

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEC 12 2007

RCVD MAR 3 '08
OIL CONS. DIV.

DIST. 3
FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM 021124	
b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Great Western Drilling Company		7. If Unit or CA Agreement, Name and No.	
3A. Address c/o Walsh Engineering, 7415 E. Main, Farmington, NM 87402		8. Lease Name and Well No. Newberry Federal #1E	
3b. Phone No. (include area code) (505) 327-4892		9. API Well No. 30-045-34532	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1690' FNL and 990' FWL At proposed prod. Zone		10. Field and Pool, or Exploratory Basin Dakota	
14. Distance in miles and direction from nearest town or post office* 5 miles northwest of Aztec, NM		11. Sec, T., R, M., or Blk, and Survey or Area E Sec. 17, T31N, R12W	
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 990'	16. No. of Acres in lease 640 +	17. Spacing Unit dedicated to this well W/2 320 acres	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 550'	19. Proposed Depth 7155' +/-	20. BLM/BIA Bond No. on file NM 0996	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5934' GR	22. Approximate date work will start* January 1, 2008	23. Estimated duration 2 weeks	

24. Attachments

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

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
SEE ATTACHED FOR CONDITIONS OF APPROVAL |
| 2. A Drilling Plan | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. 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 12/11/2007
Title		
Agent		
Approved by (Signature) [Signature]	Name (Printed/Typed)	Date 2/29/08
Title AFM	Office FFC	

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)



H₂S POTENTIAL EXISTS

NOTIFY AZTEC OGD 24 HRS PRIOR TO CASING & CEMENT

OPERATOR

MAR 03 2008

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

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS
DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

District I
1625 N French Dr., Hobbs, NM 88240

District II
1301 W. Grand Avenue, Artesia, NM 88210

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

District IV
1220 S St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised October 12, 2005
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

DEC 12 2007

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-34532		*Pool Code 71599	*Pool Name BASIN DAKOTA
*Property Code 4791	*Property Name NEWBERRY FEDERAL		*Well Number 1E
*GRID No 9338	*Operator Name GREAT WESTERN DRILLING		*Elevation 5934'

¹⁰ Surface Location

UL or lot no E	Section 17	Township 31N	Range 12W	Lot Idn	Feet from the 1690	North/South line NORTH	Feet from the 990	East/West line WEST	County SAN JUAN
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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
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¹² Dedicated Acres 320.0 Acres - (W/2)	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

<div><p>¹⁶</p><p>5264.82'</p><p>1690'</p><p>990'</p><p>LAT: 36.90198°N LONG: 108.12498°W DATUM: NAD1983</p><p>5287.92'</p><p>17</p><p>5276.70'</p><p>5210.04'</p><p>LEASE NM-021124</p></div>	<div><p>¹⁷ OPERATOR CERTIFICATION</p><p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p><p><u>Paul C. Thompson</u> 12/11/07 Signature Date <u>Paul C. Thompson</u> Printed Name</p><p>¹⁸ SURVEYOR CERTIFICATION</p><p>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.</p><p>Survey Date: NOVEMBER 9, 2007</p><p>Signature and Seal of Professional Surveyor</p><div><p>JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR</p></div><p><u>JASON C. EDWARDS</u> Certificate Number 15269</p></div>
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Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

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

WELL API NO.

30-045-34532

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

FED NM 021124

7. Lease Name or Unit Agreement Name
Newberry

8. Well Number #1E

9. OGRID Number 9338

10. Pool name or Wildcat

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS)

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

2. Name of Operator
Great Western Drilling Company

3. Address of Operator
7415 East Main Street Farmington, NM 87401

4. Well Location

Unit Letter E: 1690 feet from the North line and 990 feet from the West line

Section 17 Township 31N Range 12W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5934'

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Reserve Depth to Groundwater >50' Distance from nearest fresh water well >1000' Distance from nearest surface water <1000'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume 12,000 bbls; Construction Material

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: Reserve Pit



SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER:



13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

3/1/08 Great Western Drilling Company requests permission to construct a drilling reserve pit.

RCVD MAR 3 '08
OIL CONS. DIV.

DIST. 3

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE John C. Thompson TITLE Agent/Engineer DATE 3/3/08

Type or print name John C. Thompson
For State Use Only

E-mail address: john@walsheng.net

Telephone No. 505-327-4892

APPROVED BY: [Signature] TITLE Deputy Oil & Gas Inspector, District #3 DATE MAR 03 2008

Conditions of Approval (if any):

GREAT WESTERN DRILLING
OPERATIONS PLAN
Newberry Federal #1E

I. Location: 1690' FNL & 990' FWL
Sec 17, T31N, R12W
San Juan County, NM

Date: December 11, 2007

Field: Basin Dakota
Surface: BLM
Minerals: NM 021124

Elev: GL 5934'

II. Geology: Surface formation _ Nacimiento

A. Formation Tops	Depths
Ojo Alamo	500'
Kirtland	590'
Fruitland	1845'
Pictured Cliffs	2225'
Cliff House	3890'
Menefee	4105'
Point Lookout	4675'
Mancos	5015'
Gallup	5995'
Greenhorn	6715'
Graneros	6780'
Dakota	6840'
Morrison	7080'
Total Depth	7155'

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

Water and gas - 1845', 2225', 3890', 4675', and 6840'.

B. Logging Program: Induction/GR and 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 = 2000 psig.

III. Drilling

A. Contractor:

B. Mud Program:

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

The intermediate 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 8.9 ppg.

The production hole will be drilled with air or air/mist.

C. Minimum Blowout Control Specifications:

Double ram type 2000 psi working pressure BOP with a rotating head. See the attached Exhibit #1 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.

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
12-1/4"	200'	9-5/8"	36# J-55
8-3/4"	2600'	7"	20# J-55
6-1/4"	7155'	4-1/2"	10.5# & 11.6# J-55

B. Float Equipment:

a) Surface Casing: Notched collar on bottom and 3 centralizers on the bottom 3 joints.

b) Intermediate Casing: 7" cement guide shoe and self fill insert float collar. Place float one joint above shoe. Ten centralizers spaced every other joint above shoe and ten turbolizers every other joint from 1300'.

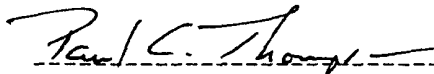
c) Production Casing: 4-1/2" whirler type cement nosed guide shoe and a float collar on top of the bottom joint.

V. Cementing:

Surface casing: 9-5/8" - Use 110 sx (130 cu. ft.) of Type 5 with 2% CaCl_2 and $\frac{1}{4}$ #/sk celloflake (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 1000 psi for 30 min.

Intermediate Casing: 7" - Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 30 bbls of fresh water. **Lead** with 290 sx (597 cu.ft) of Type 5 with 2% sodium metasilicate, 5 #/sk gilsonite, and $\frac{1}{4}$ #/sk. celloflake. (Yield = 2.06 cu.ft./sk; slurry weight = 12.5 PPG). **Tail** with 150 sx (185 cu.ft.) of Type 5 with 5 #/sk gilsonite, and $\frac{1}{4}$ #/sk. celloflake. (Yield = 1.23 cu. ft./sk; slurry weight = 15.6 PPG). Total cement volume is 782 cu.ft. (100% excess to circulate cement to surface). WOC for 12 hrs. Pressure test the BOP and casing to 1500 psi.

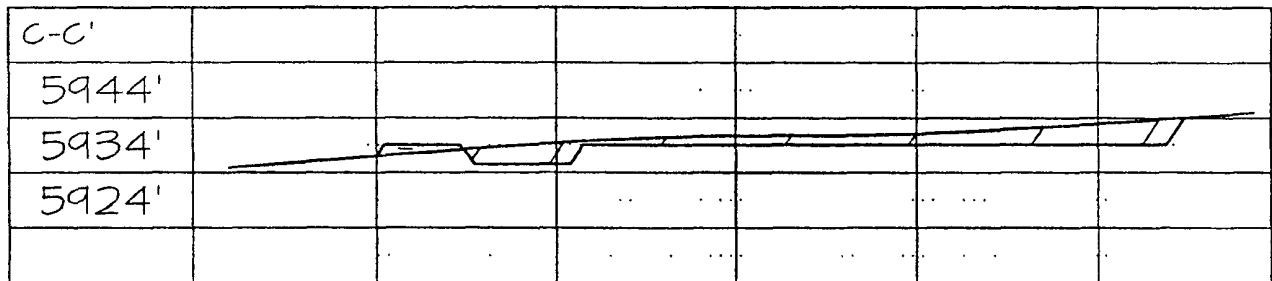
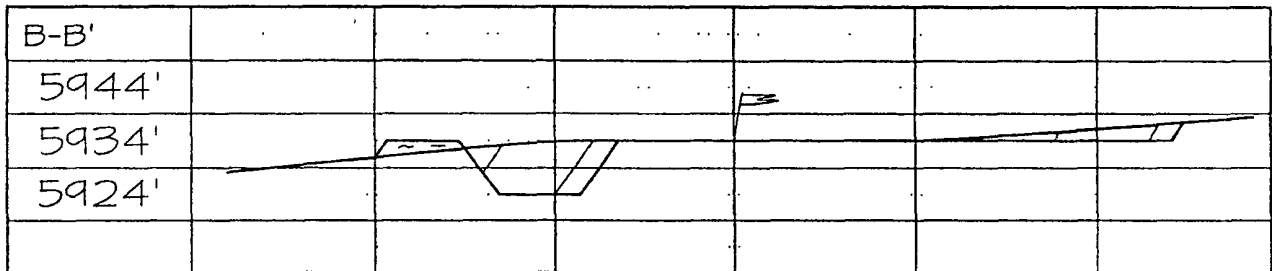
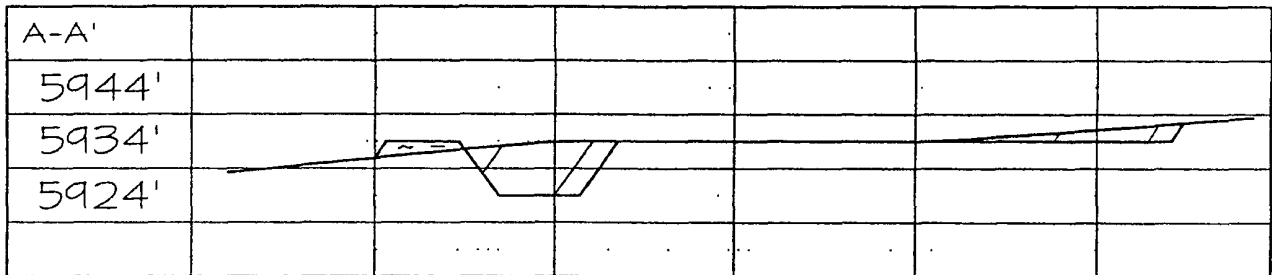
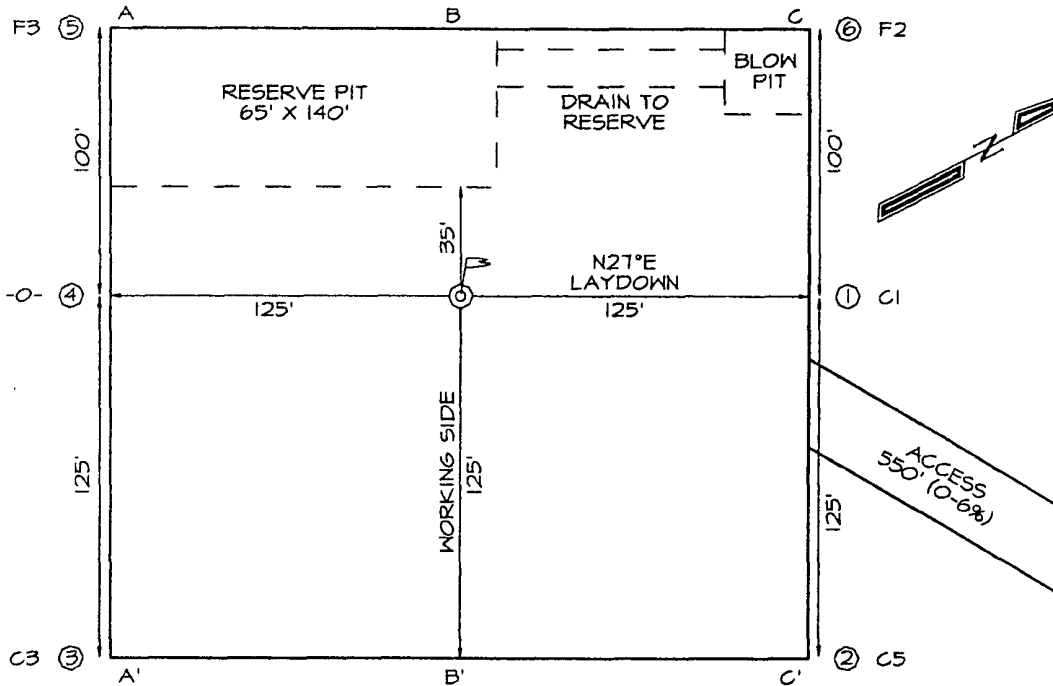
Production Casing: 4-1/2" - Blow hole clean. Precede cement with 20 bbls of gel water and 10 bbls of water. **Lead** with 315 sx (624 cu.ft.) of Premium Lite HS with 0.65% FL-52, 0.32% CD-32, $\frac{1}{4}$ #/sk celloflake, and 4% phenoseal. (Yield = 1.98 cu.ft./sk; slurry weight = 12.5 PPG). **Tail** with 100 sx (196 cu.ft.) of Premium Lite HS with 0.65% FL-52, and 0.32% CD-32. (Yield = 1.96 cu.ft./sk; slurry weight = 12.5 PPG). Total cement volume is 820 cu.ft. (70% excess to circulate 100' above the intermediate casing).



Paul C. Thompson, P.E.

GREAT WESTERN DRILLING NEWBERRY FEDERAL #1E
1690' FNL & 990' FWL, SECTION 17, T31N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO GROUND ELEVATION: 5934'

LATITUDE: 36.90198° N
 LONGITUDE: 108.12498° W
 DATUM: NAD1983



Great Western Drilling Company

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Exhibit #1

Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

