeting was conducted 01/31/17. Poly lines are planned to transport water for operations. Will truck if necessary. See attached SUPO Plan.
Use a previously conducted onsite? YES

Previous Onsite information: Onsite meeting conducted 01/31/17.

Other SUPO Attachment

Caballo 23 Fed Com_702H SUPO_02-13-2017.pdf

CABALLO_23_FED_COM_702H Combined Plats_02-14-2017.PDF

Caballo 23 Fed COM 702H signed C-102_02-14-2017.pdf

PWD

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Bond Info

Bond Information

Federal/Indian APD: FED

BLM Bond number: NM2308

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Operator Name: EOG RESOURCES INC

Well Name: CABALLO 23 FED COM **Well Number:** 702H

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Operator Certification

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Stan Wagner **Signed on:** 02/15/2017

Title: Regulatory Specialsit

Street Address: 5509 Champions Drive

City: Midland **State:** TX **Zip:** 79702

Phone: (432)686-3689

Email address: Stan_Wagner@eogresources.com

Field Representative

Representative Name: James Barwis

Street Address: 5509 Champions Drive

City: Midland **State:** TX **Zip:** 79706

Phone: (432)425-1204

Email address: james_barwis@eogresources.com

Payment Info

Payment

APD Fee Payment Method: BLM DIRECT

CBS Receipt number: 3764407