Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

RECEIVED
NOV 20 2019
DISTRICT II-ARTESIA O.C.D.

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

| | |
|---|---|
| WELL API NO. 30-005-63241 | |
| 5. Indicate Type of Lease STATE ☒ FEE ☐ | |
| 6. State Oil & Gas Lease No. LG-2621 | |
| SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: Oil Well ☐ Gas Well ☒ Other | 7. Lease Name or Unit Agreement Name Thunderhead TD State Com |
| | 8. Well Number 4 |
| 2. Name of Operator EOG Resources, Inc. | 9. OGRID Number 7377 |
| 3. Address of Operator 104 South Fourth Street, Artesia, NM 88210 | 10. Pool name or Wildcat Pecos Slope; Abo |
| 4. Well Location Unit Letter E : 1980 feet from the North line and 660 feet from the West line Section 32 Township 8S Range 26E NMPM Chaves County | |
| | 11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 3741'GR |

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

| NOTICE OF INTENTION TO: | | | | SUBSEQUENT REPORT OF: | | | |
|---|---|---|---|---|---|---|---|
| PERFORM REMEDIAL WORK | ☐ | PLUG AND ABANDON | ☒ | REMEDIAL WORK | ☐ | ALTERING CASING | ☐ |
| TEMPORARILY ABANDON | ☐ | CHANGE PLANS | ☐ | COMMENCE DRILLING OPNS. | ☐ | P AND A | ☐ |
| PULL OR ALTER CASING | ☐ | MULTIPLE COMPL | ☐ | CASING/CEMENT JOB | ☐ | | |
| DOWNHOLE COMMINGLE | ☐ | | | | | | |
| CLOSED-LOOP SYSTEM | ☐ | | | | | | |
| OTHER: | ☐ | | | OTHER: | | | ☐ |

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Notify OCD 24 hrs. prior to any work done.

EOG Resources, Inc. plans to plug and abandon this well as follows:

1. MIRU all safety equipment as needed. NU BOP. POOH with production equipment.
2. Set a CIBP at 4267' with 35' Class "C" cement on top. — WOC & Tag
3. Spot a 25 sx Class "C" cement plug from 3622'-3384'. WOC and tag. This will plug Tubb.
4. Perforate at 2390'. Attempt to establish circulation or spot a 34 sx Class "C" cement plug from 2390'-2267'. WOC and tag. This will plug Yeso.
5. Perforate at 2057'. Attempt to establish circulation or spot a 33 sx Class "C" cement plug from 2057'-1937'. WOC and tag. This will plug Glorieta.
6. Perforate at 1153'. Attempt to establish circulation or spot a 28 sx Class "C" cement plug from 1153'-890'. WOC and tag. This will plug the shoe and San Andres.
7. Spot a 10 sx Class "C" cement plug from ~~95'~~ up to surface. WOC and tag plug. This will plug the top. — Perf @ 100' & Attempt to Circ. Cmt to Surf.
8. Cut off wellhead and weld on dry hole marker. Clean location as per regulated.

Wellbore schematics attached

*** SEE ATTACHED COA'S - Revised
MUST BE PLUGGED BY
11/21/20

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Tina Huerta TITLE Regulatory Specialist DATE October 14, 2019

Type or print name Tina Huerta E-mail address: tina_huerta@eogresources.com PHONE: 575-748-4168

**For State Use Only**

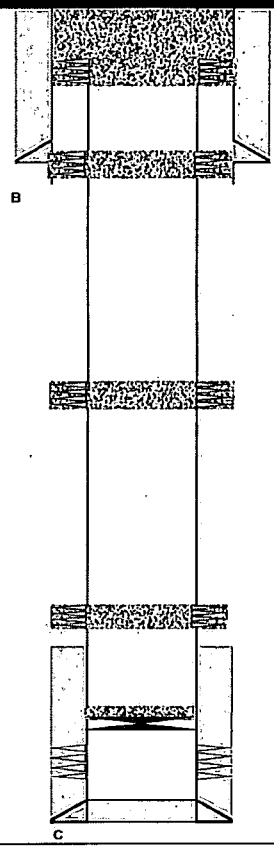
APPROVED BY: TITLE Staff Mgr DATE 11/21/19

Conditions of Approval (if any):

# THUNDERHEAD TD STATE #001

| | | | |
|---|---|---|---|
| Sec-TWN-RNG: | D-32-08S-26E | API: | 30-005-61393 |
| FOOTAGES: | 660 FNL 660 FWL | GL: | 3734 |
| | 33.5818863,-104.3264236 | KB: | |

COMMENTS




Perforations
4317'-4571'

PBTD: 4,939 MD
TD: 4,950 MD

CASING DETAIL

| # | HOLE SIZE | SIZE | WGHT | GRADE | Top | Bottom | Sx Cmt | Circ/TOC | TOC Method |
|---|---|---|---|---|---|---|---|---|---|
| A | 24 | 20 | | | 0 | 40 | | | |
| B | 12 1/4 | 8 5/8 | | | 0 | 1,208 | 700 | Circ | |
| C | 7 7/8 | 4.5 | 9.5 | J-55 | 0 | 4948 | 400 | | |

FORMATION TOPS

| Formation | Top |
|---|---|
| San Anders | 907 |
| Glorieta | 2103 |
| Fullerton | 3548 |
| Abo | 4316 |

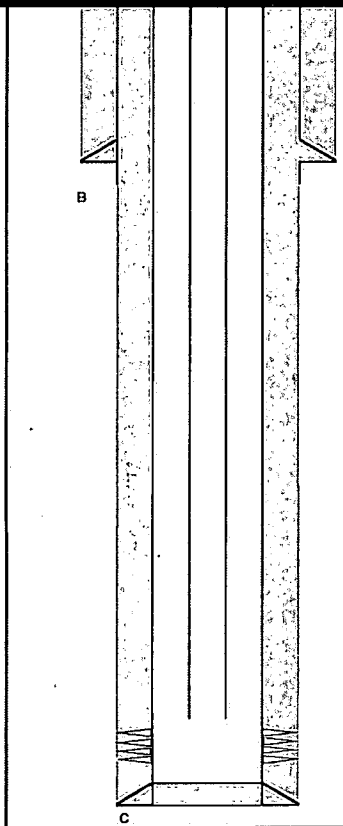
Plugs

| | |
|---|---|
| 1 | Set CIBP at 4267 ft with 35 ft of CLS C on top. |
| 2 | Perforate at 3598 ft. Attempt to establish Circulation or spot I/O. Requires 37 SX (135 ft) CLS C cement plug 3463 ft - 3598 ft. WOC & Tag Plug. This will plug the Fullerton |
| 3 | Perforate at 2153 ft. Attempt to establish Circulation or spot I/O. Requires 33 SX (121 ft) CLS C cement plug 2032 ft - 2153 ft. WOC & Tag Plug. This will plug the Glorieta |
| 4 | Perforate at 1258 ft. Attempt to establish Circulation or spot I/O. Requires 25 SX (362 ft) CLS C cement plug 896 ft - 1258 ft. WOC & Tag Plug. This will plug the Shoe |
| 5 | Perforate at 957 ft. Attempt to establish Circulation or spot I/O. Requires 30 SX (109 ft) CLS C cement plug 848 ft - 957 ft. WOC & Tag Plug. This will plug the San Anders |
| 6 | Spot a 10 SX (145 ft) CLS C cement plug 0 ft - 145 ft. WOC & Tag Plug. This will plug the TOP. |

# THUNDERHEAD TD STATE #001

| | | | |
|---|---|---|---|
| Sec-TWN-RNG: | D-32-08S-26E | API: | 30-005-61393 |
| FOOTAGES: | 660 FNL 660 FWL | GL: | 3734 |
| | 33.5818863,-104.3264236 | KB: | |

COMMENTS




Perforations
4317'-4571'

PBTD: 4,939 MD
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| # | HOLE SIZE | SIZE | WGHT | GRADE | Top | Bottom | Sx Cmt | Circ/TOC | TOC Method |
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| C | 7 7/8 | 4.5 | 9.5 | J-55 | 0 | 4948 | 400 | | |

FORMATION TOPS

| Formation | Top |
|---|---|
| San Anders | 907 |
| Glorieta | 2103 |
| Fullerton | 3548 |
| Abo | 4316 |

TUBING DETAIL

| # | Joints | Description | Length | OD | ID | Grade | Wt (lb/ft): | Top (ftKB): | Btm (ftKB): |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 2.375" tubing | 4420 | 2.375 | 1.995 | | | | |

Rod Detail

| # | Joints | Description | Length | OD | ID | Grade | Wt (lb/ft): | Top (ftKB): | Btm (ftKB): |
|---|---|---|---|---|---|---|---|---|---|

# CONDITIONS FOR PLUGGING AND ABANDONMENT

OCD - Southern District

The following is a guide or checklist in preparation of a plugging program, this is not all inclusive and care must be exercised in establishing special plugging programs in unique and unusual cases, **Notify NMOCD District Office II at (575)-748-1283 at least 24 hours before beginning work.** After MIRU rig will remain on well until it is plugged to surface. OCD is to be notified before rig down. Company representative will be on location during plugging procedures.

1. A notice of intent to plug and abandon a wellbore is required to be approved before plugging operations are conducted. A cement evaluation tool is required in order to ensure isolation of producing formations, protection of water and correlative rights. A cement bond log or other accepted cement evaluation tool is to be provided to the division for evaluation if one has not been previously run or if the well did not have cement circulated to surface during the original casing cementing job or subsequent cementing jobs.
2. Closed loop system is to be used for entire plugging operation. Upon completion, contents of steel pits are to be hauled to a permitted disposal location.
3. Trucking companies being used to haul oilfield waste fluids to a disposal – commercial or private – shall have an approved NMOCD C-133 permit. A copy of this permit shall be available in each truck used to haul waste products. It is the responsibility of the operator as well as the contractor, to verify that this permit is in place prior to performing work. Drivers shall be able to produce a copy upon request of an NMOCD Field inspector.
4. Filing a subsequent C-103 will serve as notification that the well has been plugged.
5. A final C-103 shall be filed (and a site inspection by NMOCD Inspector to determine if the location is satisfactorily cleaned, all equipment, electric poles and trash has been removed to Meet NMOCD standards) before bonding can be released.
6. If work has not begun within 1 Year of the approval of this procedure, an extension request must be file stating the reason the well has not been plugged.
7. **Squeeze pressures are not to exceed 500 psi, unless approval is given by NMOCD.**
8. Produced water **will not** be used during any part of the plugging operation.
9. Mud laden fluids must be placed between all cement plugs mixed at 25 sacks per 100 bbls of water.
10. All cement plugs will be a minimum of 100' in length or a minimum of 25 sacks of cement, whichever is greater. 50' of calculated cement excess required for inside casing plugs and 100% calculated cement excess required on outside casing plugs.
11. **Class 'C' cement will be used above 7500 feet.**
12. **Class 'H' cement will be used below 7500 feet.**
13. **A cement plug is required to be set 50' above and 50' below, casing stubs, DV tools, attempted casing cut offs, cement tops outside casing, salt sections and anywhere the casing is perforated, these plugs require a 4 hour WOC and then will be tagged**
14. **All Casing Shoes Will Be Perforated 50' below shoe depth and Attempted to be Squeezed, cement needs to be 50' above and 50' Below Casing Shoe inside the Production Casing.**

16. When setting the top out cement plug in production, intermediate and surface casing, wellbores should remain full at least 30 minutes after plugs are set
17. **A CIBP is to be set within 100' of production perforations, capped with 100' of cement, WOC 4 hours and tag.**
18. A CIBP with 35' of cement may be used in lieu of the 100' plug if set with a bailer. This plug will be placed within 100' of the top perforation, **(WOC 4 hrs and tag).**
19. No more than **3000' is allowed between cement plugs in cased hole and 2000' in open hole.**
20. Some of the Formations to be isolated with cement plugs are: These plugs to be set to isolate formation tops
    A) Fusselman
    B) Devonian
    C) Morrow
    D) Wolfcamp
    E)Bone Springs
    F) Delaware
    G) Any salt sections
    H) Abo
    I) Glorieta
    J) Yates.
    K) **Potash---** (In the R-111-P Area (Potash Mine Area), a solid cement plug must be set across the salt section. Fluid used to mix the cement shall be saturated with the salts that are common to the section penetrated and in suitable proportions, not more than 3% calcium chloride (by weight of cement) will be considered the desired mixture whenever possible, **WOC 4 hours and tag, this plug will be 50' below the bottom and 50' above the top of the Formation.**
21. **If cement does not exist behind casing strings at recommended formation depths,** the casing can be cut and pulled with plugs set at recommended depths. If casing is not pulled, perforations will be shot and cement squeezed behind casing, WOC and tagged. These plugs will be set 50' below formation bottom to 50' above formation top inside the casing

**DRY HOLE MARKER REQUIRMENTS**

The operator shall mark the exact location of the plugged and abandoned well with a steel marker not less than four inches in diameter, 3' below ground level with a plate of at least ¼" welded to the top of the casing and the dry hole marker welded on the plate with the following information welded on the dry hole marker:

**1. Operator name 2. Lease and Well Number 3.API Number 4. Unit Letter 5. Quarter Section (feet from the North, South, East or West) 6. Section, Township and Range 7. Plugging Date 8. County (SPECIAL CASES)-------AGRICULTURE OR PRARIE CHICKEN BREEDING AREAS**

In these areas, a below ground marker is required with all pertinent information mentioned above on a plate, set 3' below ground level, a picture of the plate will be supplied to NMOCD for record, the exact location of the marker (longitude and latitude by GPS) will be provided to NMOCD (We typically require a current survey to verify the GPS)