Form 3160-3
(March 2012)

HOBBS OCD

SEP 11 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

5. Lease Serial No.
NMNM66927

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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.
TOPAZ 11 FED 701H

2. Name of Operator
EOG RESOURCES INCORPORATED

9. API Well No.
30-025-44005

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 / HARDIN TANK; WOLFCAM

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NWNW / 483 FNL / 330 FWL / LAT 32.0638767 / LONG -103.4481986

At proposed prod. zone SWSW / 230 FSL / 330 FWL / LAT 32.0513216 / LONG -103.4481915

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 11 / T26S / R34E / NMP

14. Distance in miles and direction from nearest town or post office*
15.5 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)
330 feet

16. No. of acres in lease
2480

17. Spacing Unit dedicated to this well
160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
750 feet

19. Proposed Depth
12764 feet / 17532 feet

20. BLM/BIA Bond No. on file
FED: NM2308

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3320 feet

22. Approximate date work will start*
12/01/2017

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	Name *(Printed/Typed)*	Date
(Electronic Submission)	Robert Humphreys / Ph: (432)686-3693	03/22/2017

Title
REP ROW & Lease Ops II

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	08/31/2017

Title	Office
Supervisor Multiple Resources	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
09/11/17

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U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

08/31/2017

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: Robert Humphreys **Signed on:** 03/22/2017

Title: REP ROW & Lease Ops II

Street Address: 5509 Champions Drive

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

Phone: (432)686-3693

Email address: robert_humphreys@eogresources.com

Field Representative

Representative Name: James Barwis

Street Address: 5509 Champions Drive

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

Phone: (432)686-3791

Email address: james_barwis@eogresources.com

APD ID: 10400011988 **Submission Date:** 03/22/2017

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400011988 **Tie to previous NOS?** **Submission Date:** 03/22/2017

BLM Office: CARLSBAD **User:** Robert Humphreys **Title:** REP ROW & Lease Ops II

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

Lease number: NMNM66927 **Lease Acres:** 2480

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** EOG RESOURCES INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: EOG RESOURCES INCORPORATED

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:**

Well Name: TOPAZ 11 FED **Well Number:** 701H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** RED HILLS **Pool Name:** HARDIN TANK; WOLFCAMP

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

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

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: SINGLE WELL **Multiple Well Pad Name:** **Number:**

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: 15.5 Miles **Distance to nearest well:** 750 FT **Distance to lease line:** 330 FT

Reservoir well spacing assigned acres Measurement: 160 Acres

Well plat: Topaz_11_Fed_701H_C_102_03-22-2017.pdf

Well work start Date: 12/01/2017 **Duration:** 25 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	483	FNL	330	FWL	26S	34E	11	Aliquot NWNW	32.0638767	-103.4481986	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 66927	3320	0	0
KOP Leg #1	483	FNL	330	FWL	26S	34E	11	Aliquot NWNW	32.0638767	-103.4481986	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 66927	-8838	12170	12158
PPP Leg #1	330	FNL	330	FWL	26S	34E	11	Aliquot NWNW	32.0642979	-103.4481986	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 66927	-9444	13118	12764

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	330	FSL	330	FWL	26S	34E	11	Aliquot SWSW	32.0515964	-103.4481916	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 66927	-9444	17432	12764
BHL Leg #1	230	FSL	330	FWL	26S	34E	11	Aliquot SWSW	32.0513216	-103.4481915	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 66927	-9444	17532	12764

APD ID: 10400011988 **Submission Date:** 03/22/2017

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
17706	PERMIAN	3320	0	0	ANHYDRITE	USEABLE WATER	No
17746	RUSTLER	2409	911	911	ANHYDRITE	NONE	No
17718	TOP SALT	2013	1307	1307	SALT	NONE	No
17722	BASE OF SALT	-713	4033	4033	SALT	NONE	No
17761	BASAL ANHYDRITE	-2059	5379	5379	ANHYDRITE	NONE	No
17719	LAMAR	-2059	5379	5379	LIMESTONE	NONE	No
15332	BELL CANYON	-2102	5422	5422	SANDSTONE	NONE	No
15316	CHERRY CANYON	-3090	6410	6410	SANDSTONE	NATURAL GAS,OIL	No
17713	BRUSHY CANYON	-4509	7829	7829	SANDSTONE	NATURAL GAS,OIL	No
17721	BONE SPRING LIME	-6174	9494	9494	LIMESTONE	NONE	No
17770	FIRST BONE SPRING SAND	-7201	10521	10521	SANDSTONE	NATURAL GAS,OIL	No
17737	BONE SPRING 2ND	-7425	10745	10745	SHALE	NATURAL GAS,OIL	No
17737	BONE SPRING 2ND	-7748	11068	11068	SANDSTONE	NATURAL GAS,OIL	No
17738	BONE SPRING 3RD	-8290	11610	11610	MUDSTONE	NATURAL GAS,OIL	No
17738	BONE SPRING 3RD	-8815	12135	12135	SANDSTONE	NATURAL GAS,OIL	No
17709	WOLFCAMP	-9292	12612	12612	SHALE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

Pressure Rating (PSI): 10M **Rating Depth:** 12530

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 (10000-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 & 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 5000/ 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 5000/ 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.

Choke Diagram Attachment:

Topaz_11_Fed_701H_10_M_Choke_Maniflod__5.23.17__05-25-2017.pdf

BOP Diagram Attachment:

Topaz_11_Fed_701H_10_M_BOP_Diagram__4_27_17__05-25-2017.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	935	0	935	3320	2385	935	J-55	40.5	STC	1.125	1.25	BUOY	1.6	BUOY	1.6
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	1000	0	1000	3320	2320	1000	HCP-110	29.7	LTC	1.125	1.25	BUOY	1.6	BUOY	1.6
3	INTERMEDIATE	9.875	7.625	NEW	API	N	1000	3000	1000	3000	2320	320	2000	OTHER	29.7	OTHER - SLIJ II	1.125	1.25	BUOY	1.6	BUOY	1.6
4	PRODUCTION	6.75	5.5	NEW	API	N	0	11200	0	11200	3320	-7880	11200	OTHER	20	OTHER - DWC/C-IS MS	1.125	1.25	BUOY	1.6	BUOY	1.6
5	INTERMEDIATE	8.75	7.625	NEW	API	N	3000	11700	3000	11700	320	-8380	8700	HCP-110	29.7	OTHER - FlushMax III	1.125	1.25	BUOY	1.6	BUOY	1.6
6	PRODUCTION	6.75	5.5	NEW	API	N	11200	17531	11200	12764	-7880	-9444	6331	OTHER	20	OTHER - VAM SFC	1.125	1.25	BUOY	1.6	BUOY	1.6

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Topaz_11_Fed_701H_BLM_Plan_03-22-2017.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Topaz_11_Fed_701H_BLM_Plan_03-22-2017.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Topaz_11_Fed_701H_BLM_Plan_03-22-2017.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Topaz_11_Fed_701H_BLM_Plan_03-22-2017.pdf

Casing ID: 5 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Topaz_11_Fed_701H_BLM_Plan_03-22-2017.pdf

Casing ID: 6 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Topaz_11_Fed_701H_BLM_Plan_03-22-2017.pdf

Section 4 - Cement

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	0	0	0	0	0	0	0	0
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0
INTERMEDIATE	Lead		0	0	0	0	0	0	0	0	0
SURFACE	Lead		0	935	325	1.73	13.5	562	25	Class C	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface)
SURFACE	Tail		935	935	200	1.34	14.8	268	25	Class C	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
INTERMEDIATE	Lead		0	11700	2250	1.38	14.8	3105	25	Class C	Class C + 5% Gypsum + 3% CaCl2 pumped via Bradenhead (TOC @ Surface)
INTERMEDIATE	Tail		11700	11700	550	1.2	14.4	660	25	Class C	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P pumped Conventionally
PRODUCTION	Lead		11200	17531	850	1.26	14.1	1071	25	Class H	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 11,200')

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	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
935	11700	SALT SATURATED	8.8	10							
11700	12764	OIL-BASED MUD	10	14							
0	935	WATER-BASED MUD	8.6	8.8							

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:

OTH

Other log type(s):

GR - CCL

Coring operation description for the well:

None

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7632 **Anticipated Surface Pressure:** 4823.92

Anticipated Bottom Hole Temperature(F): 181

Anticipated abnormal pressures, 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:

Topaz_11_Fed_701H_H2S_Plan_Summary_03-22-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Topaz_11_Fed_701H_Planning_03-22-2017.pdf
Topaz_11_Fed_701H_Wall_Plot_03-22-2017.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Topaz_11_Fed_701H_5.500in_20.00_VST_P110EC_DWC_C_IS_MS_Spec_Sheet_03-22-2017.pdf
Topaz_11_Fed_701H_5.500in_20.00_VST_P110EC_VAM_SFC_Spec_Sheet_03-22-2017.pdf
Topaz_11_Fed_701H_7.625in_29.7_P110EC_VAM_SLIJ_II_03-22-2017.pdf
Topaz_11_Fed_701H_7.625in_29.70_P_110_FlushMax_III_Spec_Sheet_03-22-2017.pdf
Topaz_11_Fed_701H_Rig_Layout_03-22-2017.pdf
Topaz_11_Fed_701H_BLM_Plan_03-22-2017.pdf
Topaz_11_Fed_701H_Proposed_Wellbore_03-22-2017.pdf

Other Variance attachment:

Topaz_11_Fed_701H_Co_Flex_Hose_Certification_03-22-2017.PDF
Topaz_11_Fed_701H_Co_Flex_Hose_Test_Chart_03-22-2017.pdf

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BUREAU OF LAND MANAGEMENT

PWD Data Report
08/31/2017

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?

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:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

08/31/2017

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:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

APD ID: 10400011988 **Submission Date:** 03/22/2017

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Topaz 11 Fed 701H Vicinity Map_03-01-2017.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

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:

Topaz_11_Fed_701H_Infrastructure_03-22-2017.pdf
LO_TOPAZ_11_FED_701H_REV1_2C_Interim_Reclamation_05-25-2017.pdf

New road type: LOCAL

Length: 668 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:

Topaz 11 Fed 701H Radius Map_03-02-2017.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: The production facility is proposed to be installed on the proposed well location.

Production Facilities map:

LO_TOPAZ_11_FED_701H_REV1_2C_Production_Facilities_Diagram_05-25-2017.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

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:

Topaz 11 Fed 701H water sources and caliche map_03-02-2017.pdf

Water source comments: Water will be supplied from the frac pond as shown on the attached water source map. This location will be drilled using a combination of water mud systems (outlined in the drilling program). The water will be obtained from commercial water stations in the area or recycled treated water and hauled to location by trucks or poly pipelines using existing and proposed roads depicted on the proposed existing access road maps. In these cases where a poly pipeline is used to transport fresh water for drilling purposes, proper authorizations will be secured by the contractor.
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:

Topaz 11 Fed 701H water sources and caliche map_03-02-2017.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 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.)**

Operator Name: EOG RESOURCES INCORPORATED

Well Name: TOPAZ 11 FED **Well Number:** 701H

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:

Topaz_11_Fed_701H_Wellsite_Ex_2A_03-22-2017.pdf
Topaz_11_Fed_701H_Rig_Layout_03-22-2017.pdf
LO_TOPAZ_11_FED_701H_REV1_2B_Pad_Exhibit_05-25-2017.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

Recontouring attachment:

LO_TOPAZ_11_FED_701H_REV1_2C_Interim_Reclamation_05-25-2017.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): 0.9182736 **Wellpad short term disturbance (acres):** 3.581267

Access road long term disturbance (acres): 0.36804408 **Access road short term disturbance (acres):** 0.36804408

Pipeline long term disturbance (acres): 0.000071147384 **Pipeline short term disturbance (acres):** 0.00019763086

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

Total long term disturbance: 1.2863889 **Total short term disturbance:** 3.9495087

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 re-contoured 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: Construction slopes may be much steeper during drilling, but will be re-contoured to the above ratios during interim reclamation.
Topsoil redistribution: Topsoil will be evenly respreads and aggressively re-vegetated 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 re-vegetation occurs, that the area in not re-disturbed, 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 re-spreading. 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 re-contoured 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 area will be stockpiled prior to re-contouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful re-vegetation.
Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: All disturbed areas, including roads, pipelines, pads, will be re-contoured 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 area will be stockpiled prior to re-contouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful re-vegetation.
Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: All disturbed areas, including roads, pipelines, pads, will be re-contoured 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 area will be stockpiled prior to re-contouring. The topsoil will

be redistributed evenly over the entire disturbed site to ensure successful re-vegetation.

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:

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: Robert

Last Name: Humphreys

Phone: (432)686-3693

Email: robert_humphreys@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 re-vegetation occurs, that the area is not re-disturbed, 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 re-vegetation occurs, that the area is not re-disturbed, erosion is controlled, and free of noxious weeds.
Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

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:**

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 on 01/12/17. 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 01/12/17.

Other SUPO Attachment

Topaz_11_Fed_701H_Rig_Layout_03-22-2017.pdf
Topaz_11_Fed_701H_Infrastructure_03-22-2017.pdf
Topaz_11_Fed_701H_Location_and_Elevation_Map_03-22-2017.pdf
Topaz_11_Fed_701H_Radius_Map_03-22-2017.pdf
Topaz_11_Fed_701H_Vicinity_Map_03-22-2017.pdf
Topaz_11_Fed_701H_water_sources_and_caliche_map_03-22-2017.pdf
Topaz_11_Fed_701H_Wellsite_Ex_2A_03-22-2017.pdf
SUPO_PLATS___TOPAZ_11_FED_701H_03-22-2017.pdf
SUPO_Topaz_11_Fed_701_03-22-2017.pdf
LO_TOPAZ_11_FED_701H_REV1_2C_Interim_Reclamation_05-25-2017.pdf
LO_TOPAZ_11_FED_701H_REV1_2C_Production_Facilities_Diagram_05-25-2017.pdf
LO_TOPAZ_11_FED_701H_REV1_2B_Pad_Exhibit_05-25-2017.pdf
Waste_Minimization___Gas_Capture_Plan_05-26-2017.pdf
Response_to_10_Day_Letter_05-26-2017.pdf