

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

2004 MAY -7 AM 11:38

070 Farmington, NM

FORM APPROVED

OMB No. 1004-0136

Expires November 30, 2000

5. Lease Serial No. **NM 93313**

NM 0607

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Atlantic C #102

9. API Well No.

3004532351

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

10. Field and Pool, or Exploratory

Basin Dakota

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

At surface **660' FSL and 2175' FWL**

At proposed prod. Zone

11. Sec., T., R., M., or Blk. and Survey or Area

N Sec. 6, T30N, R10W

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

3 miles east of Aztec, NM

12. County or Parish

San Juan

13. State

NM

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

660'

16. No. of Acres in lease

640 +

17. Spacing Unit dedicated to this well

314.77 W/2

3.2020 acres

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

1400'

19. Proposed Depth

7435' +/-

20. BLM/BIA Bond No. on file

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

6108' GR

22. Approximate date work will start*

July 1, 2004

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.
2. A Drilling Plan.
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.
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
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

5/5/2004

Title

Agent

Approved by (Signature)

[Signature]
AFM

Name (Printed/Typed)

Date

2-9-05

Title

Office

FFO

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)

NMOCD

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
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 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

*API Number 30-045-32351		*Pool Code 71599	*Pool Name BASIN DAKOTA
*Property Code 32741	*Property Name ATLANTIC C		*Well Number 102
*GRID No. 9338	*Operator Name GREAT WESTERN DRILLING		*Elevation 6108'

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
N	6	30N	10W		660	SOUTH	2175	WEST	SAN JUAN

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

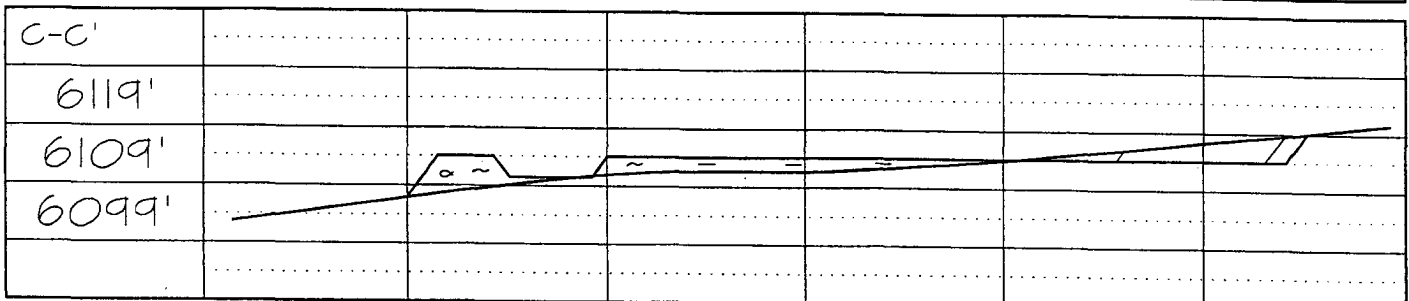
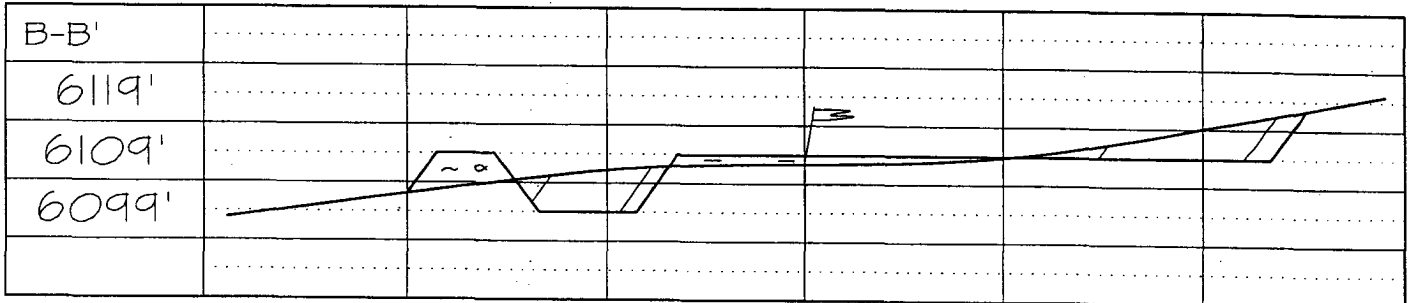
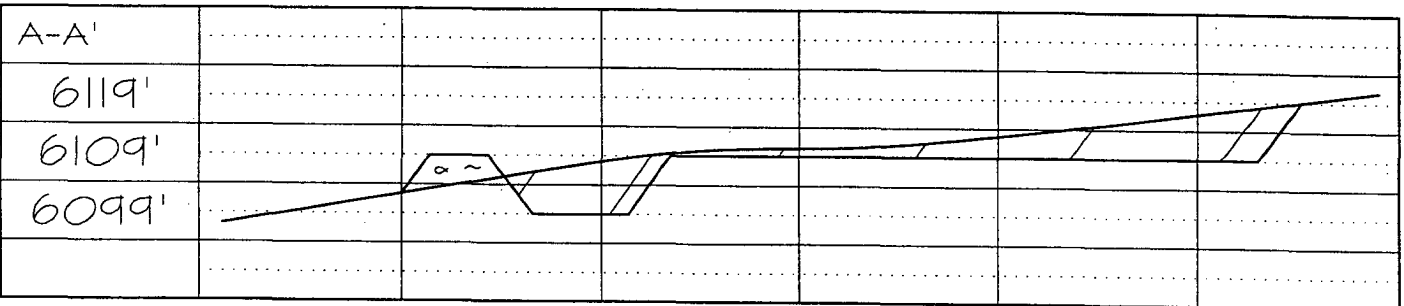
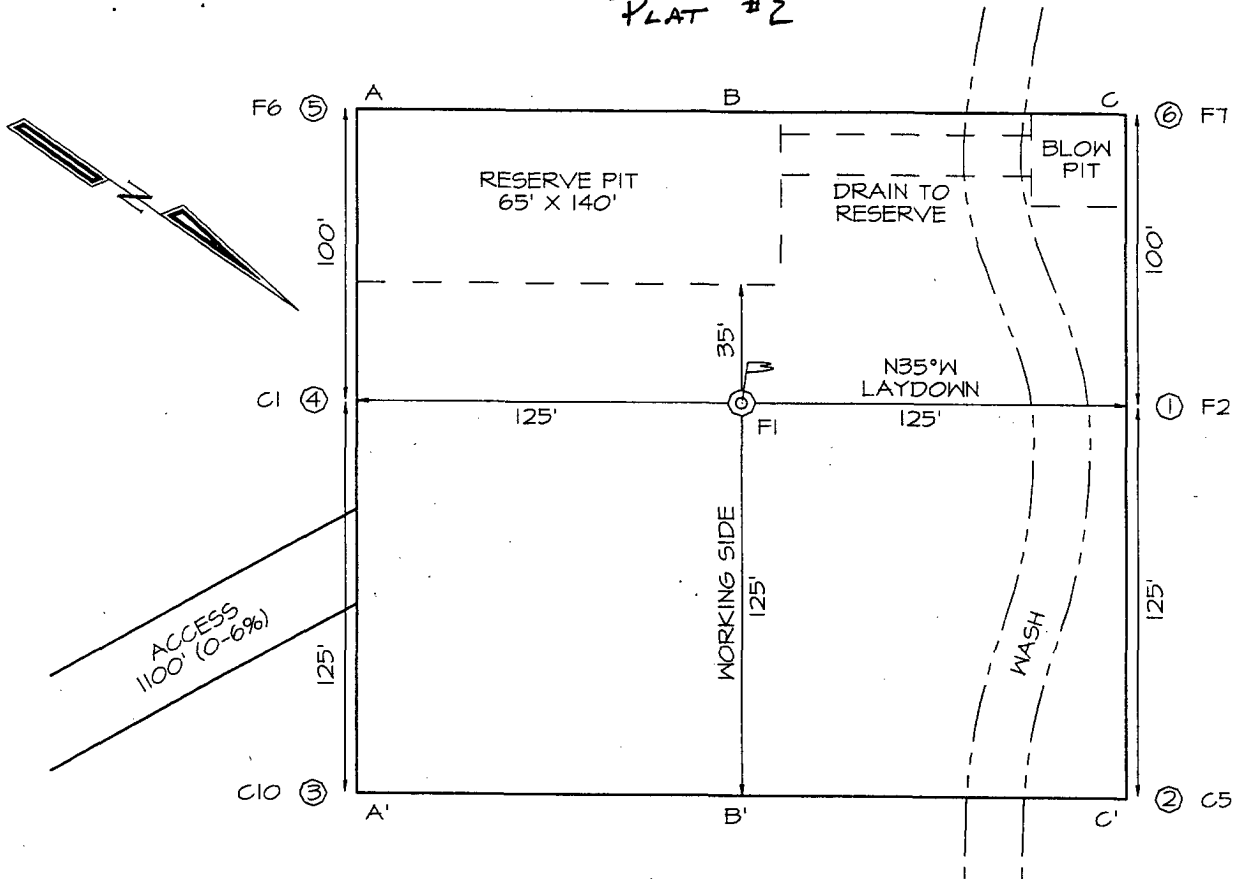
12 Dedicated Acres 314.77 317.21 Acres (S/2)	13 Joint or Infill .4	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div>16 1284.36' 1352.34' 2646.60' 1343.76'</div> <div>LOT 11 LOT 10 LOT 9 LOT 8</div> <div>1314.72' 1314.72' 1330.56'</div> <div>LOT 12 LOT 13 LOT 14 LOT 15</div> <div>2629.44' 2660.46'</div> <div>LOT 19 LOT 18 LOT 17 LOT 16</div> <div>LEASE NM 0607 nmnm93313</div> <div>LOT 20 LOT 21 LOT 22 LOT 23</div> <div>2175' 1246.74' 1319.34' 2638.68'</div> <div>LAT: 36°50.1143' N LONG: 107°55.5088' W DATUM: NAD27</div>				<div>17 OPERATOR CERTIFICATION</div> <div>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</div> <div><u>Paul C. Thompson</u> Signature</div> <div><u>Paul C. Thompson</u> Printed Name</div> <div><u>AGENT</u> Title</div> <div><u>5/5/04</u> Date</div>	
				<div>18 SURVEYOR CERTIFICATION</div> <div>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.</div> <div>Survey Date: <u>MARCH 26, 2004</u></div> <div>Signature and Seal of Professional Surveyor</div> <div></div> <div><u>JASON C. EDWARDS</u> Certificate Number 15269</div>	

GREAT WESTERN DRILLING ATLANTIC C #102
660' FSL & 2175' FWL, SECTION 6, T30N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO GROUND ELEVATION: 6108'

PLAT #2



**GREAT WESTERN DRILLING
OPERATIONS PLAN
Atlantic C #102**

I. Location: 660' FSL & 2175' FWL Date: May 5, 2004
Sec 6, T30N, R10W
San Juan County, NM

Field: Basin Dakota Elev: GL 6108'
Surface: BLM
Minerals: NM 0607

II. Geology: Surface formation _ Nacimiento

<u>A. Formation Tops</u>	<u>Depths</u>
Ojo Alamo	1270'
Kirtland	1425'
Fruitland	2360'
Pictured Cliffs	2710'
Cliff House	4315'
Menefee	4510'
Point Lookout	4935'
Mancos	4510'
Gallup	6230'
Greenhorn	6970'
Graneros	7025'
Dakota	7080'
Morrison	7360'
Total Depth	7435'

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

Water and gas - 2360', 2710', 4315', 4935', and 7080'.

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 8.5 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"	2960'	7"	20# J-55
6-1/4"	7435'	4-1/2"	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'.

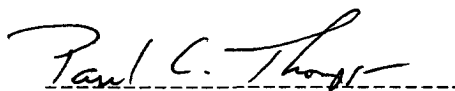
c) Production Casing: 4-1/2" whirler type cement nosed guide shoe and a float collar on top of the bottom joint.

V. Cementing:

Surface casing: 9-5/8" - Use 110 sx (130 cu. ft.) of Cl "B" 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 340 sx (711 cu.ft) of Cl "B" with 2% sodium metasilicate, 5 #/sk gilsonite, and $\frac{1}{4}$ #/sk. celloflake. (Yield = 2.09 cu.ft./sk; slurry weight = 12.5 PPG). **Tail** with 150 sx (185 cu.ft.) of Cl "B" 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 896 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 (637 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 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)

