

05/15/2013

SUSPENSE

ENGINEER RE

LOGGED IN 05/20/2013

TYPE SWD

PPRG 1314358837  
API NO.

ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

RECEIVED - Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

2013 MAY 15 P 2:57



API 30-025-41067  
 Endurance 25 Fed #2  
EOG Resources

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

**[1] TYPE OF APPLICATION** - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication  
 NSL  NSP  SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement  
 DHC  CTB  PLC  PC  OLS  OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
 WFX  PMX  SWD  IPI  EOR  PPR

- [D] Other: Specify \_\_\_\_\_

*Delaware*

*Protested:*

*BLM May 10<sup>th</sup>*

*Correspondence*

*Attached*

**[2] NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or  Does Not Apply

- [A]  Working, Royalty or Overriding Royalty Interest Owners
- [B]  Offset Operators, Leaseholders or Surface Owner
- [C]  Application is One Which Requires Published Legal Notice
- [D]  Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E]  For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F]  Waivers are Attached

**[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.****[4] CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Stan Wagner  
 Print or Type Name

*Stan Wagner*  
 Signature

Regulatory Analyst  
 Title

*5/13/13*  
 Date

[stan.wagner@eogresources.com](mailto:stan.wagner@eogresources.com)  
 e-mail Address

*SWD - 1424*

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery RECEIVED OCD Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  Yes  No
- II. OPERATOR: EOG Resources, Inc. <sup>2013 MAY 15 P 2:57</sup>  
ADDRESS: P.O. Box 2267 Midland, TX 79702
- CONTACT PARTY: Stan Wagner PHONE: 432-686-3689
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project?  Yes  No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Stan Wagner TITLE: Regulatory Analyst

SIGNATURE: Stan Wagner DATE: 5/13/2013

E-MAIL ADDRESS: \_\_\_\_\_

\* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: Item X: type log previously submitted for SWD Order-1359

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

## INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

WELL NAME &amp; NUMBER: Endurance 25 Fed 2

WELL LOCATION: 2310' FNL &amp; 990' FWL

E

25

26S

33E

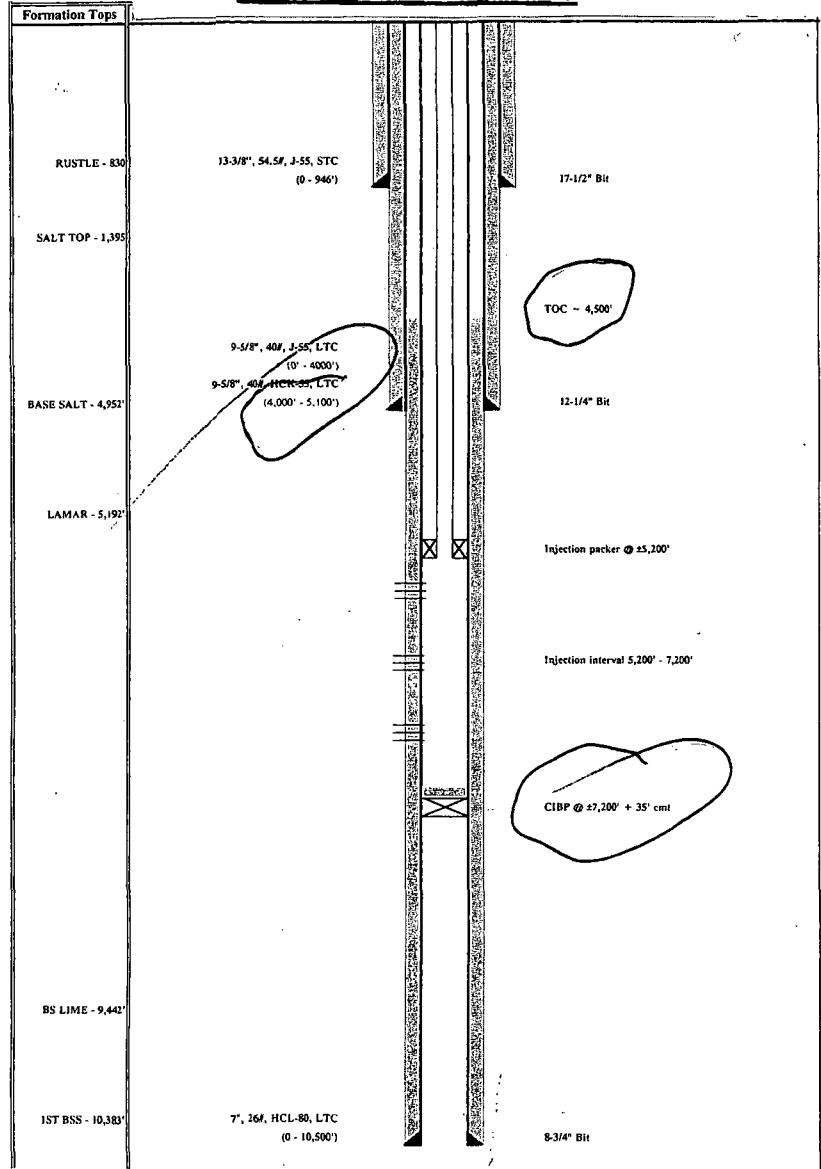
FOOTAGE LOCATION

UNIT LETTER

SECTION

TOWNSHIP

RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 17-1/2"

Casing Size: 13-3/8"

Cemented with: 700 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: Surface

Method Determined: Circulation

Intermediate Casing

Hole Size: 12-1/4"

Casing Size: 9-5/8"

Cemented with: 1300 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: Surface

Method Determined: Circulation

Production Casing

Hole Size: 8-3/4"

Casing Size: 7"

Cemented with: 935 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: ~4500

Method Determined: Calculation

Total Depth: 10500

Injection Interval

5200 feet to 7200

(Perforated or Open Hole; indicate which)

**INJECTION WELL DATA SHEET**

Tubing Size: 3-1/2" Lining Material: Plastic Coated

Type of Packer: 7" Plastic Coated / Nickel Plated Injection Packer

Packer Setting Depth: +/- 5200'

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

**Additional Data**

1. Is this a new well drilled for injection? X Yes \_\_\_\_\_ No \_\_\_\_\_

If no, for what purpose was the well originally drilled? \_\_\_\_\_  
\_\_\_\_\_

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): SWD; Delaware

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. \_\_\_\_\_

None  
\_\_\_\_\_

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

Leonard A Shale      9330'

1st Bone Spring Sand      10290'

\_\_\_\_\_

APPLICATION FOR AUTHORIZATION TO INJECT  
ENDURANCE 25 FED No. 2

VII. PROPOSED OPERATION

(1) Proposed Average Daily Rate and Volume: 5200 BWIPD  
Proposed Maximum Daily Rate and Volume: 10000 BWIPD

(2) Open or Closed System: Closed

(3) Proposed Average Injection Surface Pressure: 300 psi  
Proposed Maximum Injection Surface Pressure: 2000 psi  
Note: Original Delaware formation BHP 9500 psi.

(4) Produced Bone Spring Formation Water (see attached analysis)

(5) N/A

VIII. GEOLOGIC DATA ON INJECTION ZONE

Injection Zone: Delaware Sandstone Perfs 5200' – 7200'

Lithologic Detail: Fine grain sandstone

Geological Name: Delaware Mountain Group (Guadalupian)

Thickness: Delaware – 3730'

Depth: Top of Delaware at 3200'

Underground Sources of Drinking Water:

Fresh water sources in the immediate area have been encountered in aquifers above 250'. These aquifers are found in the Pliocene age Ogallala and Pleistocene age alluvial sediments and consist for the most part of alternating calcareous silt, fine sand and clay. There are no other sources of fresh water underlying the injection interval.

IX. PROPOSED STIMULATION

None at this time

X. LOGGING AND TESTING DATA ON INJECTION WELL

Logs will be submitted upon completion of drilling operations.

XI. CHEMICAL ANALYSIS OF WATER FROM FRESH WATER WELLS  
WITHIN ONE MILE OF THE INJECTION WELL

A review of the State Engineers records shows no fresh water wells within one mile of the injection well.

XII. Available geologic and engineering data has been examined and no evidence has been found of open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.

XIII. See attached "Proof of Notice".

Surface Owner:

United States Bureau of Land Management  
620 E. Greene  
Carlsbad, NM 88220

Operators within a ½ mile radius of the proposed injector:

EOG Resources, Inc.  
P.O. Box 2267  
Midland, TX 79702

J.A. Leonard Newkumet Expl. 7-20-2009	T.H. Stovell Jr. Dinwiddie Fed TD5200 DIAS 2700	D.E. Gonzales 10-1-2013 VB1507 900.00	WCDisc TP16320 TP14250 0	114.990 \$275.00	Devon
Newkumet Expl. 7-20-2009	U.S.M.I. Dinwiddie CH Co.(S)	State Dinwiddie CH Co.(S)	U.S.	U.S.	U.S.
Chesapeake 3-29-2009	Conoco 0359292	Conoco HBP 0359292	D.E. Gonzales 5-1-2013 122622 90.00	Chesapeake 11-1-2013 114988 5160.00	Chesapeake 11-1-2015 114990 \$275.00
(Mumble) Modero Modero Dinwiddie CH Co.(S) 2 1/2 M.S.	Cooper DEG Cooper Fed Bristol Res. R.E. Williamson 0359292	Cont'l Fed R.E. Williamson 0359292	Hill Meeker Hall Fed TD52822 DAG 2259	12 (Devon)	(Devon)
Cooper DEG Modero Modero Modero Modero Z. Kiehne	Bristol Res. R.E. Williamson 0359292	U.S.M.I. Dinwiddie CH Co.(S)	U.S.	U.S.M.I. Dinwiddie CH Co.(S)	U.S.
Humble Ammons Peregrine 3-30-2012	Conoco 02965	Conoco HBP 02965	D.E. Gonzales 5-1-2013 122622 90.00	D.E. Gonzales 5-1-2013 122622 90.00	Chesapeake 11-1-2015 114992 \$200.00
Modero Modero Modero Modero Modero Miller H. Ammons et al M.V. T.R. Kiehne	Del Disc Williamson F34	Perpetue 12-30-2012	14	2 miles	(Devon)
33 Ammons Modero	U.S.M.I. Dinwiddie CH Co.(S)	U.S.	13	Continental Bradley TD5378 DIA 129.61	Kirklin Gulf Fed. TD 5460 DIA 7.8.61
D.E. Gonzales 5-1-2013 122622 90.00	Conoco HBP 02965	D.E. Gonzales 5-1-2013 122622 90.00	Conoco HBP 02965	D.E. Gonzales 5-1-2013 122622 90.00	18 1.53
LAS 22	Transcendent 1-23-2012	U.S.M.I. Transcendent 1-23-2012	23	24 Flagstone Pet Phillips Fed. TD 5365	U.S.M.I. Transcendent 1-23-2012
T.R. Kiehne	J. Pike	El Cinco Hum-Madero TD59329 DIA 10-31-60	U.S.M.I. Modero TD 59329	19	20
Transcendent 1-23-2012	Conoco HBP 02965	D.E. Gonzales 5-1-2013 121490 475.00	Hill Meeker Elliot Fed TD5319 DAB 2-59	Blanco Co. 5-1-2013 122626 120.00	Chesapeake 11-1-2015 114991 \$250.00
T.R. Kiehne	D.E. Gonzales 11-1-2013 121490 Extent E.P. Mor Fed Reeves & Ritchie Modero TD 59329 DIAS 2700	26	D.E. Gonzales 5-1-2013 122622 90.00	30	(Devon)
34	U.S.M.I. T.R. Kiehne	R. McMurphy Conoco (P. Stout) Fed TD 5200 (DIA 129.77 90.00)	25	Tenoco Orron Fed TD 5364 DIA 10-15.71	U.S.
Conoco Phillips HBP 02965	D.E. Gonzales 11-1-2013 121490 475.00	D.E. Gonzales 11-1-2013 VC 2500 613.00	31	Lutigo Pet. 8-1-2013 10840 70.00	29
35	U.S.M.I. T.R. Kiehne	State Dinwiddie CH Co.(S)	SHL	U.S.	Fasken Ld. 9-1-2013 VB 1221 7000

ENDURANCE 25 FED 2

2 Mile Radius Ownership Review

Endurance "36" Fed Com  
Lea County, New Mexico

14	Peregrine 3-30-2012	U.S.	13	Continental Bradley TD 5375 D/A 1-29-61	18
U.S.M.I. Dinwiddie C/H Co. (S)		U.S.	U.S.		U.S.
D.E. Gonzales 5-1-2019 122622 90.00	D.E. Gonzales 5-1-2019 122622 90.00	Conoco HBP 02965 U.S.	D.E. Gonzales 5-1-2019 122622 90.00	Flagstone Pet Phillips Fed TD 5365	Chesapeake 11-1-2015 114392 200.00 (Devon)
Conoco HBP 02965 U.S.	El Cinco Hum-Madero TD 5325 D/A 10-31-60	EOG Res. 1-23-2015 Peregrine 4-23-2013 T.R. Kiehne	EOG Res. 1-23-2015 Peregrine 4-23-2013	EUG Res. 1-23-2015 Peregrine 4-23-2013	Parker E, Parsley Patton-Fed. Continental Bradley TD 53422
23	U.S.M.I.	U.S.M.I.	24	1/4 mile	19
9 DHL EOG Res. 1-23-2015 Peregrine 4-23-2013	9 DHL EOG Res. 1-23-2015 Peregrine 4-23-2013	DE Gonzales IH 5-1-2018 121490 475.00	DE Gonzales IH 5-1-2018 121490 475.00	1 H BHL D.E. Gonzales 5-1-2019 122622 90.00	D.E. Gonzales 5-1-2019 122622 90.00
J. Pike	DE Gonzales 5-1-2018 121490 475.00	26	2	25	30
U.S.M.I. T.R. Kiehne	U.S.M.I.	(DD) Gonzales HBP TD 5266 (D/A 5-26-0)	(DD) Gonzales HBP TD 5266 (D/A 5-26-0)	Tepi. ECO Oil Leg-Hed. TD 5404 D.A.O. 5-71	U.S.
135	135	135	135	35	35
1363046 4363246 7362846	1363246 4363246 7362846	1363246 4363246 7362846	1363246 4363246 7362846	1363246 4363246 7362846	1363246 4363246 7362846
2H	1H 1/4 mile	BHL	BHL	2H State	1H
3H	4H	2H	5H		
EOG Res. Endurance St					

ENDURANCE 25 FED 2

1/4 Mile Radius Area of Review

Endurance 36 State Com Wells  
Lea County, New Mexico



**EOG Resources, Inc.**  
4000 North Big Spring, Suite 500  
Midland, TX 79705  
(915) 686-3600

April 30, 2013

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Bureau of Land Management  
620 E. Greene  
Carlsbad, NM 88220

Re: Application of EOG Resources, Inc. for administrative approval of  
Endurance 25 Fed 2 – Lea County, New Mexico.  
Application for a Water Disposal Injection well

Ladies and Gentlemen:

Enclosed please find a copy of the application of EOG Resources, Inc. (Oil Conservation Division Form C-108) in the above-referenced matter for approval of a Water Disposal Injection Well: the Endurance 25 Fed 2 is located 2310 feet from the North line and 990 feet from the West line of Section 25, Township 26 South, Range 33 East, NMPM, Lea County, New Mexico. EOG proposes to re-inject water produced from the Bone Spring formation into the Delaware Sand formation at a measured depth of 5200 feet to 7200 feet. This injection will occur with a maximum injection pressure of 1040 psi and a maximum injection rate of 10000 barrels of water per day as fully described in the application.

This application is provided to you as owner of the surface of the land upon which the subject well is located. If you object to this application your objection must be filed in writing with the Santa Fe Office of the Oil Conservation Division located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter. If there is no objection, the Division Director may approve this application.

Sincerely,

EOG RESOURCES, INC.

A handwritten signature in black ink that reads "Stan Wagner".

Stan Wagner  
Regulatory Analyst

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BLM  
620 E. GREENE  
CARLSBAD, NM 88220

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

**X** Agent  
 Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

- Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number

(Transfer from service label)

7002 2410 0001 5911 8858

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

# Affidavit of Publication

State of New Mexico,  
County of Lea.

I, DANIEL RUSSELL  
PUBLISHER  
of the Hobbs News-Sun, a  
newspaper published at Hobbs, New  
Mexico, do solemnly swear that the  
clipping attached hereto was  
published in the regular and entire  
issue of said newspaper, and not a  
supplement thereof for a period

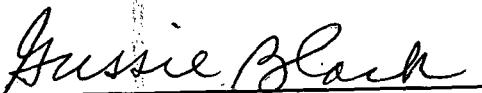
of 1 issue(s).

Beginning with the issue dated  
April 27, 2013  
and ending with the issue dated  
April 27, 2013



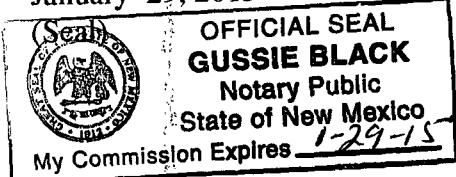
PUBLISHER

Sworn and subscribed to before me  
this 9th day of  
May, 2013



Notary Public

My commission expires  
January 29, 2015



This newspaper is duly qualified to  
publish legal notices or  
advertisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937 and payment of fees for said  
publication has been made.

Legal Notice  
April 27, 2013

EOG Resources, Inc., P.O. Box 2267, Midland, TX 79702, will file form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a water injection well.

The Endurance 25 Fed No. 2 is located 2310' FNL & 990' FWL, Section 25, Township 25 South Range 33 East, Lea County, New Mexico. Injection water will be sourced from area wells producing from the Bone Spring formation. The injection water will be injected in the the Delaware formation at a depth of 5200'-7200', a maximum surface pressure of 2000 psi, and a maximum rate of 10000 BWIPD.

All interested parties opposing the action must file objections or requests for hearing with the Oil Conservation Division, 1220, South St. Francis Dr., Santa Fe, New Mexico 87505 within 15 days. Additional information may be obtained by contacting Stan Wagner at P.O. Box 2267, Midland, TX 79702, or 432-686-3600.  
#28113

01105308                  00113519

STAN WAGNER  
EOG RESOURCES, INC.  
P.O. BOX 2267  
MIDLAND, TX 79702

**EOG Resources, Inc**  
**1/2 Mile Area of Review**  
**Application for Authorization to Inject Endurance 25 Fed 2**

Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Surface Casing			Production Casing			Producing Perforations
							Depth	Cement	Size	Depth	Cement		
EOG Resources	Endurance 25 Fed Com 1H	Oil Producer	Sec 26, T25S, R33E	7/17/2010	15109'	13-3/8"	949	900 sx Class C	5-1/2"	15080'	250 sx C, 1875 sx H	10148 - 14942'	
EOG Resources	Endurance 36 State Com 2H	Proposed	Sec 36, T25S, R33E	Not Yet Drilled	16625'	13-3/8"	950	700 sx Class C	5-1/2"	16625'	150 sx C, 2325 sx H	~ 10000' to TD	
EOG Resources	Endurance 36 State Com 3H	Proposed	Sec 36, T25S, R33E	Not Yet Drilled	16579'	13-3/8"	915	575 sx Class C	5-1/2"	16579'	225 sx C, 2275 sx H	~ 10000' to TD	
EOG Resources	Endurance 36 State Com 4H	Proposed	Sec 36, T25S, R33E	Not Yet Drilled	17030'	13-3/8"	900	675 sx Class C	5-1/2"	17030'	225 sx C, 2275 sx H	~ 10000' to TD	
EOG Resources	Endurance 36 State Com 5H	Proposed	Sec 36, T25S, R33E	Not Yet Drilled	17325'	13-3/8"	900	575 sx Class C	5-1/2"	17325'	225 sx C, 2275 sx H	~ 10000' to TD	
EOG Resources	Fram 26 Federal 1H	Oil Producer	Sec 26, T25S, R33E	Not Yet Drilled	16735'	13-3/8"	900	550 sx Class C	5-1/2"	16735'	100 sx C, 2325 sx H	~ 10000' to TD	
EOG Resources	Fram 26 Federal 2H	Oil Producer	Sec 26, T25S, R33E	Not Yet Drilled	16713'	13-3/8"	900	550 sx Class C	5-1/2"	16713'	100 sx C, 2325 sx H	~ 10000' to TD	

**Endurance 25 Federal #2 SWD**

 API# 30-025-41067  
 Sec 25 T26S R33E  
 2310' FNL & 990' FWL  
 Lea County, NM

 SPUD TD  
 DRILLING LAST REVISED

 WI NRI  
 GL 3332' KB 3362'

Formation Tops	Wellbore Schematic		
RUSTLE - 830'	13-3/8", 54#, J-55, STC (0 - 946')	17-1/2" Bit	700 ss cmt - circ to surface
SALT TOP - 1,395'		TOC ~ 4,500'	Calculated
BASE SALT - 4,952'	9-5/8", 40#, J-55, LTC (0' - 4000') 9-5/8", 40#, HCK-55, LTC (4,000' - 5,100')	12-1/4" Bit	1100 ss cmt - circ to surface
LAMAR - 5,192'		Injection packer @ 5,200'	Max Surface Injection Pressure = (5,400' x 0.20 psi/ft = 1,080 psi) Max Injection Volume = 10,000 bpd Avg Injection Volume = 5,200 bpd
BS LIME - 9,442'		Injection interval 5,200' - 7,200'	
1ST BSS - 10,383'	7", 26#, HCL-80, LTC (0 - 10,500')	CIBP @ ±7,200' + 35' cmt  8-3/4" Bit	

# CURRENT WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: API: 30-025-39743 AFE: 104410 SPUD: 7/17/2010 @ 14:00 hrs FRR: 10/23/2010 22:00 hrs RIG: Cactus #123	Endurance 25 Fed Com #1H Red Hills Field Lea County, New Mexico	SURF: 330' FNL & 1850' FEL LOC: Sec. 25 SURVEY: T-26-S, R-33-E GL: 3360.3' KB: 3390.3' ZERO: 30.0' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
1,000'	Rustler - 850'				20" Conductor @ 91'  Surface Casing @ 949' 25 jts 13-3/8" 54.5# K-55 BTC Cement lead w/ 600 sx Class "C" + 4% gel + .60% CD-32 + .50% CaCl2 + .25 pps Cello Flake (13.5 ppg, 1.73 yield). Tail in w/ 300 sx Class "C" + .60% FL-62 + .45% CD-32 + .20% SMS + .25 pps Cello Flake (14.8 ppg, 1.33 yield). Circ 392 sx to surface	17-1/2"	8.4 9.0 10.0	FW 86	NA	Mud Log	
3,000'		Salt				12-1/4"		Saturated Brine Water			
5,000'	Base Salt - 5250' Delaware - 5290'			 TOC @ ~4600'	Preliminary Directional Plan: KOP: ±8,942' md / tvd BUR: 12.00' / 100' in 8-3/4" hole EOC: 9692' md / 9,420' tvd EOL: 13,839' md / 9,420' tvd			117	10.0	Mud Log	
7,000'					Intermediate Casing @ 5,108' 9-5/8", 40#, J-55, LT&C to 3,756 9-5/8", 40#, HCK-55, LT&C to 5,108" Cement w/ 1250 sx Class C + 2.0% SMS + 10% Salt + 1.4% R-3 + 0.25 pps Celloflake (12.7 ppg, 2.22 yld), Followed by 300 sx Class C + 0.5% FL-62 + 0.25% CD-32 + 1.0% CaCl2 + 0.55% R-21 + 0.005 pps Celloflake (14.8 PPG, 1.34 YLD). Bump plug w/ 2004 psi and circ 379 sx to pit						
9,000'					Production Liner @ 15,080' MD 5-1/2" 20# HCP110 NSCC Cement lead w/ 250 sx Class "C" + 15.0 pps BA-90 + 4% MPA-5 + 3% SMS + 5% A-10 + .8% ASA-301 + 2.9% R-21 + 9 ppg LCM-1 (10.8 ppf, 3.68 yield). Cement w/ Middle w/ 525 sx Class "H" + .8% FL-52 + .45% ASA-301 + 4% SMS + 2% Salt, 2% R-21 + 3 pps LCM-1 + .25 pps Cello Flake (11.8 ppg, 2.381 yield). Tail in w/ 1350 sx Class "H" + .65% FL-52 + .2% CD-32 + .15% SMS + 2% Salt + .10% R-3 (14.2 ppg, 1.28 yield) - TAIL CEMENT SHORT BY 132 SX.	8-3/4"		Fresh Water			
10,000'					KOP Plug #2 9,580' - 8,930' (Tag @ 8,919') 350 sx Class H + 1.5% CD-32 + 0.2% R-3	8-3/4"	9.0 XCD & PAC	WBM			
11,000'	1st Bone Spring Sand - 10,450' 2nd Bone Spring Lime - 10,950' 3rd Bone Spring - 11,600'				Plug #1 11,260' - 10,960' (Tag @ 11,024') 157 sx Class H + 1.5% CD-32 + 0.2% R-3 (18.0 ppg)	8-3/4"	156	N/A	170	Mud Log Platform Express / FMI / SWCs	
11,500'	PTD ~11,500'			Pilot Hole TD @ ~11,500'							
Drill Eng: SLM Date: 10/26/2010											

**Endurance 36 State Com #2H  
Red Hills  
Lea County, New Mexico**

**330' FSL  
1760' FWL  
Section 36  
T-26-S, R-33-E**

**Proposed Wellbore  
API: 30-025-\*\*\*\*\***

**KB: 3,363.1'  
GL: 3,333.1'**

**Bit Size: 17-1/2"**

**13-3/8", 54.5#, J-55, STC      0' - 950'**

**TOC: 3500'**

**Bit Size: 12-1/4"**

**9-5/8", 40#, J-55, LTC      0' - 4,000'  
9-5/8", 40#, HCK-55, LT&C      4,000' - 5100'**

**KOP: 9,222'**

**Bit Size: 8-3/4"**

**Bit Size: 8-3/4"**

**5-1/2", 20#, P-110 or HCP-110, NSCC @ 16,625'**

**Bone Spring Sand Lateral: 16,625' MD, 9,700' TVD**

**BH Location: 330' FNL & 1760' FWL  
Section 25  
T-26-S, R-33-E**

**Endurance 36 State Com #3H  
Red Hills  
Lea County, New Mexico  
REVISED BHL 8/29/12  
Proposed Wellbore**

**330' FSL  
365' FWL  
Section 36  
T-26-S, R-33-E**

**KB: 3,366'  
GL: 3,336'**

**API: 30-025- \*\*\*\*\***

**Bit Size: 17-1/2"**

**13-3/8", 54.5#, J-55, ST&C      0' - 915'**

**TOC: 4900'**

**Bit Size: 12-1/4"**

**9-5/8", 40#, J-55 , LT&C      0' - 4000'  
9-5/8", 40#, HCK55, LT&C 4000' - 5100'**

**KOP: 9,072'**

**Bit Size: 8-3/4"**

**Bit Size: 8-3/4"**

**5-1/2", 17#, P-110 or HCP-110, LTC @ 16,579'**

**Bone Spring Sand Lateral: 16,579' MD, 9,550' TVD**

**BH Location: 230' FNL & 380' FWL  
Section 25  
T-26-S, R-33-E**

**Endurance 36 State Com #4H  
Red Hills  
Lea County, New Mexico**

**330' FSL  
395' FWL  
Section 36  
T-26-S, R-33-E**

**Proposed Wellbore**

**API: 30-025- \*\*\*\*\***

**KB: 3,366'  
GL: 3,336'**

**Bit Size: 17-1/2"**

**13-3/8", 54.5#, J-55, ST&C      0' - 900'**

**TOC: 4600'**

**Bit Size: 12-1/4"**

**9-5/8", 40#, J-55 , LT&C      0' - 4000'  
9-5/8", 40#, HCK55, LT&C 4000' - 5100'**

**KOP: 9,522'**

**Bit Size: 8-3/4"**

**Bit Size: 8-3/4"**

**5-1/2", 17#, P-110 or HCP-110, LTC @ 17,030'**

**Lateral: 17,030' MD, 10,000' TVD**

**BH Location: 230' FNL & 502' FWL  
Section 25  
T-26-S, R-33-E**

**Endurance 36 State Com #5H  
Red Hills  
Lea County, New Mexico**

**330' FSL  
1790' FWL  
Section 36  
T-26-S, R-33-E**

**Proposed Wellbore  
API: 30-025- \*\*\*\*\***

**KB: 3,364'  
GL: 3,334'**

**Bit Size: 17-1/2"**

**13-3/8", 54.5#, J-55, ST&C      0' - 900'**

**TOC: 4650'**

**Bit Size: 12-1/4"**

**9-5/8", 40#, J-55 , LT&C      0' - 4000'  
9-5/8", 40#, HCK55, LT&C 4000' - 5150'**

**KOP: 9,822'**

**Bit Size: 8-3/4"**

**Bit Size: 8-3/4"**

**5-1/2", 17#, P-110 or HCP-110, LTC @ 17,325'**

**Lateral: 17,325' MD, 10,300' TVD**

**BH Location: 230' FNL & 1840' FWL  
Section 25  
T-26-S, R-33-E**

**Fram 26 Federal #1H  
Red Hills  
Lea County, New Mexico**

**170' FNL  
430' FEL  
Section 26  
T-26-S, R-33-E**

**Proposed Wellbore  
API: 30-025-**

**KB: 3,359.1'  
GL: 3,329.1'**

**Bit Size: 17-1/2"**

**13-3/8", 54.5#, J-55, LT&C      0' - 900'**

**TOC: 4800'**

**Bit Size: 12-1/4"**

**9-5/8", 40#, J-55 , LT&C      0' - 4000'  
9-5/8", 40#, HCK55, LT&C 4000' – 5100'**

**KOP: 9,166'**

**Bit Size: 8-3/4"**

**Bit Size: 8-3/4"**

**5-1/2", 20#, HCP-110, NSCC @ 0' – 16,735'**

**250' Cement Plug On BTM**

**TVD Vertical Well: 10,650'**

**Bone Spring Sand Lateral: 16,735' MD, 9,644' TVD**

**BH Location: 330' FSL & 440' FEL  
Section 35  
T-26-S, R-33-E**

**Fram 26 Federal #2H  
Red Hills  
Lea County, New Mexico**

**170' FNL  
1760' FEL  
Section 26  
T-26-S, R-33-E**

**Proposed Wellbore**

**API: 30-025-**

**KB: 3,344.6'  
GL: 3,314.6'**

**Bit Size: 17-1/2"**

**13-3/8", 54.5#, J-55, LT&C      0' - 900'**

**TOC: 4800'**

**Bit Size: 12-1/4"**

**9-5/8", 40#, J-55 , LT&C      0' - 4000'  
9-5/8", 40#, HCK55, LT&C 4000' – 5100'**

**KOP: 9,142'**

**Bit Size: 8-3/4"**

**Bit Size: 8-3/4"**

**5-1/2", 20#, HCP-110, NSCC @ 0' – 16,713'**

**Bone Spring Sand Lateral: 16,713' MD, 9,620' TVD**

**BH Location: 330' FSL & 1760' FEL  
Section 35  
T-26-S, R-33-E**



# Mobile Analytical Laboratories, Inc.

LABORATORIES IN ODESSA, GIDDINGS & STACY DAM

Billing Address: P.O. BOX 69210 • ODESSA, TEXAS 79769-0210

Shipping Address: 2800 WESTOVER STREET • ODESSA, TEXAS 79764

PHONE (432) 337-4744

FAX (432) 337-8781

MR. PAUL CORRALES  
EOG RESOURCES  
P.O. BOX 1331  
JAL, NEW MEXICO 88252

SAMPLE SOURCE: ENDURANCE 25 FED COM 1H

ANALYSIS COMPLETED: 06-28-2012

SAMPLE RECEIVED: 06-21-2012

LAB NUMBER: 12140

## DISSOLVED SOLIDS:

CATIONS:	MEQ/L	mg/L
SODIUM (CALC.) ( Na+ )	2897.68	66647
CALCIUM ( Ca++ )	484.00	9680
MAGNESIUM ( Mg++ )	112.00	1366

## ANIONS:

CHLORIDE ( Cl- )	3468.00	123114
SULFATE ( SO4= )	18.42	884
CARBONATE ( CO3= )	0.00	0
BICARBONATE ( HCO3- )	7.26	443
HYDROXIDE ( OH- )	0.00	0

## TOTAL DISSOLVED SOLIDS:

## OTHER PROPERTIES:

pH	6.03	P-ALKALINITY (AS CaCO3)	0 mg/L
SPEC. GRAV.	1.12	M-ALKALINITY (AS CaCO3)	363 mg/L
CONDUCTIVITY @ 77 °F	387100 µMHOS/CM	CALCIUM HARDNESS (AS CaCO3)	24200 mg/L
H2S	0 mg/L	MAGNESIUM HARDNESS (AS CaCO3)	5600 mg/L
CO2	282 mg/L	TOTAL HARDNESS (AS CaCO3)	29800 mg/L
IRON	0.20 mg/L		

202134



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Shipping Address: 2800 WESTOVER STREET • ODESSA, TEXAS 79764

PHONE (432) 337-4744

FAX (432) 337-8781

MR. PAUL CORRALES

EOG RESOURCES

P.O. BOX 1331

JAL, NEW MEXICO 88252

SAMPLE SOURCE: ENDURANCE 36 STATE COM #1-H

ANALYSIS COMPLETED: 05-05-2011

SAMPLE RECEIVED: 05-04-2011

LAB NUMBER: 8457

## DISSOLVED SOLIDS:

### CATIONS:

	MEQ/L	mg/L
SODIUM ( Na+ )	3188.55	73337
CALCIUM ( Ca++ )	468.00	9360
MAGNESIUM ( Mg++ )	72.00	878

### ANIONS:

CHLORIDE ( Cl- )	3684.00	130782
SULFATE ( SO4= )	27.65	1327
CARBONATE ( CO3= )	0.00	0
BICARBONATE ( HCO3- )	16.90	1031
HYDROXIDE ( OH- )	0.00	0

### TOTAL DISSOLVED SOLIDS:

216715

### OTHER PROPERTIES:

pH	5.91
SPEC. GRAV.	1.13
CONDUCTIVITY	407500 $\mu$ MHOS/CM @ 77 °F
H2S	0 mg/L
CO2	493 mg/L
IRON	38.00 mg/L

P-ALKALINITY (AS CaCO3)	0 mg/L
M-ALKALINITY (AS CaCO3)	845 mg/L
CALCIUM HARDNESS (AS CaCO3)	23400 mg/L
MAGNESIUM HARDNESS (AS CaCO3)	3600 mg/L
TOTAL HARDNESS (AS CaCO3)	27000 mg/L

**Ezeanyim, Richard, EMNRD**

---

**From:** Stan\_Wagner@eogresources.com  
**Sent:** Tuesday, June 18, 2013 12:11 PM  
**To:** Ezeanyim, Richard, EMNRD  
**Subject:** Endurance 25 Fed #2 - SWD Permit  
**Attachments:** Endurance 25 Fed #2.pdf

Good afternoon Richard,

Attached please find information that I inadvertently left out of our SWD application for the Endurance 25 Fed #2. Please accept my apologies for this omission.

Regarding the BLM concerns that Wesley Ingram brought up; I spoke with Wesley and EOG agrees that our perforations will stay below 5400'. We are willing that this be made a condition of approval for the permit. Wesley agreed that this stipulation would satisfy his concerns.

If additional information is needed please advise.

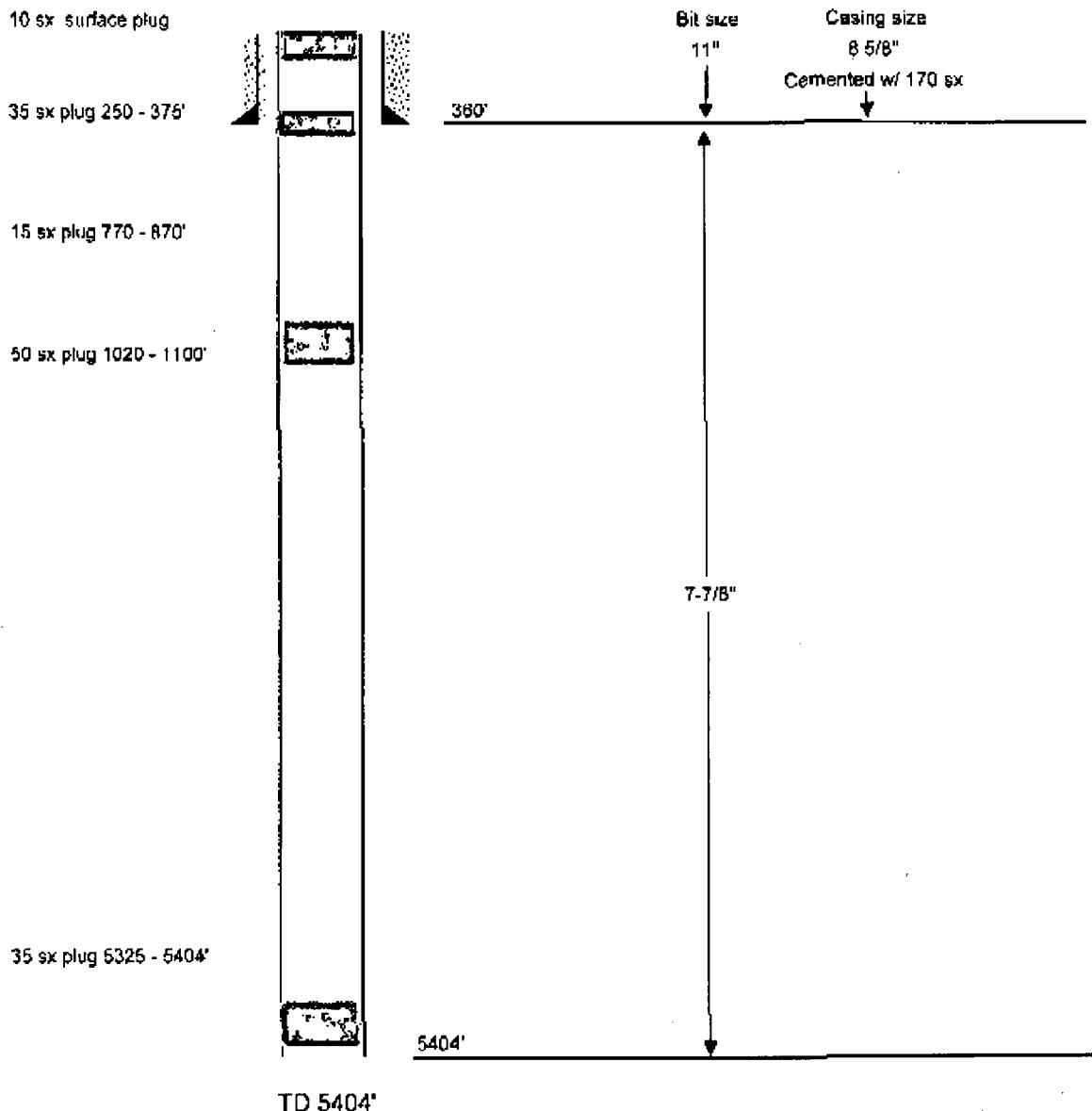
Stan Wagner  
EOG Resources-Midland Division  
432-686-3689

(See attached file: *Endurance 25 Fed #2.pdf*)

**EOG Resources, Inc**  
**1/2 Mile Area of Review**  
**Application for Authorization to Inject Endurance 25 Fed 2**

Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Surface Casing			Production Casing			Producing Perforations
							Depth	Cement	Size	Depth	Cement	Size	
EOG Resources	Endurance 25 Fed Com 1H	Oil Producer	Sec 26, T26S, R33E	7/17/2010	15109'	13-3/8"	949	800 sx Class C	5-1/2"	15080'	250 sx C, 1875 sx H	10148 - 14942'	
EOG Resources	Endurance 36 State Com 2H	Proposed	Sec 36, T26S, R33E	Not Yet Drilled	16525'	13-3/8"	950	700 sx Class C	5-1/2"	16825'	150 sx C, 2325 sx H	~ 10000' to TD	
EOG Resources	Endurance 36 State Com 3H	Proposed	Sec 36, T26S, R33E	Not Yet Drilled	16579'	13-3/8"	915	575 sx Class C	5-1/2"	16679'	225 sx C, 2275 sx H	~ 10000' to TD	
EOG Resources	Endurance 36 State Com 4H	Proposed	Sec 36, T26S, R33E	Not Yet Drilled	17030'	13-3/8"	900	675 sx Class C	5-1/2"	17030'	225 sx C, 2275 sx H	~ 10000' to TD	
EOG Resources	Endurance 36 State Com 5H	Proposed	Sec 36, T26S, R33E	Not Yet Drilled	17325'	13-3/8"	900	575 sx Class C	5-1/2"	17325'	225 sx C, 2275 sx H	~ 10000' to TD	
EOG Resources	Fram 26 Federal 1H	Oil Producer	Sec 26, T26S, R33E	Not Yet Drilled	16735'	13-3/8"	900	550 sx Class C	5-1/2"	16735'	100 sx C, 2325 sx H	~ 10000' to TD	
EOG Resources	Fram 26 Federal 2H	Oil Producer	Sec 26, T26S, R33E	Not Yet Drilled	16713'	13-3/8"	900	550 sx Class C	5-1/2"	16713'	100 sx C, 2325 sx H	~ 10000' to TD	
Del-Lea Federal #1	P&A 11/15/71	Sec 26, T26S, R33E	11/6/1971	5404'	8-5/8"	360'	170 sx Class H	none				Dry Hole	
Elliott Federal 25 #1	P&A 1/19/80	Sec 25, T26S, R33E	8/21/1959	5319'	8-5/8"	346'	150 sx	none				Dry Hole	

**Del-Lea Federal #1**  
660' FSL & 1980' FEL  
Sec. 25-26S-33E  
Lea County, New Mexico  
30-025-23932



\* Mud Fill between all plugs

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPLEX  
(Other Instructions  
verse side)Form approved,  
Budget Bureau No. 42-R1424.

## 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" for such proposals.)

1. OLD WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER	7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR	8. FARM OR LEASE NAME
Tenneco Oil Company	Del Lea Federal
3. ADDRESS OF OPERATOR	9. WELL NO.
P. O. Box 1031, Midland, Texas 79701	10. FIELD AND POOL, OR WILDCAT
4. LOCATION OF WELL (Report location clearly and in accordance with ADP State requirements.* See also space 17 below.) At surface	11. SEC., T., R., M., OR S.E.C., AND SURVEY OR AREA
660 FSL, 1980 FEL., Section 25, T-26-S, R-33-E	12. COUNTY OR PARISH, STATE
14. PERMIT NO.	Lea New Mexico
	16. EXCAVATIONS (Show whether DE, AT, OR GL, etc.)
	3341' GL

18. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data	
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OR
TEST WATER SHOT-OFF <input type="checkbox"/>	WATER SHOT-OFF <input type="checkbox"/>
FRACURE TREAT <input type="checkbox"/>	FRACURE TREATMENT <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	(Other) <input type="checkbox"/>
(Other) <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
	ALTERING CASING <input type="checkbox"/>
	ABANDONMENT <input checked="" type="checkbox"/>

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE UNDERTAKEN OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and others pertinent to this work).

Drilled 7-7/8" hole to 5404' Total Depth.

Plugged well as follows with neat Class "H".

35 sxs from 5404' to 5325'  
 50 sxs from 1100' to 1020'  
 35 sxs from 375' to 250'  
 10 sxs surface + dry hole marker installed.

(Verbal approval given by Mr. Brown on 11-14-71)

18. I hereby certify that the foregoing is true and correct

SIGNED John E. McCormick

TITLE Drilling Engineer

DATE 11-15-71

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_

APPROVED  
DATE

**UNITED STATES**  
**DEPARTMENT OF THE INTERIOR**  
**GEOLOGICAL SURVEY**

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

PDM APPROVED  
Budget Bureau No. 42-R355.5**WELL COMPLETION OR RECOMPLETION REPORT AND LOG\***1. TYPE OF WELL:  OIL WELL  GAS WELL  DRY  Other

## 2. TYPE OF COMPLETION:

NEW <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DRILL-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DRAF. ESSVR. <input type="checkbox"/>	Other _____
---	------------------------------------	-----------------------------------	------------------------------------	---------------------------------------	-------------

## 3. NAME OF OPERATOR

Toro Oil Company

## 4. ADDRESS OF OPERATOR

P.O. Box 1031, Marathon, Texas, 78574, U.S.A.

## 5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface Center S 1/2 SE 1/4 Section 25, T-26-N, R-33-E

L-2, S-26-11-33-A New Mexico

At top prod. interval reported below Same

At total depth

5,000 ft

## 14. PERMIT NO.

## DATE ISSUED

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COUPLED (Ready to prod.)	18. ELEVATIONS (OF, EBB, RT, DR, ETC.) <sup>a</sup>	19. ELEV. CASING HEAD
11/15/1971	11/14/1971	P-2A	11/15/1971 563.41 61.3350	563.41

20. TOTAL DEPTH, MD & TVD	21. PROD. BACK T.D., MD & TVD	22. IF MULTIPLE COUPL., HOW MANY	23. INTERVAL DRILLED BY	24. ROTARY TOOLS	25. CABLE TOOLS
5,404	P-2A	DEA	→ 10-3464	10-3464	10-3464

## 26. PRODUCING INTERVAL(S) OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)

None

## 27. TYPE ELECTRIC AND OTHER LOGS RUN

B/GC - Acoustic and Lateral Log

CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CAULKING RECORD	AMOUNT PULLED
E 3/8		3600 feet		170 sticks	

LINER RECORD				TUBING RECORD			
SIZE	TOP (MD)	BOTTOM (MD)	BACK EXISTENT	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

PERFORATION RECORD (Interval, size and number)				ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.		
				DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED	
				10-3464	None	

PRODUCTION							
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
None		None				None	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD. FOR TEST PERIOD	OIL-BBL.	GAS-MCF.	WATER-BBL.	GAS-OIL RATIO
None	None	None	→				
FLOW. TUBING PRESSURE	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL-BBL.	GAS-MCF.	WATER-BBL.	OIL GRAVITY-API (CORR.)	
		→					

34. DISPOSITION OF GAS (Sold, used for fuel, treated, etc.)				TEST WITNESSED BY			
None				None			
35. LIST OF ATTACHMENTS							
Two sets of logs							

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Floria L. CannonTITLE clerkDATE 12-20-71

## INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area, or regional procedures and practices, either are shown below or will be learned by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 25, below regarding separate reports for separate completions. If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form. See item 53.

If there are no applicable State requirements, locations to Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used, as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in Item 22, and in Item 24 show the productive interval, or Interval, top(s), bottom(s), and name(s) (if any) for only the interval reported in Item 32. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 27: "Geologic Element":** Attached supplemental records for this well should show the details of any variable STATE occurring and the location of the cementsing tool. (See instruction for items 22 and 24 above.)

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

### 37. SUMMARY OF POROUS ZONES NOM. ALL IMPORTANT ZONES OR POROSITY AND CEMENTING RECORDS; CORED INTERVALS; AND ALL RECOVERIES BIRTH INTERVAL TESTED, QUOTED DENS., TIME, TOOL, OPEN, PLUGGED, PRESSURE, AND RECOVERY

FORMATION	TOP	BOTTOM	GEOLOGIC MARKERS		
			NAME	MEAS. DEPTH	TRUE DEPTH
Calcareous	Surf. to	824	Sandstone, shaly	827	827
Lignite	824	827	Black streak streaks	827	827
Gas Other	827	1187	Anhydrite bands	930	930
Sub dol.	1187	4930	Sulf. & Anhydrite streaks	4930	4930
Basil Anhydrite	4930	5233	Anhydrite	5233	5233
Calcareous	5233	5243	Lime	5243	5243
Debitore Sand	5243	5404	Sulf. with streaks, streaks	5243	5243
	5404	5416		5416	5416
	5416	5538	Shale, fine grains, streaks	5538	5538
	5538	5637	Black streaks	5637	5637
	5637	5647	Very streaky, water bearing	5647	5647
	5647	Surf.			

**RECEIVED**

10-20-1971

OIL CONSERVATION COMM.

HOUSTON, TEXAS

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPLETS  
(Other Substitutions  
to Reverse Side)Form approved  
Budget Bureau No. 42-R1424.  
5. LEASE DENOMINATION AND SERIAL NO.

N 61 038 1/299

6. IS INDIAN ALLOTMENT OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

9. WELL NO.

10. FIELD AND POOL, OR WILDCAT

Bradley Area

11. SEC., T., R. NO. OR BIR. AND

MINUTE OR AREA

25 - T-26 - S - R-33-E

12. COUNTY OR PARISH 13. STATE

Loving, N.M.

## 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" for such proposals.)1. OIL  GAS   
WELL  OTHER

2. NAME OF OPERATOR

Pennzoil Oil Company

3. ADDRESS OF OPERATOR

Box 1031 - Midland, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.  
See also space 37 below.)  
At surface

660' FSL 1980' FEL

14. PERMIT NO.

15. ELEVATIONS (Show whether up, etc., etc.)

3341 - 64

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OR INTENTION TO:

TEST WATER SHOT-OFF


FRACTURE TREATMENT


SHOOT OR ACIDISE


REPAIR WELL


(Other)

PULL OR ALTER CASING


MULTIPLE COMPLETION


ABANDON


CHANGE PLANK


SUBSEQUENT REPORT OR:

WATER SHOT-OFF


FRACTURE TREATMENT


SHOOTING OR ACIDISING


(Other) Speed 83/4" Casing

REPAIRING WELL


ALTERING CASING


ABANDONMENT


(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PENDING OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Speed - 6:30 p.m. MST 11-5-71

Billed 12 1/4" hole to 360'.

Run 8 ft. 8 1/8" - 24" 2-55, 8R, STC casing to 357.35

Cased hole w/170 lbs. of cement 2% early P.D. 7:30 a.m. 11-6-71

Cement did not circulate. Cement top @ 15' below ground level. packed

Pac gravel around casing &amp; down to cement top. WOC 14 hrs. tested

w/500# PSI for 40 min. Casing held o.k. Mixing temp. 40°

Formation temp. 64°. Est compression 1560 PSI Cement delivery

volume 200.60 c.f.

18. I hereby certify that the foregoing is true and correct

SIGNED Mario Pearson TITLE clerkDATE 11/15/71

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_

DATE 11/17/71

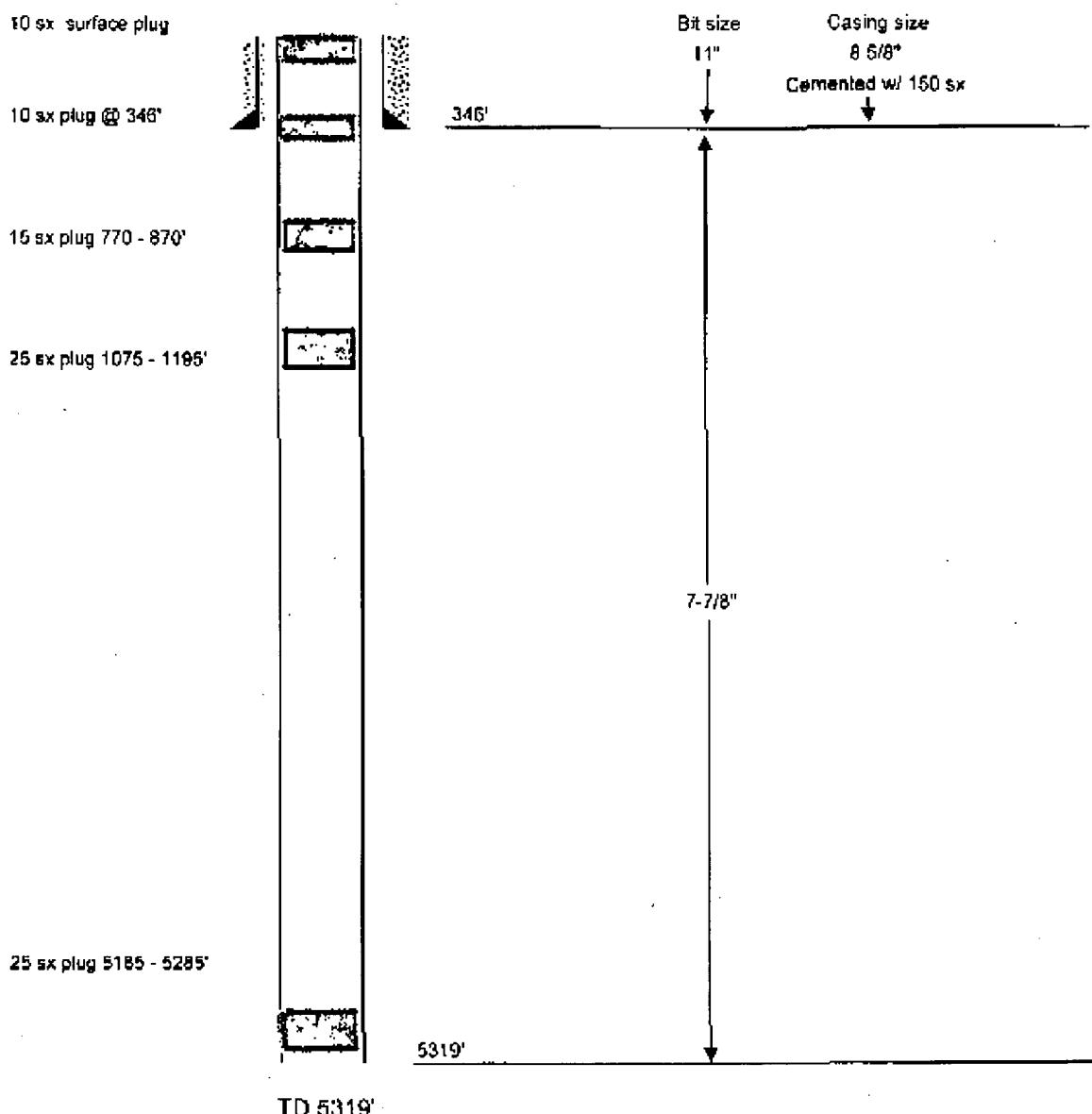
CONDITIONS OF APPROVAL, IF ANY:

NOV 17 1971

\*See Instructions on Reverse Side

U. S. GEOLOGICAL SURVEY  
HOBBS, NEW MEXICO

**Elliott Federal 25 #1**  
660' FNL & 1980' FWL  
Sec. 25-26S-33E  
Lea County, New Mexico  
30-025-08425



\* Mud Fill between all plugs

SACRAMENTO, CALIFORNIA

HOT SPRINGS, ARKANSAS

Geological Survey  
U.S. Department of the Interior

Land Office, Las Cruces

Lotto No. La 068378

Unit C

APPROVED

DEPARTMENT OF THE INTERIOR

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY100-11000  
100-11000  
100-11000

OCT 5 1959

ROBBS, NEW MEXICO

## SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUCCESSFUL REPORT OF WATER SHUT-OFF
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY
NOTICE OF INTENTION TO ABANDON WELL	

INDICATE ABOVE BY CHECK MARK NATURE OF REPORT NOTICE, OR OTHER DATA

September 18, 1959.

Well No. 1 is located 660 ft. from [N] line and 1980 ft. from [E] line of sec. 25...

NE/4, NW/4, Sec. 25 ... 265 33E N.W.P.M.  
(See map and other notes) (Tracts) (Meridian)

Wildcat

Lea  
(County or Subdivision)New Mexico  
(State or Territory)

The elevation of the derrick floor above sea level is 3358 ft.

Open report, +  
will operator land  
well

## DETAILS OF WORK

(State names of and expected depths for all the pipe, show sizes, weights, and lengths of required casings; indicate mudding jobs, cementing points, and all other important purposes work)

Set 337+ A 5/8" casing, set at 3161 - cement circulated.

## Cement Plugs:

10 sks at top of surface &amp; ground level

10 sks at 35 ft.

10 sks at 84 ft = top of Rustler at 1420 ft

21 sks at 114 ft = Base of Rustler at 1174 ft

25 sks at 124 ft = Top of Delaware Sand at 5235 ft

Hole full of mud laggin material. Set 1" marker ft above surface.

Clean bottom.

11/2/59 Fracture 600 - No work.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

11/2/59 Early this year and this day, weather must be reliable, set. They B  
Company HILL & NECKER 2000 ft. deep. Weather forecast for mid-afternoon. All our  
Address 519 Midland Savings & Loan Bldg.

Midland, Texas

By J. Hill &amp; Necker

Hill &amp; Necker

Title Production Clerk

The summary on this page is for the condition of the well at above date.  
 Commenced drilling August 21, 1959. Finished drilling September 10, 1959.

**OIL OR GAS SANDS OR ZONES**

(Denote gas by G)

No. 1, from .....	to .....	No. 4, from .....	to .....
No. 2, from .....	to .....	No. 5, from .....	to .....
No. 3, from .....	to .....	No. 6, from .....	to .....

**IMPORTANT WATER SANDS**

No. 1, from .....	to .....	No. 3, from .....	to .....
No. 2, from .....	to .....	No. 4, from .....	to .....

**CASING RECORD**

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shot	Cut and pulled from	Perforated		Purpose
							From—	To—	
8 5/8 24	24	7	L.P.S.	337	WELL	8 5/8 - 31 1/2 ft			

**MUDGING AND CEMENTING RECORD**

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8 5/8	31 1/2	150 sacks	Auger & plumb		

**PLUGS AND ADAPTERS**

Heaving plug—Material ..... Length ..... Depth set .....  
 Adapters—Material ..... Size .....

**SHOOTING RECORD**

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

**TOOLS USED**

Rotary tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet  
 Cable tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet

**DATES**

....., 19..... Put to producing ..... , 19.....

The production for the first 24 hours was ..... barrels of fluid of which ..... % was oil; ..... % emulsion; ..... % water; and ..... % sediment. Gravity, °Bé .....

If gas well, cu. ft. per 24 hours ..... Gallons gasoline per 1,000 cu. ft. of gas .....

Rock pressure, lbs. per sq. in. ....

**EMPLOYEES**

....., Driller	....., Driller
....., Driller	....., Driller

**FORMATION RECORD**

FROM—	TO—	TOTAL FEET	FORMATION
0	35	35	Surface sand & caliche
35	820	785	Red sand & shale
820	1175	355	Anhydrite, dolomite & shale - Rustler
1175	1200	25	

DATE	DESCRIPTION	TIME	DEPTH	OPERATOR	PROD. QTY.
Aug 21, 1959	Spudded	8:30 AM	5268'	Elliott Federal	0 BBL
Aug 23, 1959	Ran 337' - 5 5/8" 24# deg. Cement circulated.	9:30 AM	5268'	Elliott Federal	0 BBL
Aug 31, 1959	core 51' - 5210' - 5268', recovered 29', slight shows from 5217' - 5221'.	12:30 PM	5268'	Elliott Federal	0 BBL
Aug 31, 1959	Set PT - 5214' - 5268', open 1 hour, recovered 101' - 5204' - 5208' - 5215' - 5218' - 5224'.	1:30 PM	5268'	Elliott Federal	0 BBL
September 1, 1959	Cored pt - 5268' - 5319', recovered 51', no shows.	3:00 PM	5319'	Elliott Federal	0 BBL

#### HISTORY OF OIL OR GAS WELL

16-42604-2 U. S. GOVERNMENT PRINTING OFFICE

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or balling.

#### WELL A NUMBER

Elliott Federal "25" #1 May 20, 1959, Sec. 25, T26N, R32E, Lea County, New Mexico, Lease, Las Cruces, 0683783

- August 21, 1959 - Spudded
- August 23, 1959 - Ran 337' - 5 5/8" 24# deg. Cement circulated.
- August 31, 1959 - core 51' - 5210' - 5268', recovered 29', slight shows from 5217' - 5221'.
- August 31, 1959 - Set PT - 5214' - 5268', open 1 hour, recovered 101' - 5204' - 5208' - 5215' - 5218' - 5224'.
- September 1, 1959 - Cored pt - 5268' - 5319', recovered 51', no shows.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

OCD Hobbs  
HOBBES OCD

FORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010

APR 30 2013

RECEIVED

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

SUBMIT IN TRIPPLICATE - Other instructions on reverse side.		
1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other: UNKNOWN OTH	8. Well Name and No. ENDURANCE 25 FED 2	
2. Name of Operator EOG RESOURCES INCORPORATED	Contact: STAN WAGNER EOG RESOURCES INCORPORATED-Mail: stan_wagner@eogresources.com	9. API Well No. 30-025-41067-00-X1
3a. Address MIDLAND, TX 79702	3b. Phone No. (include area code) Ph: 432.686.3689 Fx: 432.686.3770	10. Field and Pool, or Exploratory SWD
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 25 T26S R33E SWNW 2310FNL 990FWL		11. County or Parish, and State LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input type="checkbox"/> Notice of Intent <input checked="" type="checkbox"/> Subsequent Report <input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Acidize <input type="checkbox"/> Alter Casing <input type="checkbox"/> Casing Repair <input type="checkbox"/> Change Plans <input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Deepen <input type="checkbox"/> Fracture Treat <input type="checkbox"/> New Construction <input type="checkbox"/> Plug and Abandon <input type="checkbox"/> Plug Back	<input type="checkbox"/> Production (Start/Resume) <input type="checkbox"/> Reclamation <input type="checkbox"/> Recomplete <input type="checkbox"/> Temporarily Abandon <input type="checkbox"/> Water Disposal	<input type="checkbox"/> Water Shut-Off <input type="checkbox"/> Well Integrity <input checked="" type="checkbox"/> Other Drilling Operations	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

4/18/13 Ran 122 jts 9-5/8", 40#, HCK55 (27) & J55 (95) STC casing set at 5080'.  
Cemented lead w/ 1100 sx Class C, 12.7 ppg, 2.21 yield; tail w/ 200 sx  
Class C, 14.8 ppg, 1.33 yield.  
Circulated 435 sx cement to surface. WOC 22 hrs.  
4/19/13 Tested casing to 2000 psi for 30 minutes. Test good.  
Resumed drilling 8-3/4" hole.

14. I hereby certify that the foregoing is true and correct.  
Electronic Submission #205078 verified by the BLM Well Information System  
For EOG RESOURCES INCORPORATED, sent to the Hobbs  
Committed to AFMSS for processing by JOHNNY DICKERSON on 04/23/2013 (13JLD0314SE)

Name (Printed/Typed)	STAN WAGNER	Title	REGULATORY ANALYST
Signature	(Electronic Submission)	Date	04/23/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By	ACCEPTED	JAMES A AMOS Title SUPERVISORY EPS	Date 04/28/2013
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office Hobbs	KO

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.

\*\* BLM REVISED \*\*

MAY 02 2013



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Carlsbad Field Office  
620 E. Greene St.  
Carlsbad, NM 88220-6292  
Tel. (575) 234-5972  
Fax (575) 885-9264

*Endurance 25 Federal Well 2  
API 30-025-41067 / Unit E, Sec. 25, T26S, R33E*

IN REPLY REFER TO:  
3162.3-2 (P0220)

**MAY 10 2013**

Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Endurance 25 Fed 2, Lea County, New Mexico.

Gentlemen:

The Bureau of Land Management, Carlsbad Field Office has a concern about the use of the Endurance 25 Fed 2 as a salt water disposal well at the proposed depth.

The Elliot 1 was drilled and abandoned in 1959. The only record of the plugging indicated an open hole plug set at approximately 5200'. Since this is an open hole plug, perhaps the Endurance 25 Fed 2 should be approved for an injection depth below that plug to eliminate potential disposal water communicating into other formations above that plug.

If clarification is needed, please contact the signatory at 575-234-5982.

Sincerely,

*Wesley W. Ingram*

Wesley W. Ingram  
Supervisory Petroleum Engineer  
Bureau of Land Management  
Carlsbad Field Office

RECEIVED OCD  
2013 MAY 20 P 2:2.

cc: EOG Resources, Inc.

**Goetze, Phillip, EMNRD**

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**From:** Ingram, Wesley <[wingram@blm.gov](mailto:wingram@blm.gov)>  
**Sent:** Tuesday, May 21, 2013 11:01 AM  
**To:** Goetze, Phillip, EMNRD  
**Subject:** Re: Endurance 25 Federal Well 2: Confirmation of Correspondence

Phillip,

I based my comments off of the C-108 that we received. I have talked with EOG and they will propose perforations below the depth in question when they submit their sundry. Therefore, the BLM's concern is addressed. However, if NMOCD decides to add a depth to their approval that would be a reinforcement.

Thank you.

Sincerely,  
Wesley W. Ingram  
Supervisory Petroleum Engineer  
Bureau of Land Management  
Carlsbad Field Office  
620 E. Greene Street  
Phone: 575-234-5982  
Fax: 575-234-5927

On Tue, May 21, 2013 at 9:29 AM, Goetze, Phillip, EMNRD <[Phillip.Goetze@state.nm.us](mailto:Phillip.Goetze@state.nm.us)> wrote:

Wesley:

I received your correspondence regarding the Endurance 25 Fed 2 (API 30-025-41067) and proposed use as a SWD. I was somewhat confused since OCD has not received a formal application. I did review the well history and noted the subtle transition in the notices from oil well to SWD. I'll will notify you when the C108 for this well comes. PRG

Phillip R. Goetze, P.G.

Engineering Bureau, Oil Conservation Division

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

O: 505.476.3466 F: 505.476.3462