

DATE IN 12.28.11	SUSPENSE 1/12/12	ENGINEER WVJ	LOGGED IN 12.28.11	TYPE SWD	APP NO 1136236584
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ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



EOG #377

Ross Gulch 8 #3

### 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 \_\_\_\_\_

#### [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

12/28/11  
Date

stan\_wagner@eogresources.com  
e-mail Address

K-8-265-318


2011 DEC 28 A 9:36

RECEIVED OGD

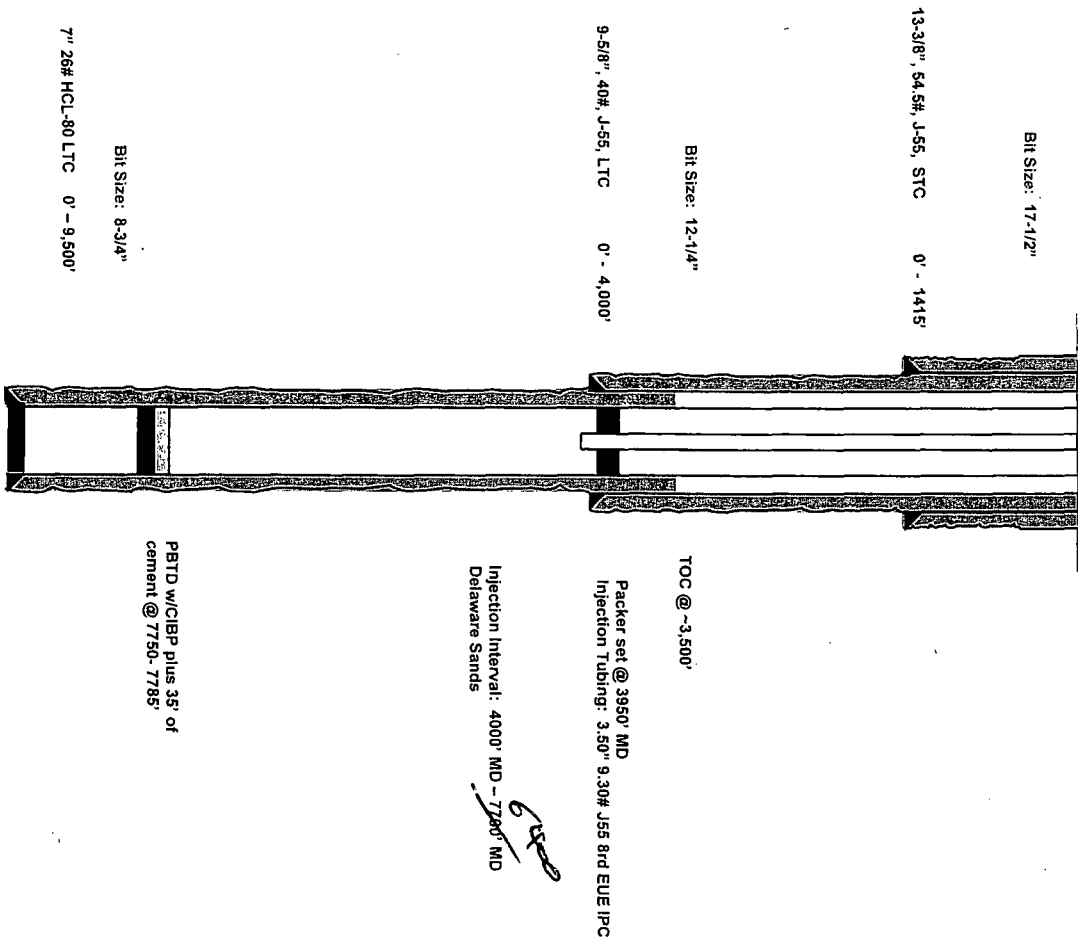
6400  
4200-2700

Joe  
1000 PSE

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: EOG Resources, Inc.  
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 X 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:  DATE: 12/21/11  
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: \_\_\_\_\_

## INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.WELL NAME & NUMBER: Ross Gulch 8 No. 3WELL LOCATION: 2440' FSL & 2440' FWL UNIT LETTER K SECTION 8-26S-R31E TOWNSHIP 8-26S RANGE R31EWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 17-1/2 Casing Size: 13-3/8

Cemented with: 900 SX. 07 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: 875 SX. 07 ft<sup>3</sup>

Top of Cement: surface Method Determined: circulation

Production Casing

Hole Size: 8-3/4 Casing Size: 7

Cemented with: 600 SX. 07 ft<sup>3</sup>

Top of Cement: 3500' Method Determined: calculation

Total Depth: 9500

4000 feet to 7200

6450'

(Perforated or Open Hole; indicate which)

Bit Size: 8-3/4"

7" 26# HCL-80 LTC 0' - 9,500'

PBTD w/CIBP plus 35' of  
cement @ 7750- 7785'

INJECTION WELL DATA SHEETTubing Size: 3-1/2 Lining Material: Plastic CoatedType of Packer: 7" X 3-1/2" nickel plated IPC injection packerPacker Setting Depth: 3950'

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. \_\_\_\_\_

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

Bone Spring Lime 7990'

1st Bone Spring Sand 8960'

2nd Bone Spring Carb 9060'

APPLICATION FOR AUTHORIZATION TO INJECT  
ROSS GULCH 8 No. 3

VII. PROPOSED OPERATION

- (1) Proposed Average Daily Rate and Volume: 7000 BWIPD  
Proposed Maximum Daily Rate and Volume: 10000 BWIPD
- (2) Open or Closed System: Closed
- (3) Proposed Average Injection Surface Pressure: 500 psi  
Proposed Maximum Injection Surface Pressure: 1000 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 4000' – 7700'  
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 3 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:

DK Farms, Inc.  
2713 Racquet Club Drive  
Midland, Texas 79705

Operators within a ½ mile radius of the proposed injector:

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

**2440' FSL**  
**2440' FWL**  
**Section 8**  
**T-26-S, R-31-E**

**KB: 3291.5'**  
**GL: 3261.5'**

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

**13-3/8", 54.5#, J-55, STC      0' - 1415'**

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

TOC @ ~3,500'

9-5/8", 40#, J-55, LTC      0' - 4,000'

**Packer set @ 3950' MD**  
**Injection Tubing: 3.50" 9.30# J55 8rd EUE IPC**

**Injection Interval: 4000' MD – 7700' MD**  
**Delaware Sands**

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

7" 26# HCL-80 LTC 0' - 9,500'

**PBTD w/CIBP plus 35' of  
cement @ 7750- 7785'**

**PTD ~9,500'**

**ROSS GULCH 8 No. 3 SWD**  
**2440' FSL & 2240' FWL**  
**Sec 8, T26S, R31E Eddy County, NM**  
**1/2 mile radius area of review**  
**2 mile offsetting operator review**

The map shows a grid of sections with various labels and numbers. Key features include the Ross Gulch 8 No. 3 SWD well, the 2440' FSL & 2240' FWL, and the 1/2 mile radius area of review. The map also shows the 2 mile offsetting operator review area. The map is titled 'ROSS GULCH 8 No. 3 SWD' and '2440' FSL & 2240' FWL'.



EOG Resources, Inc  
1/2 Mile Area of Review  
Application for Authorization to Inject Ross Gulch 8 No. 3

Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Surface Casing Depth	Cement	Size	Depth	Production Casing Cement	Producing Perforations
EOG Resources	Ross Draw 8 Federal 1H	Proposed	Sec 8, T26S, R31E	NA	12783'	13-3/8"	950'	700 sx Class C	5-1/2"	12783'	150 sx C, 1600 H	NA
EOG Resources	Ross Draw 8 Federal 2H	WOI Trac	Sec 8, T26S, R31E	6/9/2011	12800'	13-3/8"	1428'	1050 sx Class C	5-1/2"	12786'	175 sx C, 1700 H	NA
EOG Resources	Ross Draw 8 Federal 3H	Proposed	Sec 8, T26S, R31E	NA	12841'	13-3/8"	950'	700 sx Class C	5-1/2"	12841'	150 sx C, 1700 H	NA
EOG Resources	Ross Gulch Fed Com 1H	Proposed	Sec 8, T26S, R31E	NA	12822'	13-3/8"	950'	700 sx Class C	5-1/2"	12822'	150 sx C, 1700 H	NA
EOG Resources	Inkling 8 Federal 1	P&A 11/21/03	Sec 8, T26S, R31E	2/22/1996	11943'	13-3/8"	950'	840 sx Class C	5-1/2"	8400'	600 sx Class H	P&A



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the  
POD suffix indicates the  
POD has been replaced  
& no longer serves a  
water right file.)

(R=POD has  
been replaced,  
O=orphaned,  
C=the file is  
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Subbasin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01777	C		ED				08	26S	31E	613245	3547409*	325	300	25
C 02248			ED	1	2	3	08	26S	31E	612942	3547316*	300	292	8
C 02249			ED	1	2	3	08	26S	31E	612942	3547316*	300	292	8

Average Depth to Water: **294 feet**

Minimum Depth: **292 feet**

Maximum Depth: **300 feet**

**Record Count: 3**

**PLSS Search:**

Section(s): 8

Township: 26S

Range: 31E

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



# Mobile Analytical Laboratories, Inc.

LABORATORIES IN ODESSA, GIDDINGS & STACY DAM

Billing Address: P.O. BOX 89210 • ODESSA, TEXAS 79769-0210

Shipping Address: 2800 WESTOVER STREET • ODESSA, TEXAS 79764

PHONE (432) 337-4744

FAX (432) 337-8781

MR. HECTOR SERNA

MOG RESOURCES

5626 TATUM HWY.

LOVINGTON, NEW MEXICO 88260

SAMPLE SOURCE: ELK WALLOW 11 STATE COM #4-H

ANALYSIS COMPLETED: 10-27-2011

SAMPLE RECEIVED: 10-26-2011

LAB NUMBER: 9954

## DISSOLVED SOLIDS:

CATIONS:	MEQ/L	mg/L
SODIUM (CALC.) ( Na+ )	3396.28	78114
CALCIUM ( Ca++ )	68.00	1360
MAGNESIUM ( Mg++ )	28.00	342

## ANIONS:

CHLORIDE ( Cl- )	3402.00	120771
SULFATE ( SO4= )	27.40	1315
CARBONATE ( CO3= )	0.00	0
BICARBONATE ( HCO3- )	62.88	3836
HYDROXIDE ( OH- )	0.00	0

TOTAL DISSOLVED SOLIDS:

205738

## OTHER PROPERTIES:

pH	6.26	P-ALKALINITY (AS CaCO3)	0 mg/L
SPEC. GRAV.	1.12	M-ALKALINITY (AS CaCO3)	3144 mg/L
CONDUCTIVITY	386900 µMHOS/CM	CALCIUM HARDNESS (AS CaCO3)	3400 mg/L
@ 77 °F		MAGNESIUM HARDNESS (AS CaCO3)	1400 mg/L
H2S	0 mg/L	TOTAL HARDNESS (AS CaCO3)	4800 mg/L
CO2	950 mg/L		
IRON	90.00 mg/L		



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Shipping Address: 2800 WESTOVER STREET • ODESSA, TEXAS 79764

PHONE (432) 337-4744

FAX (432) 337-8781

MR. HECTOR SERNA

EOG RESOURCES

5626 TATUM HWY

LOVINGTON, NEW MEXICO 88260

SAMPLE SOURCE: ELK WALLOW 11 STATE COM 4-H

ANALYSIS COMPLETED: 12-07-2011

SAMPLE RECEIVED: 11-30-2011

LAB NUMBER: 10185

## DISSOLVED SOLIDS:

CATIONS:	MEQ/L	mg/L
SODIUM (CALC.) ( Na+ )	3422.36	78714
CALCIUM ( Ca++ )	56.00	1120
MAGNESIUM ( Mg++ )	36.00	439

## ANIONS:

CHLORIDE ( Cl- )	3430.00	121765
SULFATE ( SO4= )	34.56	1659
CARBONATE ( CO3= )	0.00	0
BICARBONATE ( HCO3- )	49.80	3038
HYDROXIDE ( OH- )	0.00	0

## TOTAL DISSOLVED SOLIDS:

206735

## OTHER PROPERTIES:

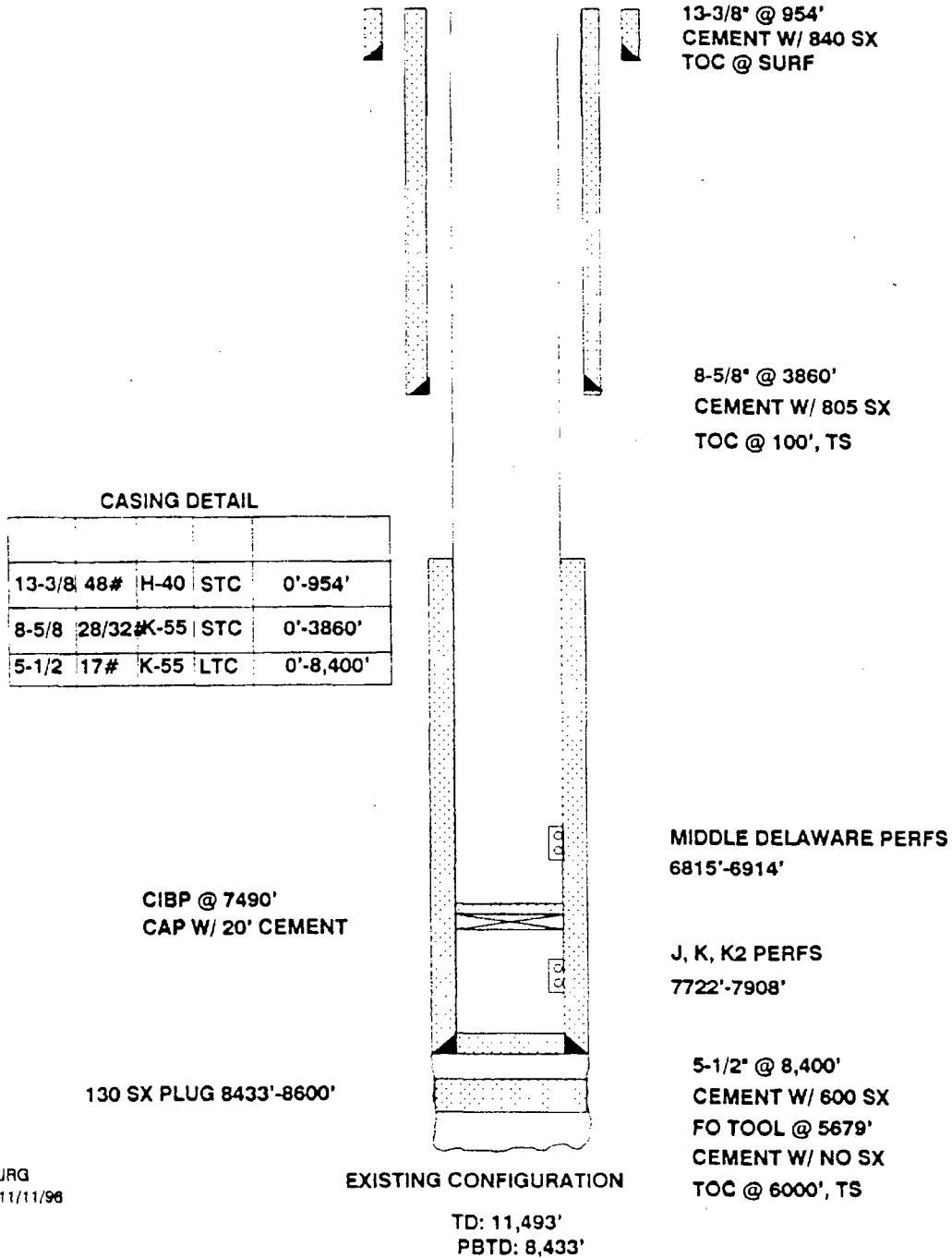
pH	6.46	P-ALKALINITY (AS CaCO3)	0 mg/L
SPEC. GRAV.	1.12	M-ALKALINITY (AS CaCO3)	2490 mg/L
CONDUCTIVITY	392300 µMHOS/CM	CALCIUM HARDNESS (AS CaCO3)	2800 mg/L
@ 77 °F		MAGNESIUM HARDNESS (AS CaCO3)	1800 mg/L
H2S	0 mg/L	TOTAL HARDNESS (AS CaCO3)	4600 mg/L
CO2	546 mg/L		
IRON	0.50 mg/L		

709 W. INDIANA  
MIDLAND, TEXAS 79701  
FAX (432) 682-8819

LABORATORY NO.	112-156
SAMPLE RECEIVED	1-12-12
RESULTS REPORTED	1-19-12

# MERIDIAN OIL

FIELD: PHANTOM DRAW (DELAWARE) DATE SPUD: 2/22/96 COMP: 3/96  
 LEASE: INKLING 8 FEDERAL WELL NO. 1 ELEVATION: 3247' G.L., 3265' KB  
 LOCATION: 1680' FSL & 1980' FEL SEC 8, T-26-S, R-31-E  
 EDDY COUNTY, NEW MEXICO



JRG  
 11/11/96

**Inkling 8 Federal No. 1  
Phantom Draw (Delaware) Field  
Eddy County, New Mexico**

Project Engineer: Jack R. Gevecker

Office (915) 688-6982  
Residence (915) 682-0100

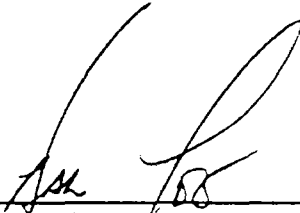
**Recommended Procedure**

**Note: H2S may be present**

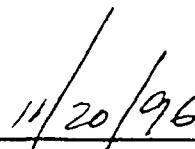
**Perform job safety analysis prior to start of work**

1. MIRU pulling unit. Install and test BOP. Unseat packer and POOH w/ packer and 2-7/8" tubing.
2. RU wireline company and packoff. GIH w/ 5-1/2" CIBP and set @ +/- 6750'. Cap w/ 35' cement using a dump bailer.
3. GIH w/ 5-1/2" chemical cutter and cut off casing @ +/- 5850'. POOH and lay down 5-1/2" casing.
4. GIH w/ 2-7/8" tubing open ended to +/- 5925'. Circulate hole w/ 10 ppg mud laden fluid. Spot 25 sx Class C cement plug across 5-1/2" casing stub from 5925' to 5800'.
5. Pick up tubing to 3925'. Spot 30 sx Class C cement plug across 8-5/8" casing shoe from 3925' to 3810'.
6. Pick up tubing to +/- 1020'. Spot 30 sx Class C cement plug across surface pipe shoe from 1020' to 900'.
7. Pick up tubing to +/- 100'. Spot 30 sx Class C cement plug from 100' to surface.
8. Cut off casing 3' below surface. Weld steel plate on casing stub. Restore location as directed.

Approved: \_\_\_\_\_

  
Hal A. Lee

Date: \_\_\_\_\_

  
11/20/96

# MERIDIAN OIL

FIELD: PHANTOM DRAW (DELAWARE) DATE SPUD: 2/22/96 COMP: 3/96  
 LEASE: INKLING 8 FEDERAL WELL NO. 1 ELEVATION: 3247' G.L., 3285' KB  
 LOCATION: 1880' FSL & 1980' FEL SEC 8, T-26-S, R-31-E  
 EDDY COUNTY, NEW MEXICO

30 SX PLUG 0'-100'

30 SX PLUG 900'-1020'

30 SX PLUG 3810'-3925'

13-3/8" @ 954'  
 CEMENT W/ 840 SX  
 TOC @ SURF

8-5/8" @ 3860'  
 CEMENT W/ 805 SX  
 TOC @ 100', TS

## CASING DETAIL

13-3/8	48#	H-40	STC	0'-954'
8-5/8	28/32	K-55	STC	0'-3860'
5-1/2	17#	K-55	LTC	0'-8,400'

25 SX PLUG 5800'-5925'

CUT CASING @ +/- 5850'

CIBP @ 6750'  
 CAP W/ 35' CEMENT

CIBP @ 7490'  
 CAP W/ 20' CEMENT

MIDDLE DELAWARE PERFS  
 6815'-6914'

J, K, K2 PERFS  
 7722'-7908'

130 SX PLUG 8433'-8600'

5-1/2" @ 8,400'  
 CEMENT W/ 600 SX  
 FO TOOL @ 5679'  
 CEMENT W/ NO SX  
 TOC @ 6000', TS

JRG  
 11/11/96

PROPOSED CONFIGURATION

TD: 11,493'  
 PBTD: 8,433'

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OIL CONSERVATION FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993  
5. Lease Designation and Serial No.

NM 0438001

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

3. Address and Telephone No.

P.O. Box 51810, Midland, TX 79710-1810

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1680' FSL & 1980' FEL  
Sec. 8, T26S, R31E

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Inkling '8' # 1  
Federal

9. API Well No.

30-015-28768

10. Field and Pool, or exploratory Area

Phantom Draw Bone Spring

11. County or Parish, State

Eddy NM

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

TYPE OF SUBMISSION

- ☐ Notice of Intent  
☒ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other Spud & Set Csg.  
☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

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

13. Describe Proposed 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.)\*

2/22/96: Spud. Drld a 17 1/2" hole to 954'. Ran 22 jts 13 3/8" 48# K-55 csg and set @ 954'. Used four centralizers. Cmted w/lead-590 sxs 'C' + .25 pps flocele + 2% CaCl2, tail w/250 sxs 'C' + .25 pps flocele + 2% CaCl2. Circ. to surf. WOC 14.75 hrs.

Drld a 12 1/4" hole to 3860'. Ran 94 jts 8 5/8" 28#/32# K-55 csg and set @ 3860'. Cmted w/lead-900 sxs 'C' Lite + 9 pps salt + 5 pps gilsonite + 1 pps econolite + .25 pps flocele, tail w/250 sxs 'C' + .02 pps CaCl2. TOC @ 100'. WOC 17.5 hrs.

Drld a 7 7/8" hole to 11,460'. Ran 197 jts 17# K-55/N-80 csg and set @ 8400'. Used thirty centralizers. Cmted w/600 sxs 'H' 50/50 Poz + 2% Bentonite + .6% Halad-9. TOC @ 6000'. WOC eight days.

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

Signed

Title Regulatory Compliance

Date 5/16/96

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:



WELL Inkling "8" Federal #1

LOCATION Sec. 8-26S-31E, Eddy County, New Mexico

OPERATOR Meridian Oil Inc.  
P.O. Box 51810  
Midland, Texas 79710

DRILLING CONTRACTOR Exeter Drilling Company

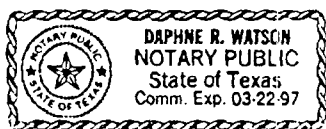
The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @ Depth	Degrees @ Depth	Degrees @ Depth
1/4 340	1 3/4 2,538	3/4 7,840
1 3/4 804	2 2,632	3/4 8,311
2 945	2 2,695	3/4 8,786
2 1,031	2 2,789	1 3/4 9,228
2 1,128	1 3/4 2,915	2 9,744
2 1/4 1,253	1 3/4 3,038	MR 10,272
2 1/4 1,315	2 1/4 3,193	1 3/4 10,304
2 1/4 1,411	2 3,254	3/4 10,853
1 3/4 1,474	2 3,409	3/4 11,460
1 1/2 1,565	2 3,595	
2 3/4 1,752	2 1/4 3,782	
2 1/2 1,815	1 1/4 3,860	
2 3/4 1,910	1/4 4,061	
2 1/4 2,004	1/2 4,496	
2 2,066	1 1/4 4,936	
2 2,158	1 5,436	
2 1/4 2,253	1 1/2 5,938	
2 1/4 2,316	1/4 6,437	
2 1/4 2,381	3/4 6,939	
1 3/4 2,445	1 1/4 7,330	

Drilling Contractor: **EXETER DRILLING COMPANY**

By: Bob Lange  
Bob Lange  
Drilling Manager  
Southern Division

Subscribed and sworn before me this 27th day of March, 1996.



Daphne R. Watson  
Daphne R. Watson  
Notary Public  
Commission Expires: March 22, 1997

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesia, NM 88211-0719  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

**OIL CONSERVATION DIVISION**  
**P.O. Box 2088**  
**Santa Fe, NM 87504-2088**

Form C-102

Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

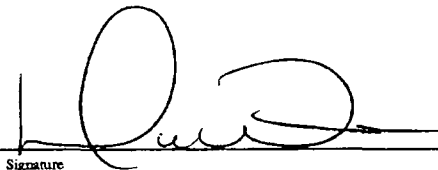
**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number <b>30-015-28768</b>		<sup>2</sup> Pool Code <b>96453</b>	<sup>3</sup> Pool Name <b>Phantom Draw Delaware</b>
<sup>4</sup> Property Code <b>18300</b>	<sup>5</sup> Property Name <b>Inkling '8' Federal</b>		<sup>6</sup> Well Number <b># 1</b>
<sup>7</sup> OGRID No. <b>26485</b>	<sup>8</sup> Operator Name <b>Meridian Oil Inc.</b>		<sup>9</sup> Elevation <b>3247'</b>

<sup>10</sup> Surface Location									
UL or lot no.	Section <b>08</b>	Township <b>26S</b>	Range <b>31E</b>	Lot. Idn	Feet from the <b>1680'</b>	North/South Line <b>South</b>	Feet from the <b>1980'</b>	East/West line <b>East</b>	County <b>Eddy</b>

<sup>11</sup> Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres <b>40</b>									
<sup>13</sup> Joint or Infill									
<sup>14</sup> Consolidation Code									
<sup>15</sup> Order No.									

**NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON--STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION**

	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.   Signature <b>Donna Williams</b> Printed Name <b>Regulatory Compliance</b> Title <b>5/16/96</b> Date			
	<sup>18</sup> SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.    Date of Survey  Signature and Seal of Professional Surveyor:   Certificate Number			

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE\*

(See other in-  
structions on  
reverse side)FORM APPROVED  
OMB NO. 1004-0137  
Expires: February 28, 1995

5. LEASE DESIGNATION AND SERIAL NO.

NM 0438001

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.  
Inkling '8' # 1  
Federal9. API WELL NO.  
30-015-2876810. FIELD AND POOL, OR WILDCAT  
Phantom Draw Delaware11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA  
8, T26S, R31E12. COUNTY OR  
PARISH  
Eddy13. STATE  
NM1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other \_\_\_\_\_  
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other \_\_\_\_\_

2. NAME OF OPERATOR

Meridian Oil Inc.

3. ADDRESS AND TELEPHONE NO.

P.O. Box 51810, Midland, TX 79710-1810 915-688-6943

4. LOCATION OF WELL. (Report location clearly and in accordance with any State requirements)\*

At surface  
1680' FSL & 1980' FEL  
At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

1/9/96

15. DATE SPUNDED  
2/22/9616. DATE T.D. REACHED  
3/18/9617. DATE COMPI. (Ready to prod.)  
4/11/9618. ELEVATIONS (DF, RKB, RT, GR, ETC.)\*  
3247'

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD  
11,460'21. PLUG, BACK T.D., MD & TVD  
CIBP@7490'22. IF MULTIPLE COMPL.,  
HOW MANY\*23. INTERVALS  
DRILLED BY

ROTARY TOOLS

CABLE TOOLS

0-TD

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)\*

6815' - 6914'

25. WAS DIRECTIONAL  
SURVEY MADE  
No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Included

27. WAS WELL CORED  
No

## 28. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	954'	17 1/2"	840 sxs/Circ.	Surf.
8 5/8"	28#/32#	3860'	12 1/4"	1150 sxs/TOC@100' (TS)	
5 1/2"	17#	8400'	7 7/8"	600 sxs/TOC@6000' (TS)	

## 29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

## 30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2.875"	6710'	6710'

## 31. PERFORATION RECORD (Interval, size and number)

7722-7908'  
Set CIBP @ 7490' w/20' cmt  
6815' - 6914'

## 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
7722' - 7908'	A w/1500 gls 15% NEFE HCl
CIBP	Set @ 7490' w/20' cmt
6815' - 6914'	A w/1500 gls 15% NEFE HCl

## 33.\* PRODUCTION

DATE FIRST PRODUCTION Shut In		PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump)				WELL STATUS (Producing or shut-in) Shut In	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL - BBL.	GAS - MCF.	WATER - BBL.	GAS - OIL RATIO
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL - BBL.	GAS - MCF.	WATER - BBL.	OIL GRAVITY - API (CORR.)	

## 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Well is presently shut in pending evaluation

TEST WITNESSED BY

## 35. LIST OF ATTACHMENTS

Inclination Report, Logs, C102, C104, 3160-5

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

SIGNED

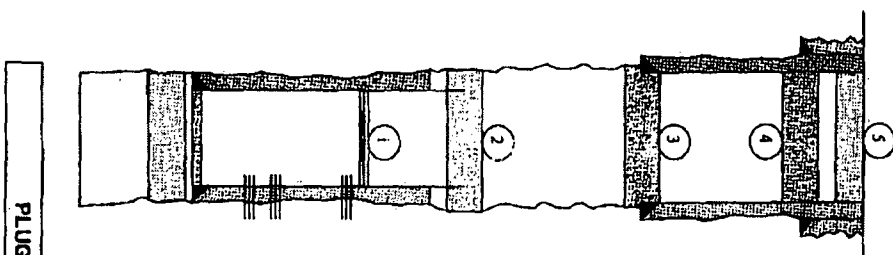
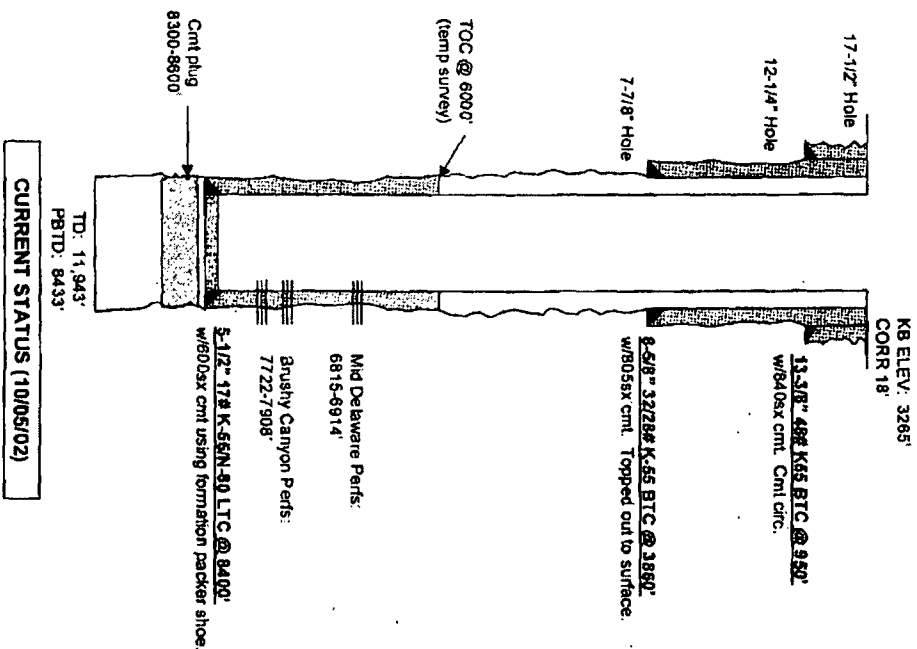
TITLE

Regulatory Compliance

DATE 5/16/96

\*(See Instructions and Spaces for Additional Data on Reverse Side)

EOG RESOURCES, INC  
**INKLING 8 FEDERAL #1**  
 1680' FSL, 1980' FEL  
 Sec. 8, T26S, R31E  
 Eddy County, New Mexico



1. Set CIBP @ 8780' w/35 cmt cap.
2. Cut 5-1/2" casing at free point to salvage as much casing as practical. Spot 100' cmt plug across casing stub, 50' inside and out. Tag plug.
3. Spot 100' cmt plug across 8-5/8" casing shoe @ 3860'. 50' inside and out. Tag plug.
4. Spot 100' cmt plug inside 8-5/8" casing across from 13-3/8" casing shoe @ 950'.
5. Spot 60' cmt plug at surface.

NOTE: Load hole between plugs with 8.5# brine salt gel (25# gel/bbl) mud.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OPERATOR'S COPY

FORM APPROVED  
OMB NO. 1004-0135  
Expires: November 30, 2000

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
EOG Resources Inc.

3a. Address  
P.O. Box 2267 Midland, Texas 79702

3b. Phone No. (include area code)  
915 686 3689

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1680' FSL & 1980' FSL, U/L J  
Sec 8, T26S, R31E

5. Lease Serial No.

100438001

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Inkling 8 Federal #1

9. API Well No.

30-015-28768

10. Field and Pool, or Exploratory Area  
Phantom Draw Delaware

11. County or Parish, State

Ady NM

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

TYPE OF SUBMISSION

☐ Notice of Intent

☒ Subsequent Report

☐ Final Abandonment Notice

TYPE OF ACTION

☐ Acidize

☐ Alter Casing

☐ Casing Repair

☐ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☒ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☐ Other

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 recomple 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 final site is ready for final inspection.)

11/13/03 MURU

11/14/03 POH w/ 2 7/8" tubing. TIH w/ 5 1/2" CIRP set @ 6780'.

11/15/03 Shut In

11/16/03 Shut In

11/17/03 Spot 25 sk of cement on CIRP @ 6780'.

11/18/03 Cut 5 1/2" casing @ 5920'. POH w/ 5 1/2" casing.

11/19/03 Finish POH w/ 5 1/2" casing.

Spot 75 sk cement from 5970' to 5870'.

11/20/03 Tag cement @ 5778'.

Spot 75 sk cement from 3920' to 3820'.

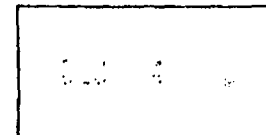
11/21/03 RIH and tag cement at 3671'.

Spot 50 sk cement from 1000' to 800'. Witnessed by BLM- Don Early.

Spot 20 sk cement form 60' to Surface.

Weld on P&A marker, clean and restore location.

APPROVED



LES BABYAK  
PETROLEUM ENGINEER

14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

Stan Wagner

Title

Regulatory Analyst

Date 11/25/03

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes 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.

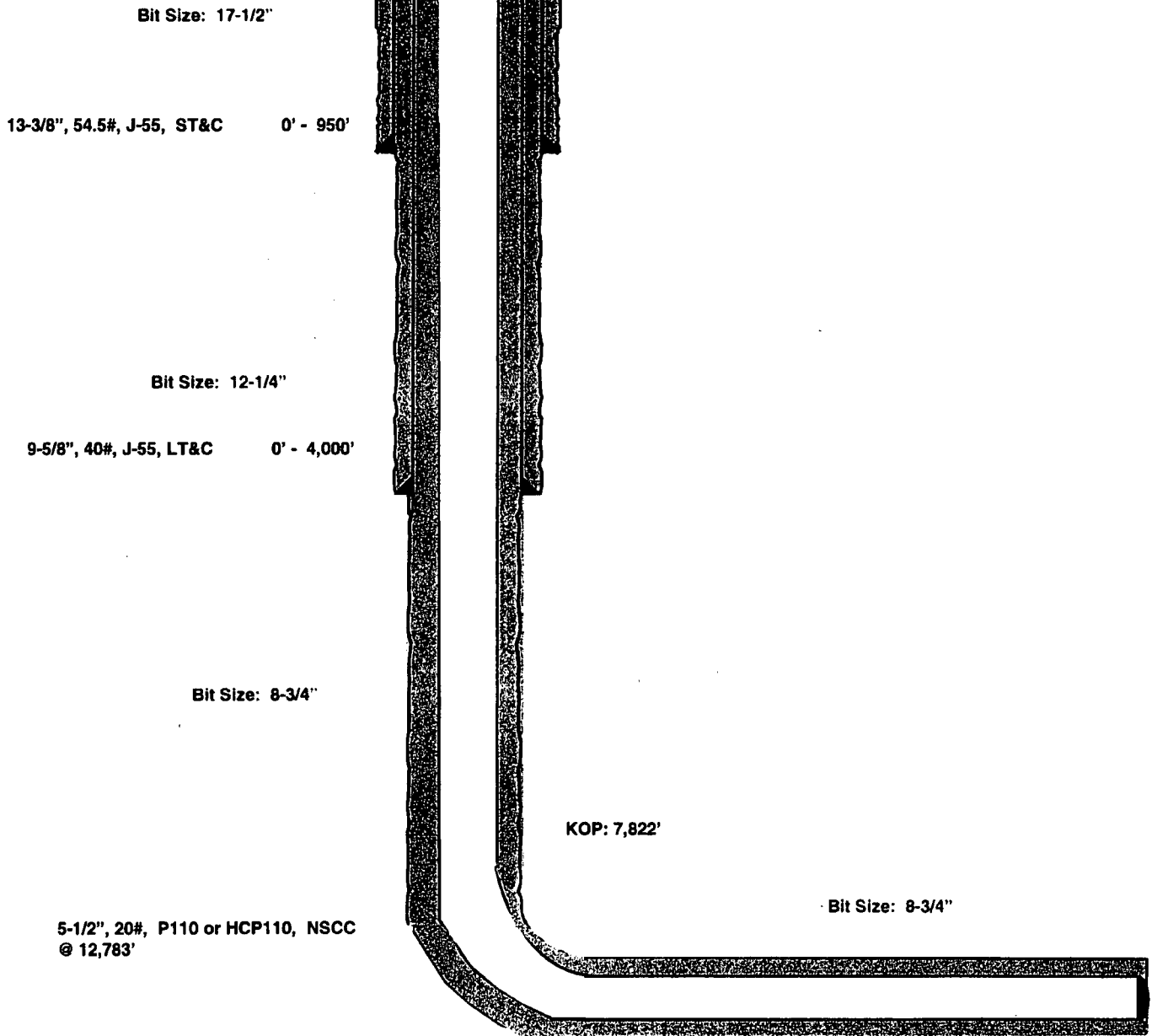
**Ross Draw 8 Federal #1H  
Eddy County, New Mexico**

**330' FNL  
520' FWL  
Section 8  
T-26-S, R-31-E**

**Proposed Wellbore**

**API: 30-015-\*\*\*\*\***

**KB: 3,299.5'  
GL: 3,280.5'**



**Lateral:  
12,783' MD, 8,300' TVD**

**BH Location: 330' FSL & 990' FWL  
Section 8  
T-26-S, R-31-E**

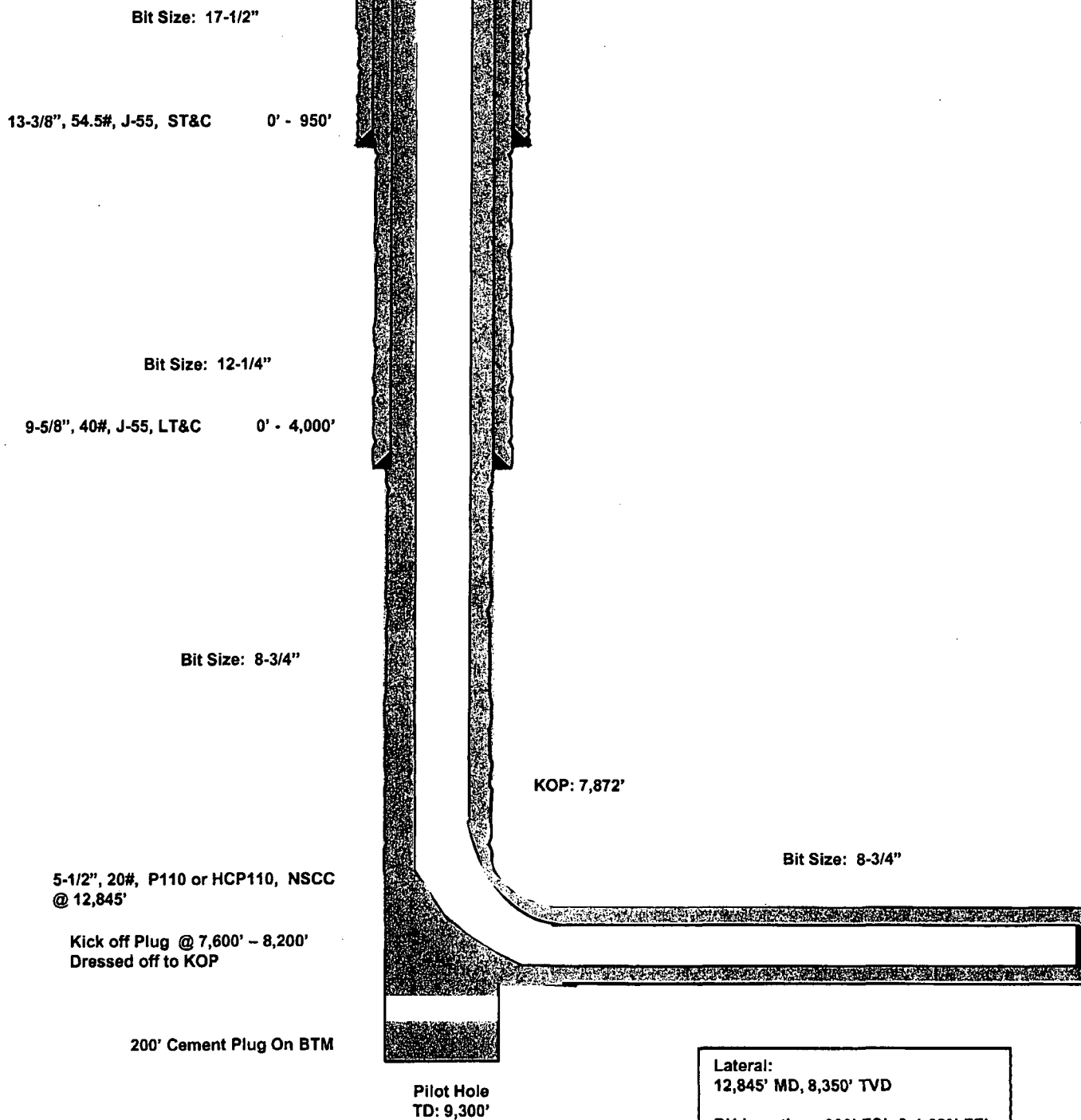
Ross Draw 8 Federal #2H  
Eddy County, New Mexico

330' FNL  
2240' FEL  
Section 8  
T-26-S, R-31-E

Proposed Wellbore

API: 30-015-\*\*\*\*\*

KB: 3,316.1'  
GL: 3,286.1'



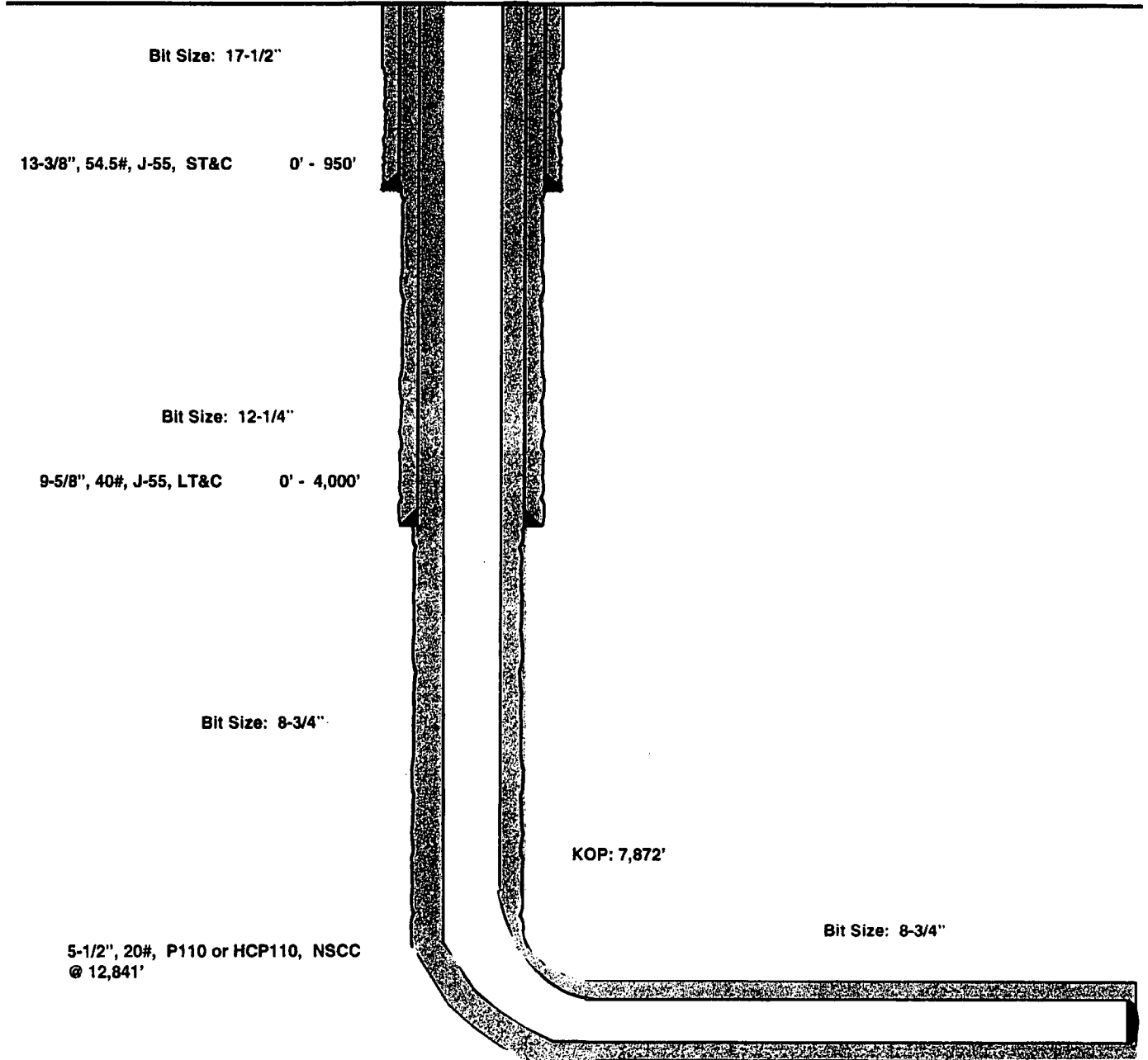
**Ross Draw 8 Federal #3H  
Eddy County, New Mexico**

**330' FNL  
880' FEL  
Section 8  
T-26-S, R-31-E**

**Proposed Wellbore**

**API: 30-015-\*\*\*\*\***

**KB: 3,306.1'  
GL: 3,287.1'**



**Lateral:  
12,841' MD, 8,350' TVD**

**BH Location: 330' FSL & 330' FEL  
Section 8  
T-26-S, R-31-E**

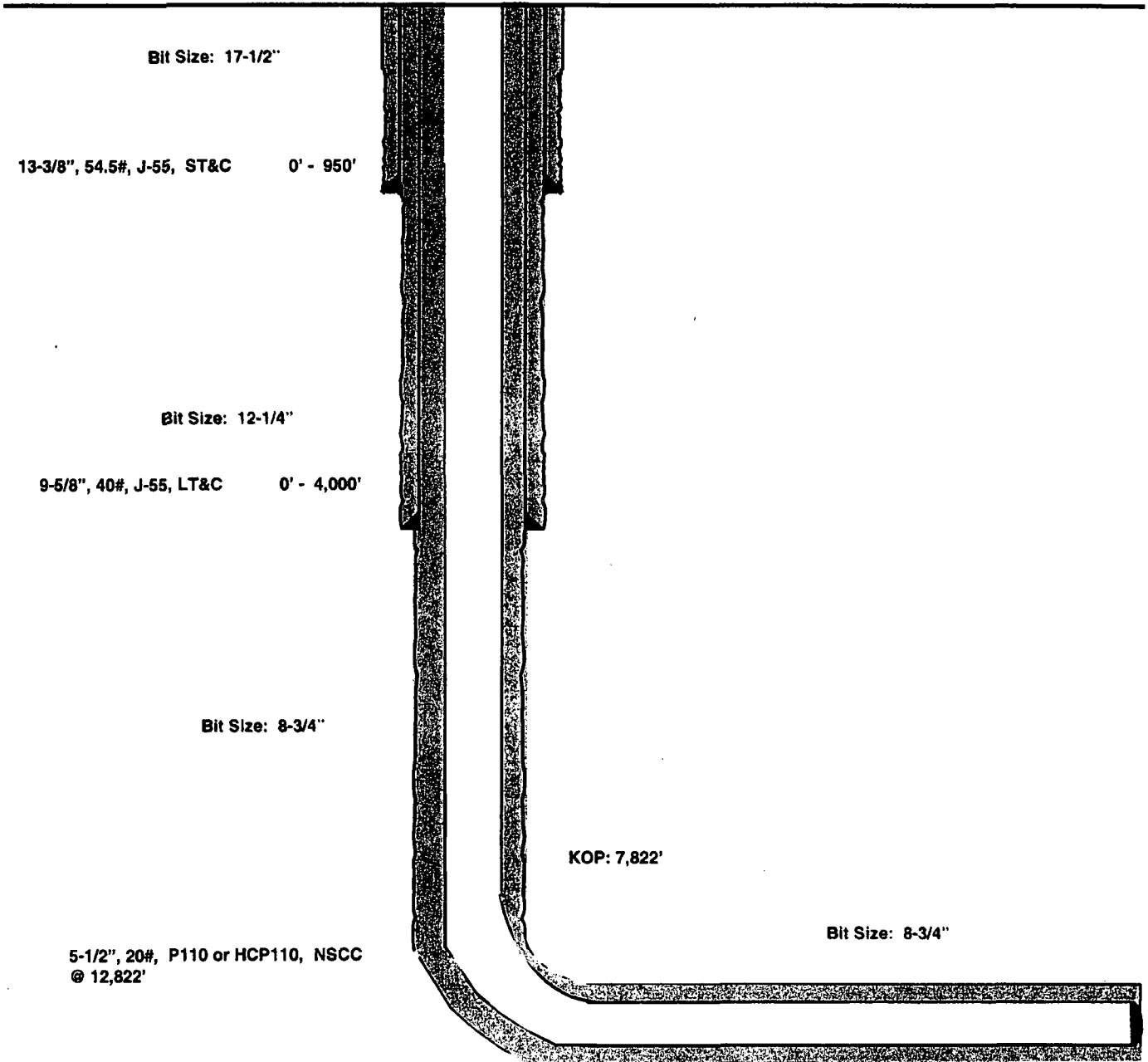
**Ross Gulch 8 Fed Com #1H  
Eddy County, New Mexico**

**330' FNL  
1540' FWL  
Section 8  
T-26-S, R-31-E**

**Proposed Wellbore**

**API: 30-015-\*\*\*\*\***

**KB: 3,296.1'  
GL: 3,277.1'**



**Lateral:  
12,822' MD, 8,300' TVD**

**BH Location: 330' FSL & 2310' FWL  
Section 8  
T-26-S, R-31-E**

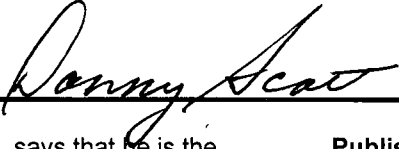
# Affidavit of Publication

NO. 21940

STATE OF NEW MEXICO

County of Eddy:

Danny Scott



being duly sworn, says that he is the Publisher

of the Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached

## Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/days on the same day as follows:

First Publication December 9, 2011

Second Publication

Third Publication

Fourth Publication

Fifth Publication

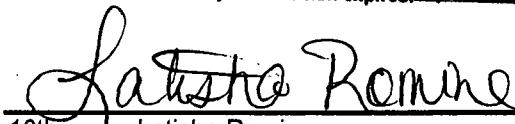
Subscribed and sworn to before me this

9th day of December 2011



OFFICIAL SEAL  
Latisha Romine  
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2015



10th Latisha Romine  
Notary Public, Eddy County, New Mexico

# Copy of Publication:

## LEGAL NOTICE

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 water injection wells. The Ross Gulch-8 No.3 is located 2440' FSL & 2440' FWL, Section 8, Township 26 South, Range 31 East, Eddy County, New Mexico. Injection water will be sourced from area wells producing from the Bone Spring formation. The injection water will be injected into the Delaware Sand formation at a depth of 4000' - 7700', a maximum surface pressure of 1000 psi, and a maximum rate of 10000 BWPD. 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. Published in the Artesia Daily Press, Artesia, N.M., Dec. 9, 2011. Legal No: 21940.



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

December 15, 2011

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

DK Farms, Inc.  
2713 Racquet Club Drive  
Midland, Texas 79705

Re: Application of EOG Resources, Inc. for administrative approval of  
Ross Gulch 8 No. 3 – Eddy 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 Ross Gulch 8 No. 3 located 2440 feet from the South line and 2440 feet from the West line of Section 8, Township 26 South, Range 31 East, NMPM, Eddy 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 4000 feet to 7700 feet. This injection will occur with a maximum injection pressure of 1000 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, appearing to read "Stan Wagner", followed by a long horizontal line.

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:**

DK Farms, Inc.  
2713 Racquet Club Drive  
Midland, TX 79705

**2. Article N°**  
(Transfer)

11 7009 3410 0000 0960 9162 111111

**COMPLETE THIS SECTION ON DELIVERY****A. Signature**

X *[Signature]*

☐ Agent☒ Addressee**B. Received by (Printed Name)**

*LEWIS*

**C. Date of Delivery**

*12-7-01*

- 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



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

January 4, 2012

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  
Ross Gulch 8 No. 3 – Eddy 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 Ross Gulch 8 No. 3 is located 2440 feet from the South line and 2440 feet from the West line of Section 8, Township 26 South, Range 31 East, NMPM, Eddy 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 4000 feet to 7700 feet. This injection will occur with a maximum injection pressure of 1000 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 at the request of NMOCD as surface owner of the surrounding 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.

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 ☒ Agent ☐ Addressee  
B. Received by (Printed Name) John Date of Delivery 4/5/12  
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.

**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Thursday, December 29, 2011 4:42 PM  
**To:** 'Stan\_Wagner@eogresources.com'  
**Cc:** Warnell, Terry G., EMNRD; 'Wesley\_Ingram@blm.gov'; Shapard, Craig, EMNRD  
**Subject:** Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet

Hello Stan, Hope all is well and the holidays went OK,

- a. Please send a wellbore diagram of the P&Aed well located within the AOR.
- b. Send at least one water analysis from the fresh water wells located within 1 mile.
- c. Send a quick writeup from a geologist as to the hydrocarbon productivity potential (water saturation of various depths) of this large Delaware interval. I saw the coring done at 6815 to 6910 and the attempt at production.
- d. This well will be surrounded by horizontal Bone Spring wells to be drilled by EOG that have planned top of cement up into the intermediate pipe. How will EOG ensure this TOC gets to the planned heights in this AOR wells? What does EOG plan to do if this does not happen?
- e. The planned cement top on the subject well is also only 3500 feet – how will this be verified and what will EOG do if it does not reach this height? What type of lead/tail cement will be used?
- f. Please send formal notice (copy of this application) to the BLM as this 40 acre tract is surrounded by Federal minerals.
- g. Are the federal minerals in the N/2 N/2 of Section 17 and the E/2 E/2 of Section 7 leased by someone other than EOG? If so, please send notice to the lessees.

Thank You,

William V Jones, P.E.  
Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel 505.476.3448 ~ Fax 505.476.3462



**Jones, William V., EMNRD**

---

**From:** Stan\_Wagner@eogresources.com  
**Sent:** Wednesday, January 04, 2012 8:11 AM  
**To:** Jones, William V., EMNRD  
**Subject:** Re: Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet  
**Attachments:** inking p&a.PDF

Good Morning Will,

Happy New Year, hope all is well. Here we go for another year !

In regard to your questions / requests:

Item a - Inking wellbore attached  
Item b - water analysis is being gathered. I will forward as soon as I receive it.  
Item c - geo is working on it  
Item d & e - drilling is working on it  
Item f - I will send out today and forward green card ASAP  
Item g - EOG is lessee of record. No additional notification will be sent.

Thanks,

Stan

(See attached file: *inking p&a.PDF*)

"Jones, William V., EMNRD" ---12/29/2011 05:42:07 PM---Hello Stan, Hope all is well and the holidays went OK, a. Please send a wellbore diagram of t

From: "Jones, William V., EMNRD" <William.V.Jones@state.nm.us>  
To: "Stan\_Wagner@eogresources.com" <Stan\_Wagner@eogresources.com>  
Cc: "Warnell, Terry G, EMNRD" <TerryG.Warnell@state.nm.us>, "Wesley Ingram@blm.gov" <Wesley\_Ingram@blm.gov>, "Shapard, Craig, EMNRD" <craig.shapard@state.nm.us>  
Date: 12/29/2011 05:42 PM  
Subject: Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet

**Jones, William V., EMNRD**

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**From:** Stan\_Wagner@eogresources.com  
**Sent:** Tuesday, January 31, 2012 9:51 AM  
**To:** Jones, William V., EMNRD  
**Subject:** Re: Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet  
**Attachments:** inking p&a.PDF; Ross Gulch SWD.PDF

Good Morning Will,

Finally, I have all the additional information that you requested for our SWD application. Attached please find, I believe everything you requested. Drill comments regarding the cementing are in red along with a write up from the geologist. Also find additional notice to BLM and a fresh water analysis of nearby water wells.

If you need anything else, please let me know.

Thanks,

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

(See attached file: *inking p&a.PDF*)(See attached file: *Ross Gulch SWD.PDF*)

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From: "Jones, William V., EMNRD" <William.V.Jones@state.nm.us>  
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Date: 12/29/2011 05:42 PM  
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---



Re: Fw: Disposal application from EOG Resources Inc. : proposed Ross Gulch  
8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet

Steve Munsell to: Bruce Coit, Stan Wagner  
Cc: Ron Willett

01/12/2012 02:03 PM

Gentlemen,

Check out my responses in red. Does everyone concur? Especially Mr. Willett who's going to be on the "fixin' end" if we don't place cement as per the NMOCD. Stan please respond to the NMOCD as needed with changes as needed.

Thanks.

- a. Please send a wellbore diagram of the P&Aed well located within the AOR.
- b. Send at least one water analysis from the fresh water wells located within 1 mile.
- c. Send a quick writeup from a geologist as to the hydrocarbon productivity potential (water saturation of various depths) of this large Delaware interval. I saw the coring done at 6815 to 6910 and the attempt at production.
- d. This well will be surrounded by horizontal Bone Spring wells to be drilled by EOG that have planned top of cement up into the intermediate pipe. How will EOG ensure this TOC gets to the planned heights in this AOR wells? What does EOG plan to do if this does not happen?

Prior to completing the subject wells EOG would do the following to make certain that the TOC is above the intermediate casing shoe.

1. Pressure up on the production casing x intermediate casing annulus and test to at least a 12.0 ppge. The Delaware frac gradient is approximately 10.0 to 10.5 ppge. If the annulus pressure test is successful the TOC has to be above the intermediate casing shoe.
2. If number 1 is unsuccessful a cement bond log will be run to determine the TOC.
3. If the TOC is below the injection interval the production casing will be perforated and cement will be placed above the injection interval. The new TOC will be verified by either a temperature survey or a cement bond log. This work will be done AFTER the well is successfully stimulated via the production casing.

e. The planned cement top on the subject well is also only 3500 feet – how will this be verified and what will EOG do if it does not reach this height? What type of lead/tail cement will be used?

1. The TOC in the new producing wells will be verified in the same manner as described in "d" above (numbers 1 and 2).
2. Three cement slurries will be used. The cement properties will be very similar to the attached test results. The planned cement tops are listed below.
  - Lead Cement - 3500 ft from surface
  - Middle Cement - 5000 ft from surface
  - Tail Cement - 7800 ft from surface

**Describe the hydrocarbon productivity potential (water saturation of various depths) of this large Delaware interval (4000'-7700')**

Three wells were analyzed in the vicinity of the proposed SWD on Ross Draw:

- (1) EOG Resources's Ross Draw 8 Fed 2H Pilot
- (2) Meridian Oil Company (now EOG's) Inkling 8 Federal 1
- (3) EOG Resources's Merphan 16 State 1.

These three wells had full log suites, and two of them had mud logs. The most productive interval in all three appears to be the lower portions of the Delaware section (6400' TVD to the Top of the Bone Spring Lime at 7958' TVD). The upper portions of the Delaware (above 6400') exhibit virtually no shows on mud logs, except for the organic shale intervals. In the following write up, I will describe the potentially productive intervals.

**Mud log Analysis from EOG Resources's Ross Draw 8 Fed 2H**

EOG Resources's Ross Draw 8 Fed 2H Pilot had a mud logger to corroborate the logs we ran. The only show noted by the mud logger was out from underneath casing at 4050' MD, which was essentially a ~150 unit gas show with 20-30% fluorescence. This show correlates to an organic shale interval out from underneath casing, and is believed to not be a productive interval.

**Mud log Analysis from EOG Resources's Merphan 16 State 1**

Show 1: 6500' MD: mud log gas over 1700 units, and 30-40% gold-bright yellow fluorescence, with flash/streaming cut. This sand on the Merphan has DPHI porosity over 15%, on the Ross Draw, however, the porosity is tighter, 12% or so. The mud logs on the Ross Draw show no cut or fluorescence across the stratigraphic equivalent zone (6521' MD). The Inkling 8 did not test this interval, but the porosity is better 12-14%.

Show 2: 6900' MD: Mud log gas is consistently between 1500-2000 units and the mud logger described 20% bright yellow fluorescence, and gas bubbles breaking out. He also described oil scum on the pits. This zone had porosity between 15-18%, and the Inkling showed similar log response across the stratigraphically equivalent interval. This is the interval that was cored and tested on the Inkling 8 Fed 1, and tested unproductive.

Show 3: 7300' MD: Mud log gas 2000-2500 units; pale yellow fluorescence; streaming cut, and oil observed on the pits. The DPHI log indicates nearly 20% porosity, but this could be exaggerated because of borehole washout. Resistivity logs show 2 ohms or so. This interval was not tested in the Inkling, nor on the Ross Draw 8 Fed 2.

Show 4: 7650' MD: Mud log gas over 1500 units, with trip gas measurements of 2800 units. Mud logger called 20-40% good bright yellow-yellow green fluorescence; flash/streaming cut. He also noted that there was abundant free oil in the sample box. This stratigraphic interval was also tested on the Inkling 8 Fed 1 (7722-7908). It was treated with 1500 gal of acid, and tested 5 bbls of oil and 13 bbls of water. It

was deemed unproductive, because they set a bridge plug at 7455-7490, and moved up the hole. This zone was not tested on the Ross Draw 8 Fed 2H.

**Conclusions:**

From what I can tell, the Delaware section above 6400' TVD appears to be unproductive and probably optimum for salt water disposal. The interval below 6400' TVD was tested on the Inkling 8 Fed 1 in two zones, one from 6815'-6914', and one from 7722'-7908', and neither zone (which appears to be highly prospective in the down-dip Merphan 16 State 1) was productive. Disposing of water in the interval above 6400' TVD poses relatively little risk to future oil and gas production in this portion of Eddy County, New Mexico.

Matt Garrison  
Senior Geologist  
EOG Resources, Inc.  
Midland Division  
432-686-3767 office  
817-366-0660 cell  
matt\_garrison@eogresources.com

**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Monday, February 06, 2012 12:02 PM  
**To:** 'Stan\_Wagner@eogresources.com'  
**Subject:** RE: Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet

Stan,

After reviewing the testing records and what you guys sent, it appears staying above 6400 feet would probably be the best course to ensure future lower Delaware minerals remain in place for future attempts.

That would still give you 2400 feet of disposal interval.

Let me know if your people concur.

Will Jones  
New Mexico  
Oil Conservation Division  
Images/Contacts

---

**From:** Stan\_Wagner@eogresources.com [mailto:Stan\_Wagner@eogresources.com]  
**Sent:** Tuesday, January 31, 2012 9:51 AM  
**To:** Jones, William V., EMNRD  
**Subject:** Re: Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet

Good Morning Will,

Finally, I have all the additional information that you requested for our SWD application. Attached please find, I believe everything you requested. Drill comments regarding the cementing are in red along with a write up from the geologist. Also find additional notice to BLM and a fresh water analysis of nearby water wells.

If you need anything else, please let me know.

Thanks,

Stan Wagner  
EOG Resources - Midland Division

**Jones, William V., EMNRD**

---

**From:** Stan\_Wagner@eogresources.com  
**Sent:** Wednesday, February 08, 2012 1:04 PM  
**To:** Jones, William V., EMNRD  
**Subject:** RE: Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet

Good afternoon Will,

Our people concur that the 2400 feet of interval will be sufficient. We are acceptable to staying above 6400 feet as a stipulation of the order.

Thanks,

Stan Wagner  
EOG Resources - Midland Division

▼ "Jones, William V., EMNRD" ---02/06/2012 01:01:58 PM---Stan, After reviewing the testing records and what you guys sent, it appears staying above 6400 feet

From: "Jones, William V., EMNRD" <William.V.Jones@state.nm.us>  
To: "Stan\_Wagner@eogresources.com" <Stan\_Wagner@eogresources.com>  
Date: 02/06/2012 01:01 PM  
Subject: RE: Disposal application from EOG Resources Inc.: proposed Ross Gulch 8 Well No. 3 30-015-NA Delaware from 4000 feet to 7700 feet

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Stan,

After reviewing the testing records and what you guys sent, it appears staying above 6400 feet would probably be the best course to ensure future lower Delaware minerals remain in place for future attempts.

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Will Jones

# Injection Permit Checklist (11/15/2010)

WFX \_\_\_\_\_ PMX \_\_\_\_\_ SWD 1311 Permit Date 2/18/12 UIC Qtr 6 (F/M)

# Wells 1 Well Name(s): ROSS GULCH 87#3

API Num: 30-015-NA Spud Date: New New/Old: N (UIC primacy March 7, 1982)

Footages 2440 FSL/2440 FWL Unit 1/8 Sec 8 Tsp 26S Rge 31E County EDDY

General Location: NE of Red Bluff

Operator: EOS Resources, INC Contact Ston Wagner

OGRID: 7377 RULE 5.9 Compliance (Wells) 3/454 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed \_\_\_\_\_ Current Status: NOT DRILLED

Planned Work to Well: \_\_\_\_\_

Diagrams: Before Conversion ☒ After Conversion ☒ Elogs in Imaging File: \_\_\_\_\_

Well Details:	Sizes Hole.....Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Determination Method
New <input type="checkbox"/> Existing <input type="checkbox"/> Surface	17 1/2 13 3/8	1415	—	900	CIRC
New <input type="checkbox"/> Existing <input type="checkbox"/> Interm	12 1/4 9 5/8	4000	—	875	CIRC
New <input type="checkbox"/> Existing <input type="checkbox"/> LongSt	8 3/4 7	9500	—	600	3500
New <input type="checkbox"/> Existing <input type="checkbox"/> Liner					
New <input type="checkbox"/> Existing <input type="checkbox"/> OpenHole					

## Depths/Formations:

Depths, Ft.

Formation

Tops?

Formation(s) Above			
Injection TOP:	4000	Bell C	Max. PSI <u>200</u> OpenHole <input type="checkbox"/> Perfs <input checked="" type="checkbox"/>
Injection BOTTOM:	7750	Cherry Brandy C	Tubing Size <u>3 1/2</u> Packer Depth <u>3950</u>
Formation(s) Below	7980	BS	<input checked="" type="checkbox"/>

Capitan Reef? ☐ (Potash? ☐ Noticed? ☐ [WIPP? ☐ Noticed? ☐] Salado Top/Bot \_\_\_\_\_ Cliff House? ☐

Fresh Water: Depths: 2440 Formation OS Wells? 3 Analysis? ☒ Affirmative Statement ☒

Disposal Fluid Analysis? Sources: Bone SPRING

Disposal Interval: Analysis? \_\_\_\_\_ Production Potential/Testing: 10000

Notice: Newspaper Date 12/9/11 Surface Owner DK Farms, INC Mineral Owner(s) Surrounded by

RULE 26.7(A) Affected Persons: EOS

AOR: Maps? ☒ Well List? ☒ Producing in Interval? ☒ Wellbore Diagrams? ☒

.....Active Wells 4 Repairs? 0 Which Wells? Verified?

.....P&A Wells 1 Repairs? 0 Which Wells? Proposed well

Issues: Set CSG into Delaware, Run by Survey Request Sent \_\_\_\_\_ Reply: How will EOS make sure?