

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Farmington Field Office

DEC 18 2007

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 0607 93313
1b. 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. Atlantic C #101E
3b. Phone No. (include area code) (505) 327-4892		9. API Well No. 30-045-34546
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1165' FSL and 795' FEL At proposed prod. Zone		10. Field and Pool, or Exploratory Basin Dakota
14. Distance in miles and direction from nearest town or post office* 3 miles east of Aztec, NM		11. Sec., T., R., M., or Blk. and Survey or Area P Sec. 6, T30N, R10W
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 795'	16. No. of Acres in lease 640 +	17. Spacing Unit dedicated to this well E/2 321.98 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 967'	19. Proposed Depth 7520' +/-	20. BLM/BIA Bond No. on file NM 0996
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6219' 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).
RCVD MAR 20 '08 |
| 2. A Drilling Plan. | 5. Operator certification.
OIL CONS. DIV. |
| 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.
DIST. 3 |

25. Signature <i>Paul C. Thompson</i>	Name (Printed/Typed) Paul C. Thompson, P.E.	Date 12/17/2007
Title Agent		
Approved by (Signature) <i>D. Mankin</i>	Name (Printed/Typed) AFM	Date 3/19/08
Title FTD		

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 EXIST

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

NMOCDB
MAR 24 2008 AL

' 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

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

DEC 18 2007

☐ AMENDED REPORT

Bureau of Land Management
Farmington Field Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number 30-045-34546	'Pool Code 71599	'Pool Name BASIN DAKOTA
'Property Code 32741	'Property Name ATLANTIC C	'Well Number 101E
'OGRID No 9338	'Operator Name GREAT WESTERN DRILLING	'Elevation 6219'

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
P	6	30N	10W		1165	SOUTH	795	EAST	SAN JUAN

¹¹Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot (in	Feet from the	North/South line	Feet from the	East/West line	County
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¹² Dedicated Acres	321.98 Acres - (E/2)	¹³ Joint or Infill	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 1284.36' 1352.34' 2646.60' 1343.76'

1314.72' LOT 11 LOT 10 LOT 9 LOT 8

LEASE NM-0607

1314.72' LOT 12 LOT 13 LOT 14 LOT 15 1330.56'

6

LOT 19 LOT 18 LOT 17 LOT 16

2629.44' LOT 20 LOT 21 LOT 22 LOT 23

1246.74' 1319.34' 2638.68' 2560.46'

LAT: 36.83651°N
LONG: 107.91805°W
DATUM: NAD1983

795'
1165'

17 OPERATOR CERTIFICATION

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

Paul C. Thompson 12/17/07
Signature Date

Paul C. Thompson
Printed Name

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 6, 2007

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

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

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

Form C-103
May 27, 2004

WELL API NO.

~~30-045-25339~~ 30-045-34546

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

NM 0607 FEDERAL

7. Lease Name or Unit Agreement Name
Atlantic C

8. Well Number #101E

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 ☐

RECEIVED

2. Name of Operator

Great Western Drilling Company

FEB 27 2008

3. Address of Operator

7415 East Main Street Farmington, NM 87401

Bureau of Land Management
Farmington Field Office

4. Well Location

Unit Letter P: 1165 feet from the South line and 795 feet from the East line

Section 6 Township 30N Range 10W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6219'

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 <100' ☐

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.

2/13/08 Great Western Drilling Company requests permission to construct a drilling reserve pit.

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 Paul C. Thompson TITLE AGENT DATE 2/13/08

Type or print name Paul C. Thompson

E-mail address: paul@walsheng.net

Telephone No. 505-327-4892

For State Use Only

APPROVED BY: [Signature] TITLE Deputy Oil & Gas Inspector, District #3 DATE MAR 24 2008

Conditions of Approval (if any):

GREAT WESTERN DRILLING
OPERATIONS PLAN
Atlantic C #101E

I. Location: 1165' FSL & 795' FEL Date: December 17, 2007
 Sec 6, T30N, R10W
 San Juan County, NM

Field: Basin Dakota Elev: GL 6219'
Surface: BLM
Minerals: NM 0607

II. Geology: Surface formation _ Nacimiento

A. Formation Tops	Depths
Ojo Alamo	1380'
Kirtland	1535'
Fruitland	2470'
Pictured Cliffs	2820'
Cliff House	4425'
Menefee	4620'
Point Lookout	5045'
Mancos	5395'
Gallup	6340'
Greenhorn	7080'
Graneros	7140'
Dakota	7190'
Morrison	7470'
Total Depth	7520'

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

Water and gas - 2470', 2820', 4425', 5045', and 7190'.

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"	3080'	7"	20# J-55
6-1/4"	7520'	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 1500'.


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.

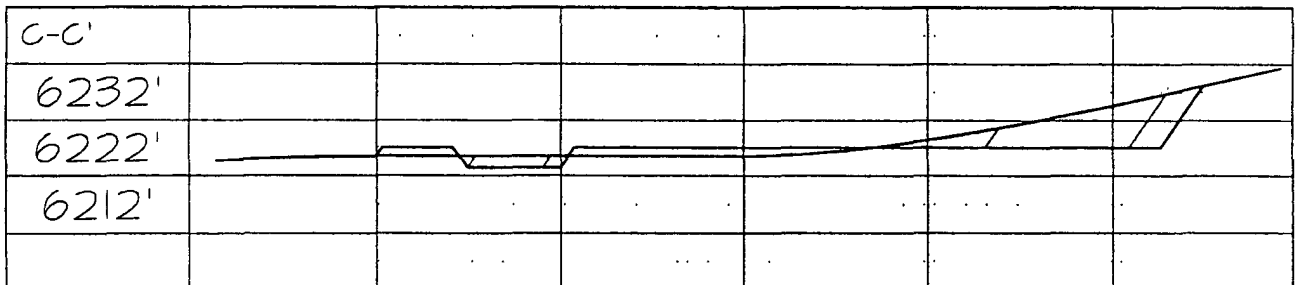
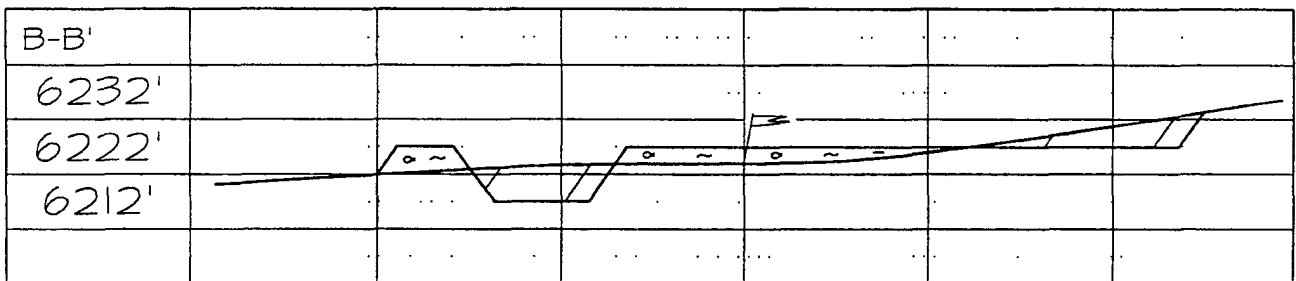
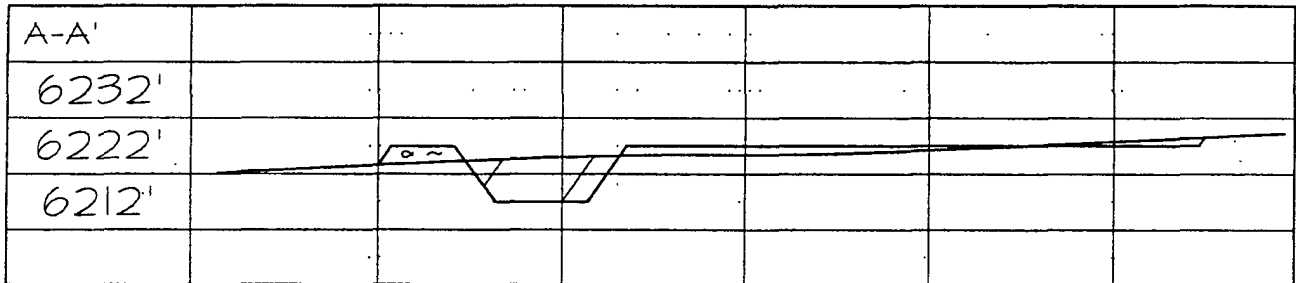
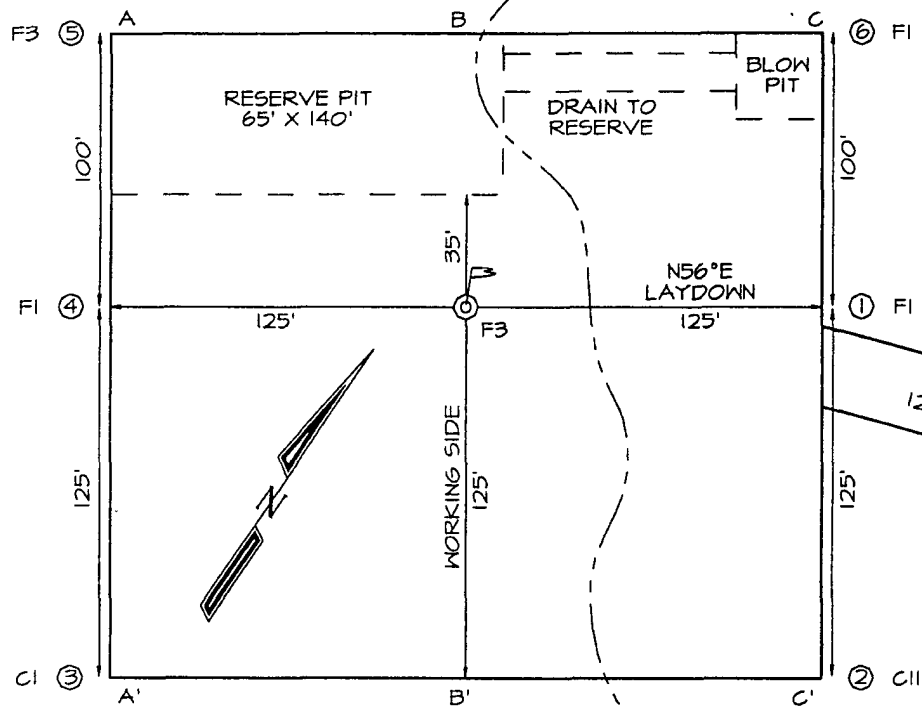
Intermediate Casing: 7" - Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 30 bbls of fresh water. **Lead** with 360 sx (742 cu.ft) of Type 5 with 2% sodium metasilicate, 5 #/sk gilsonite, and $\frac{1}{4}$ #/sk. celloflake. (Yield = 2.06 cu.ft./sk; slurry 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 927 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 305 sx (604 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 800 cu.ft. (70% excess to circulate 100' above the intermediate casing).


Paul C. Thompson, P.E.

GREAT WESTERN DRILLING ATLANTIC C #101E
1165' FSL & 795' FEL, SECTION 6, T30N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO GROUND ELEVATION: 6219'

LATITUDE: 36.83651° N
 LONGITUDE: 107.91805° 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)

