

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

070 Farmington, NM

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0136

Expires November 30, 2000

- 1a. Type of Work: ☒ DRILL ☐ REENTER
- b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator

Great Western Drilling Company

3A. Address

c/o Walsh Engineering, 7415 E. Main, Farmington, NM 87402

3b. Phone No. (include area code)

(505) 327-4892

4. Location of Well (Report location clearly and in accordance with any State requirements. *)

At surface 1955' FSL and 1835' FEL

At proposed prod. Zone

14. Distance in miles and direction from nearest town or post office*

25 miles southeast of Blanco, NM

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

827'

16. No. of Acres in lease

640 +

17. Spacing Unit dedicated to this well

SE/4 160 acres

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

1000'

19. Proposed Depth

2365 +/-

20. BLM/BIA Bond No. on file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

6523' GR

22. Approximate date work will start*

April 1, 2004

23. Estimated duration

1 week

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office.
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the authorized office.

25. Signature Paul C. Thompson Name (Printed/Typed) Paul C. Thompson, P.E. Date 1/25/2004

Title

Agent

Approved by (Signature) /s/ David J. Mankiewicz

Name (Printed/Typed)

Date

MAR 1 2004

Title

Office

Application approval 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.

Conditions of approval, if any, are attached.

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.

*(Instructions on reverse)

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

NMOCD

District I
PO Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised February 21, 1994

District II
PO Drawer 00, Artesia, NM 88211-0719

Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-27590		*Pool Code 71439	*Pool Name BALLARD PICTURED CLIFFS
*Property Code 33579	*Property Name NORDHAUS FEDERAL		*Well Number 8
*GRID No. 9338	*Operator Name GREAT WESTERN DRILLING		*Elevation 6523'

¹⁰ Surface Location

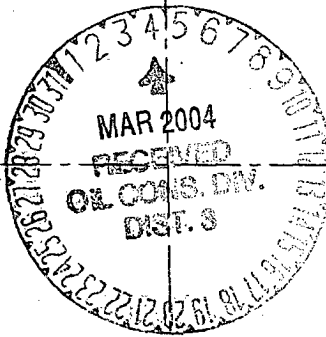

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	19	25N	7W		1955	SOUTH	1835	EAST	RIO ARriba

¹¹ 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

¹² Dedicated Acres 160.0 Acres - (SE/4)	¹³ Joint or Infill Y	¹⁴ Consolidation Code	¹⁵ Order No.
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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

¹⁶ 1325.28' LOT 1	1328.58'	2657.82'	<div> LAT: 36°23.0448' N LONG: 107°36.5892' W DATUM: NAD27</div>	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. <u>Paul C. Thompson</u> Signature <u>Paul C. Thompson</u> Printed Name <u>AGENT</u> Title <u>1/25/04</u> Date
5289.24' LOT 2				<div>¹⁸ 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. Survey Date: DECEMBER 17, 2003 Signature and Seal of Professional Surveyor <div> <u>JASON C. EDWARDS</u> Certificate Number 15269</div></div>
LOT 3				
LOT 4 1342.44'	1331.22'	2661.78'		

GREAT WESTERN DRILLING CO.
OPERATIONS PLAN
Nordhaus Federal #8

I. Location: 1955' FSL & 1835' FEL
Sec 19 T25N R7W
San Juan County, NM

Date: January 23, 2004

Field: Ballard Pictured Cliffs
Surface: BLM
Minerals: SF - 078477

Elev: GL 6523'

II. Geology: Surface formation _ Nacimiento

A. Formation Tops	Depths
Ojo Alamo	1415'
Kirtland	1575'
Pictured Cliffs	2165'
Total Depth	2365'

Estimated depths of anticipated water, oil, gas, and other mineral bearing formations which are expected to be encountered:

Water and gas - 2165'.

B. Logging Program: Induction/GR and neutron/density logs at TD.

C. No over pressured zones are expected in this well. No H₂S zones will be penetrated in this well. Max. BHP = 500 psig.

III. Drilling

A. Contractor:

B. Mud Program:

The surface hole will be drilled with a fresh water mud.

The production hole will be drilled with a fresh water polymer mud. The weighting material will be drill solids or if conditions dictate, barite. The maximum mud weight expected is 8.5 ppg.

C. Minimum Blowout Control Specifications:

Double ram type or annular type 2000 psi working pressure BOP with a rotating head. See the attached exhibits (#1 and #2) for details on the BOP equipment. All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1000 psi.

C. Cont.

The blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi.

IV. Materials

A. Casing Program:

Hole Size	Depth	Casing Size	Wt. & Grade
8-3/4"	120'	7"	20# K-55
6-1/4"	2365'	4-1/2"	10.5# K-55

B. Float Equipment:

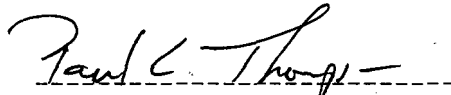
a) Surface Casing: None

b) Production Casing: 4-1/2" cement guide shoe and self fill insert float collar. Place float one joint above shoe. Five centralizers spaced every other joint above shoe and five turbolizers every other joint from the top of the well.

V. Cementing:

Surface casing: 7" - Use 30 sx (36 cu. ft.) of Cl "B" with 2% CaCl_2 (Yield = 1.18 cu. ft./sk; slurry weight = 15.6 PPG). 100% excess to circulate cement to surface. WOC 12 hours. Pressure test surface casing to 600 psi for 30 min.

Production Casing: 4-1/2" - Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 30 bbls of fresh water. Lead with 180sx (371 cu.ft) of Cl "B" with 2% SMS, 1/4#/sk. celloflake. (Yield = 2.06 cu.ft./sk; slurry weight = 12.5 PPG). Tail with 100 sx (118 cu.ft.) of Cl "B" with 2% CaCl_2 , and 1/4#/sk. celloflake/sk. (Yield = 1.18 cu. ft./sk; slurry weight = 15.6 PPG) Total cement volume is 489 cu.ft. (100% excess to circulate cement to surface).


Paul C. Thompson, P.E.