

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

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

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

WELL API NO. 30-005-63209
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. LG-2621
7. Lease Name or Unit Agreement Name Thunderhead TD State
8. Well Number 2
9. OGRID Number 7377
10. Pool name or Wildcat Pecos Slope; Abo

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 <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other	
2. Name of Operator EOG Resources, Inc.	
3. Address of Operator 104 South Fourth Street, Artesia, NM 88210	
4. Well Location Unit Letter <u>I</u> : <u>1500</u> feet from the <u>South</u> line and <u>660</u> feet from the <u>East</u> line Section <u>32</u> Township <u>8S</u> Range <u>26E</u> NMPM Chaves County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3747'GR	

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input checked="" type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

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.

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

Notify OCD 24 hrs. prior to any work done.

- MIRU all safety equipment as needed. NU BOP. POOH with production equipment.
- Set a CIBP at 4506' with 35' Class "C" cement on top. - WOC + Tag
- Perforate at 3788'. Attempt to establish circulation or spot a 48 sx Class "C" in/out cement plug from 3788'-3658'. WOC and tag. This will cover Tubb. - WOC + Tag
- Perforate at 2214'. Attempt to establish circulation or spot a 44 sx Class "C" in/out cement plug from 2214'-2094'. WOC and tag. This will plug Glorieta. - WOC + Tag
- Perforate at 1150'. Attempt to establish circulation or spot a 31 sx Class "C" in/out cement plug from 1150'-1025'. WOC and tag. This will plug San Andres and 8-5/8" casing shoe. - WOC + Tag
- Perforate at 100'. Attempt to establish circulation or spot a 28 sx Class "C" in/out cement plug from 100' up to surface.
- Back fill and 1" as needed on surface plug.
- Cut off wellhead and weld on dry hole marker. Clean location as per regulated.

Wellbore schematics attached

NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 17 2019

Spud Date:

Rig Release Date:

RECEIVED

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 16, 2019

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

For State Use Only

APPROVED BY: [Signature] TITLE Staff mg DATE 10/21/19

Conditions of Approval (if any):

[illegible]

Thunderhead TD State #2

Sec-TWN-RNG: I-32-8S-26E
FOOTAGES: 1500 FSL & 660 FEL
CURRENT

API: 30-005-63209
GL: 3747'
KB: 8'

COMMENTS

Plug 5

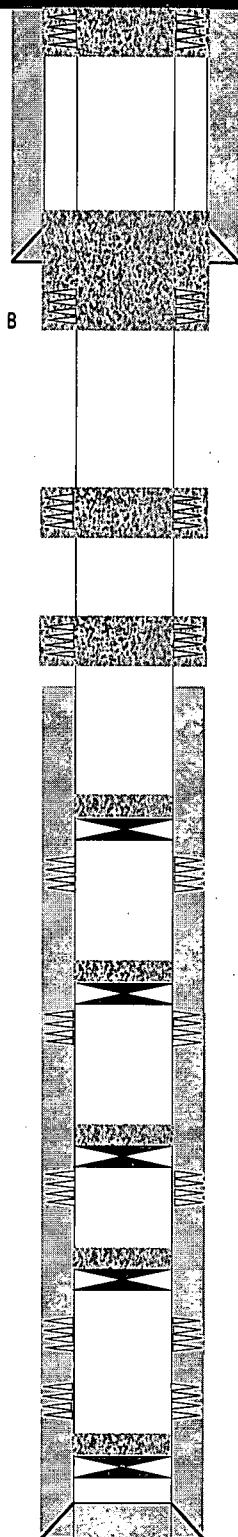
Plug 4

Plug 3

Plug 2

Plug 1

Abo Perfs 4556' - 4703'



C

PBTD: 5,200 MD
TD: 7,330 MD

CASING DETAIL

#	HOLE SIZE	SIZE	WGHT	GRADE	Top	Bottom	Sx Cmt	Circ/TOC	TOC Method
A	12 3/4	8 5/8	24		0	1,100	450	Circ	
B	7 7/8	5 1/2	15.5		0	7,113	658	4844	CBL

FORMATION TOPS

	Formation	Top							
	San Anders	1084							
	Glorieta	2164							
	Tubb	3738							
	Abo	4501							
	Wolfcamp	5256							
	Cisco Clastics	5922							
	Mississippian	6806							
	Ord	7100							

TUBING DETAIL

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

Rod Detail

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

Plugs

- 1 Set CBP @ 4506' w th 33' of class C on top.
- 2 Perforate at 3738'. Establish circulation or spot a 48sx in/out plug from 3788' - 3658' covering the top of the Tubb.
- 3 Perforate at 2214'. Establish circulation or spot a 44sx in/out plug from 2214' - 2094' covering the top of the Glorieta.
- 4 Perforate at 1150'. Establish circulation or spot a 31 sx inside/outside class C plug from 1150' to 1025' covering the top of the San Anders and the 8 5/8" casing shoe.
- 5 Perforate at 100'. Establish circulation or spot a 28 sx inside/outside plug from 100' to surface.

CONDITIONS FOR PLUGGING AND ABANDONMENT

District II / Artesia N.M.

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.**

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 the well is not plugged within 1
7. 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.
8. **Squeeze pressures are not to exceed 500 psi, unless approval is given by NMOCD.**
9. Produced water **will not** be used during any part of the plugging operation.
10. Mud laden fluids must be placed between all cement plugs mixed at 25 sacks per 100 bbls of water.
11. 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.
12. **Class 'C' cement will be used above 7500 feet.**
13. **Class 'H' cement will be used below 7500 feet.**
14. **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**
15. **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)