Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT OCD-HOBBS

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

## 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 page 2*

5. Lease Serial No.
NMLC069420

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
[X] Oil Well [ ] Gas Well [ ] Other

8. Well Name and No.
West Corbin Federal Battery

2. Name of Operator
EOG Resources Inc.

9. API Well No.
30-025-30683

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

3b. Phone No. (*include area code*)
432-686-3689

10. Field and Pool, or Exploratory Area
South Corbin

4. Location of Well (*Footage, Sec., T., R., M., or Survey Description*)
660' FEL & 1980' FNL U/L H
Sec 18, T18S, R33E

11. County or Parish, State
Lea NM

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| [X] Notice of Intent | [ ] Acidize | [ ] Deepen | [ ] Production (Start/Resume) | [ ] Water Shut-Off |
| [ ] Subsequent Report | [ ] Alter Casing | [ ] Fracture Treat | [ ] Reclamation | [ ] Well Integrity |
| [ ] Final Abandonment Notice | [ ] Casing Repair | [ ] New Construction | [ ] Recomplete | [ ] Other |
| | [ ] Change Plans | [ ] Plug and Abandon | [ ] Temporarily Abandon | |
| | [ ] Convert to Injection | [ ] Plug Back | [X] Water Disposal | |

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 final site is ready for final inspection.)

**Request for approval of method for produced water disposal.**
**Water disposal information sheet is attached.**

SEE ATTACHED FOR CONDITIONS OF APPROVAL

RECEIVED
DEC 13 2010
HOBBSOCD

ACCEPTED FOR RECORD
DEC 9 2010
s/ JD Whitlock Jr
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

14. I hereby certify that the foregoing is true and correct
Name (*Printed/Typed*) Stan Wagner — Title Regulatory Analyst

Signature Stan Wagner — Date 12/1/10

**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. EG 12-14-10 | 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.

**Water Production & Disposal Information**

**West Corbin #1 Battery**

In order to process your disposal request, the following information must be completed:

1. Name of formations producing water on the lease. **Wolfcamp**

2. Amount of water produced from all formations in barrel per day. **308 BWPD**

3. Attach a current water analysis of produced water from all zones showing at least the total dissolved solids, ph, and the concentrations of chlorides and sulfates. (one sample will suffice if the water is commingled ) **Attached**

4. How water is stored on the lease. **500 BBL Fiberglass Tanks**

5. How water is moved to the disposal facility. **Transferred through flowline**

6. Identify the Disposal Facility by:

   A. Facility Operators Name. **EOG Resources, Inc.**

   B. Name of facility or well name & number. **West Corbin Federal #16**

   C. Type of facility or well (WDW) (WIW) etc. **WDW**

   D. Location: **990' FSL & 1980' FEL**

   1/4 1/4 **SWSE** Section **7** Township **18S** Range **33E**

7. Attatch a copy of the State issued permit for the Disposal Facility

Submit 1 original and 5 copies on Sundry Notice 3160-5

Analytical Laboratory Report for:

**EOG RESOURCES PBR**

BJ Chemical Services

Account Representative:
Lavell Hanson

# Production Water Analysis

Listed below please find water analysis report from: WEST CORBIN FEDERAL, 8

| | | | |
|---|---|---|---|
| Lab Test No: | 2010117689 | Sample Date: | 04/07/2010 |
| Specific Gravity: | 1.123 | | |
| TDS: | 188890 | | |
| pH: | 6.40 | | |

| Cations: | mg/L | as: |
|---|---|---|
| Calcium | 2219 | $(Ca^{++})$ |
| Magnesium | 574 | $(Mg^{++})$ |
| Sodium | 63880 | $(Na^{+})$ |
| Iron | 22.00 | $(Fe^{++})$ |
| Potassium | 1473.0 | $(K^{+})$ |
| Barium | 0.05 | $(Ba^{++})$ |
| Strontium | 77.00 | $(Sr^{++})$ |
| Manganese | 0.62 | $(Mn^{++})$ |
| **Anions:** | **mg/L** | **as:** |
| Bicarbonate | 244 | $(HCO_3^{-})$ |
| Sulfate | 3100 | $(SO_4^{=})$ |
| Chloride | 117300 | $(Cl^{-})$ |
| **Gases:** | | |
| Carbon Dioxide | 140 | $(CO_2)$ |
| Hydrogen Sulfide | 17 | $(H_2S)$ |

EOG RESOURCES PBR Lab Test No: 2010117689

## DownHole SAT™ Scale Prediction @ 100 deg. F

BJ Chemical Services

| Mineral Scale | Saturation Index | Momentary Excess (lbs/1000 bbls) |
|---|---|---|
| Calcite (CaCO3) | 0.70 | -0.03 |
| Strontianite (SrCO3) | 0.02 | -6.56 |
| Anhydrite (CaSO4) | 0.66 | -663.21 |
| Gypsum (CaSO4*2H2O) | 0.73 | -535.48 |
| Barite (BaSO4) | 0.18 | -0.39 |
| Celestite (SrSO4) | 0.27 | -360.62 |
| Siderite (FeCO3) | 5.21 | 0.08 |
| Halite (NaCl) | 0.14 | -296184.81 |
| Iron sulfide (FeS) | 10.93 | 4.18 |

**Interpretation of DHSat Results:**

**The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) to positive (precipitating) values. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.**

Analytical Laboratory Report for:

**EOG RESOURCES PBR**

BJ Chemical Services

Account Representative:
Lavell Hanson

# Production Water Analysis

Listed below please find water analysis report from: WEST CORBIN FEDERAL, 30

| | | | |
|---|---|---|---|
| Lab Test No: | 2010135886 | Sample Date: | 07/15/2010 |
| Specific Gravity: | 1.130 | | |
| TDS: | 199090 | | |
| pH: | 6.60 | | |

| Cations: | mg/L | as: |
|---|---|---|
| Calcium | 2282 | $(Ca^{++})$ |
| Magnesium | 558 | $(Mg^{++})$ |
| Sodium | 72000 | $(Na^{+})$ |
| Iron | 0.77 | $(Fe^{++})$ |
| Potassium | 885.0 | $(K^{+})$ |
| Barium | 0.00 | $(Ba^{++})$ |
| Strontium | 70.00 | $(Sr^{++})$ |
| Manganese | 0.15 | $(Mn^{++})$ |
| **Anions:** | **mg/L** | **as:** |
| Bicarbonate | 244 | $(HCO_3^{-})$ |
| Sulfate | 2450 | $(SO_4^{=})$ |
| Chloride | 120600 | $(Cl^{-})$ |
| **Gases:** | | |
| Carbon Dioxide | 90 | $(CO_2)$ |
| Hydrogen Sulfide | 51 | $(H_2S)$ |

EOG RESOURCES PBR Lab Test No: 2010135886

## DownHole SAT™ Scale Prediction @ 100 deg. F

BJ Chemical Services

| Mineral Scale | Saturation Index | Momentary Excess (lbs/1000 bbls) |
|---|---|---|
| Calcite (CaCO3) | 0.97 | -0.00 |
| Strontianite (SrCO3) | 0.02 | -7.21 |
| Anhydrite (CaSO4) | 0.54 | -875.79 |
| Gypsum (CaSO4*2H2O) | 0.60 | -786.21 |
| Barite (BaSO4) | 0.00 | -0.61 |
| Celestite (SrSO4) | 0.19 | -470.64 |
| Siderite (FeCO3) | 0.24 | -0.31 |
| Halite (NaCl) | 0.15 | -295654.94 |
| Iron sulfide (FeS) | 2.26 | 0.10 |

**Interpretation of DHSat Results:**

**The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) to positive (precipitating) values. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.**

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

*ADMINISTRATIVE ORDER NO. SWD-389*

**APPLICATION OF MERIDIAN OIL, INC.**

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Meridian Oil, Inc. made application to the New Mexico Oil Conservation Division on June 4, 1990, for permission to complete for salt water its West Corbin Federal Well No. 16, located in Unit O of Section 7, Township 18 South, Range 33 East, NMPM, Lea County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations.

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified; and

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met.

(4) No objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED THAT:

(1) The applicant herein, Meridian Oil, Inc. is hereby authorized to complete its West Corbin Federal Well No. 16 located in Unit O of Section 7, Township 18 South, Range 33 East, NMPM, Lea County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the Bone Spring formation at approximately 8666 feet to approximately 8982 feet through 2 7/8- inch plastic-lined tubing set in a packer located at approximately 8600 feet.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 1733 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Bone Spring formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, jurisdiction of this cause is hereby retained by the Division for such further order or orders as may be deemed necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall submit monthly reports of the disposal operations in accordance with Rule 706 and 1120 of the Division Rules and Regulations.

Approved at Santa Fe, New Mexico, on this 21st day of June, 1990.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

# BUREAU OF LAND MANAGEMENT
## Carlsbad Field Office
## 620 East Greene Street
## Carlsbad, New Mexico 88220
## 575-234-5972

## Disposal of Produced Water From Federal Wells
## Conditions of Approval

Approval of the produced water disposal methodology is subject to the following conditions of approval:

1. This agency shall be notified of any change in your method or location of disposal.
2. Compliance with all provisions of Onshore Order No. 7.
3. This agency shall be notified of any spill or discharge as required by NTL-3A.
4. This agency reserves the right to modify or rescind approval whenever it determines continued use of the approved method may adversely affect the surface or subsurface environments.
5. All above ground structures on the lease shall be painted Shale Green (5Y 4/2), or as per approved APD stipulations. This is to be done within 90 days, if you have not already done so.
6. Any on-lease open top storage tanks shall be covered with a protective cover to prevent entry by birds and other wildlife.
7. This approval should not constitute the granting of any right-of-way or construction rights not granted by the lease instrument.
8. If water is transported via a pipeline that extends beyond the lease boundary, then you need to submit within 30 days an application for right-of-way approval to the Realty Section in this office if you have not already done so.
9. Disposal at any other site will require prior approval.
10. Subject to like approval by NMOCD.

9/30/2010