

DIST. 3

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

Form 3160-3  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM-025446	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input 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 N/A	
2. Name of Operator ELM RIDGE EXPLORATION COMPANY, LLC		7. If Unit or CA Agreement, Name and No. N/A	
3a. Address P. O. BOX 156 BLOOMFIELD, NM 87413		8. Lease Name and Well No. BISTI GALLUP 18 #2	
3b. Phone No. (include area code) (505) 632-3476		9. API Well No. 30-045-33802	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 990' FNL & 2310' FEL At proposed prod. zone SAME		10. Field and Pool, or Exploratory BISTI LOWER-GALLUP	
14. Distance in miles and direction from nearest town or post office* 23 AIR MILES S OF FARMINGTON, NM		11. Sec., T. R. M. or Blk. and Survey or Area 18-25N-12W NMPM	
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 637.96	17. Spacing Unit dedicated to this well N2NE4 80	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,588' (18 #1)	19. Proposed Depth 5,300'	20. BLM/BIA Bond No. on file BLM STATE WIDE 8862010 NM2858	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,520' GL	22. Approximate date work will start* 12/10/2006	23. Estimated duration 3 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).    |
| 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 officer. |

25. Signature 	Name (Printed/Typed) BRIAN WOOD	Date 06/06/2006
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Title CONSULTANT PHONE: (505) 466-8120 FAX: (505) 466-9682

Approved by (Signature) 	Name (Printed/Typed) Mark	Date 2/28/07
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Title ATM	Office FFO
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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 page 2)

NMOC

NOTIFY AZTEC OGD  
IN TIME TO WITNESS

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".

3/2/07

DISTRICT I  
P.O. Box 1980, Hobbs, N.M. 88241-1980

DISTRICT II  
811 South First, Artesia, N.M. 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
P.O. 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

RCVD FEB28'07  
OIL CONS. DIV.

<sup>1</sup> API Number <b>30-045-33802</b>		<sup>2</sup> Pool Code <b>5890</b>	<sup>3</sup> Pool Name <b>BISTI LOWER-GALLUP</b>	<sup>4</sup> Well Number <b>2</b>
<sup>5</sup> Property Code <b>36343</b>		<sup>6</sup> Property Name <b>BISTI GALLUP 18</b>		<sup>7</sup> Elevation <b>6520</b>
<sup>8</sup> OGRID No. <b>149052</b>		<sup>9</sup> Operator Name <b>ELM RIDGE EXPLORATION</b>		

<sup>10</sup> Surface Location

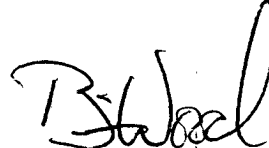
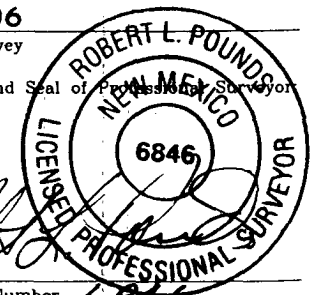
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	18	25 N	12 W		990	NORTH	2310	EAST	SAN JUAN

<sup>11</sup> 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

<sup>12</sup> Dedicated Acres <b>80N2N84</b>	<sup>13</sup> Joint or Infill .	<sup>14</sup> Consolidation Code .	<sup>15</sup> 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

<sup>16</sup> S 89°49'31" E 2620.01'		S 89°52'12" E 2639.63'		<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.   Signature <b>BRIAN WOOD</b> Printed Name <b>CONSULTANT</b> Title <b>JUNE 6, 2006</b> Date
2640.51'		990'	2310'	
N 0°12'10" E				
SECTION 18 LAT. 36.405724° LONG. 108.151557° NAD 83				
2639.38'				<sup>18</sup> 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.  3/21/06 Date of Survey Signature and Seal of Professional Surveyor  Certificate Number <b>6846</b>
2639.38'				
N 0°11'57" E				
N 89°49'15" W 2624.46'		N 89°49'52" W	2639.94'	

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. 33802  
30-045-  
5. Indicate Type of Lease  
STATE ☐ FEE ☐  
6. ~~State~~ Oil & Gas Lease No.  
NMNM-025446

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  
ELM RIDGE EXPLORATION COMPANY, LLC

3. Address of Operator  
P. O. BOX 156, BLOOMFIELD, NM 87413

4. Well Location  
Unit Letter: B 990' FNL & 2310' FEL  
Section 18 Township 25 North Range 12 West NMPM SAN JUAN County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6,520' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: DRILLING Depth to Groundwater: >100' Distance from nearest fresh water well: >1,000' Distance from nearest surface water: >500'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume 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: DRILLING 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.

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 Brian Wood TITLE: CONSULTANT

DATE: JUNE 6, 2006

Type or print name: BRIAN WOOD

E-mail address: brian@permitswest.com

Telephone No.: (505) 466-8120

For State Use Only

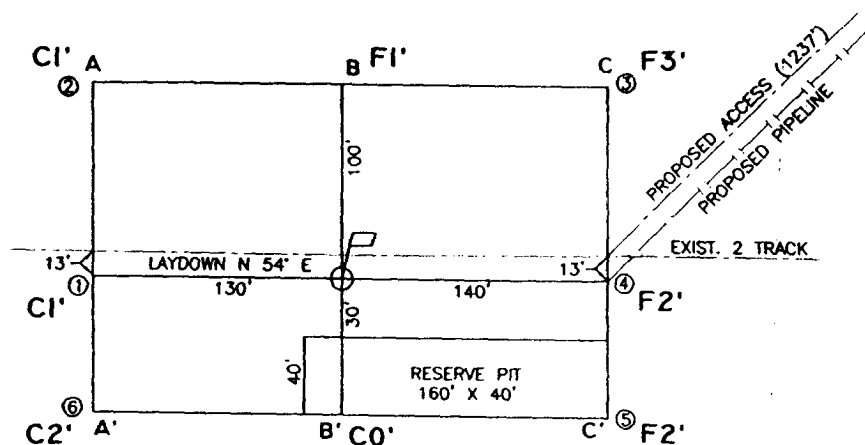
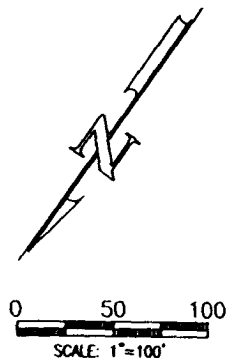
DEPUTY OIL & GAS INSPECTOR, DIST. 4

APPROVED BY: [Signature] TITLE

DATE 2/28/07

Conditions of Approval (if any):

NOTIFY  
NEW MEXICO ONE-CALL  
BEFORE COMMENCING  
EXCAVATION!  
(800) 321-2637



A-A'

ℓ

6540				
6530				
6520				
6510				
6500				

B-B'

ℓ

6540				
6530				
6520				
6510				
6500				

C-C'

ℓ

6540				
6530				
6520				
6510				
6500				

### CROSS SECTIONS

HORIZONTAL: 1"=100'

VERTICAL: 1"=10'

LEASE: BISTI GALLUP 18 #2

FOOTAGE: 990' FNL, 2310' FEL

SEC. 18 TWN. 25 N RNG. 12 W N.M.P.M.

LATITUDE: 36.405724° LONGITUDE: 108.151557°

ELEVATION: 6520

### ELM RIDGE EXPLORATION DALLAS, TEXAS

SURVEYED: 3/21/06

REV. DATE:

APP. BY R.P.

DRAWN BY: A.D.

DATE DRAWN: 3/29/06

FILE NAME: 6629C01



P.O. BOX 3651  
FARMINGTON, NM 87499  
OFFICE: (505) 334-0408

Elm Ridge Exploration Company, LLC  
Bisti Gallup 18 #2  
990' FNL & 2310' FEL  
Sec. 18, T. 25 N., R. 12 W.  
San Juan County, New Mexico

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## Drilling Program

### 1. ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Nacimiento	0'	12'	+6,520'
Fruitland	1,170'	1,182'	+5,350'
Pictured Cliffs	1,445'	1,457'	+5,075'
Lewis Shale	1,570'	1,582'	+4,950'
Cliff House	2,170'	2,182'	+4,350'
Menefee Shale	2,820'	2,832'	+3,700'
Point Lookout	3,870'	3,882'	+2,650'
Mancos Shale	4,050'	4,062'	+2,470'
Gallup Sandstone	4,960'	4,972'	+1,560'
Total Depth	5,300'	5,712'	+1,220'

### 2. NOTABLE ZONES

<u>Oil &amp;/or Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zone</u>
Fruitland	Nacimiento	Fruitland
Pictured Cliffs	Fruitland	
Gallup	Pictured Cliffs	

Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

### 3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be

Elm Ridge Exploration Company, LLC  
Bisti Gallup 18 #2  
990' FNL & 2310' FEL  
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San Juan County, New Mexico

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used is not yet known. A typical 2,000 psi model is on PAGE 3.

A  $\geq 2,000$  psi BOP and choke manifold system will be installed and tested to 2,000 psi before drilling surface casing plug. It will remain in use until the well is completed or abandoned. A safety valve and sub with a full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

All BOP mechanical and pressure tests will be recorded on the driller's log. BOPs will be inspected and opened and closed at least daily to assure good mechanical working order. Inspections will be recorded on the daily drilling report. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place.

#### 4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>Depth Set</u>
12-1/4"	8-5/8"	24	J-55 or K-55	S T & C	New	350'
7-7/8"	5-1/2"	<del>10.5</del> 15.5	J-55	L T & C	New	5,300'

Surface casing will be cemented to the surface with  $\approx 290$  cubic feet ( $\approx 245$  sacks) Class B with 1/4 pound per sack cellophane + 2%  $\text{CaCl}_2$ . Yield = 1.18 cubic feet per sack. Weight = 15.2 pounds per gallon. Volume = 100% excess.

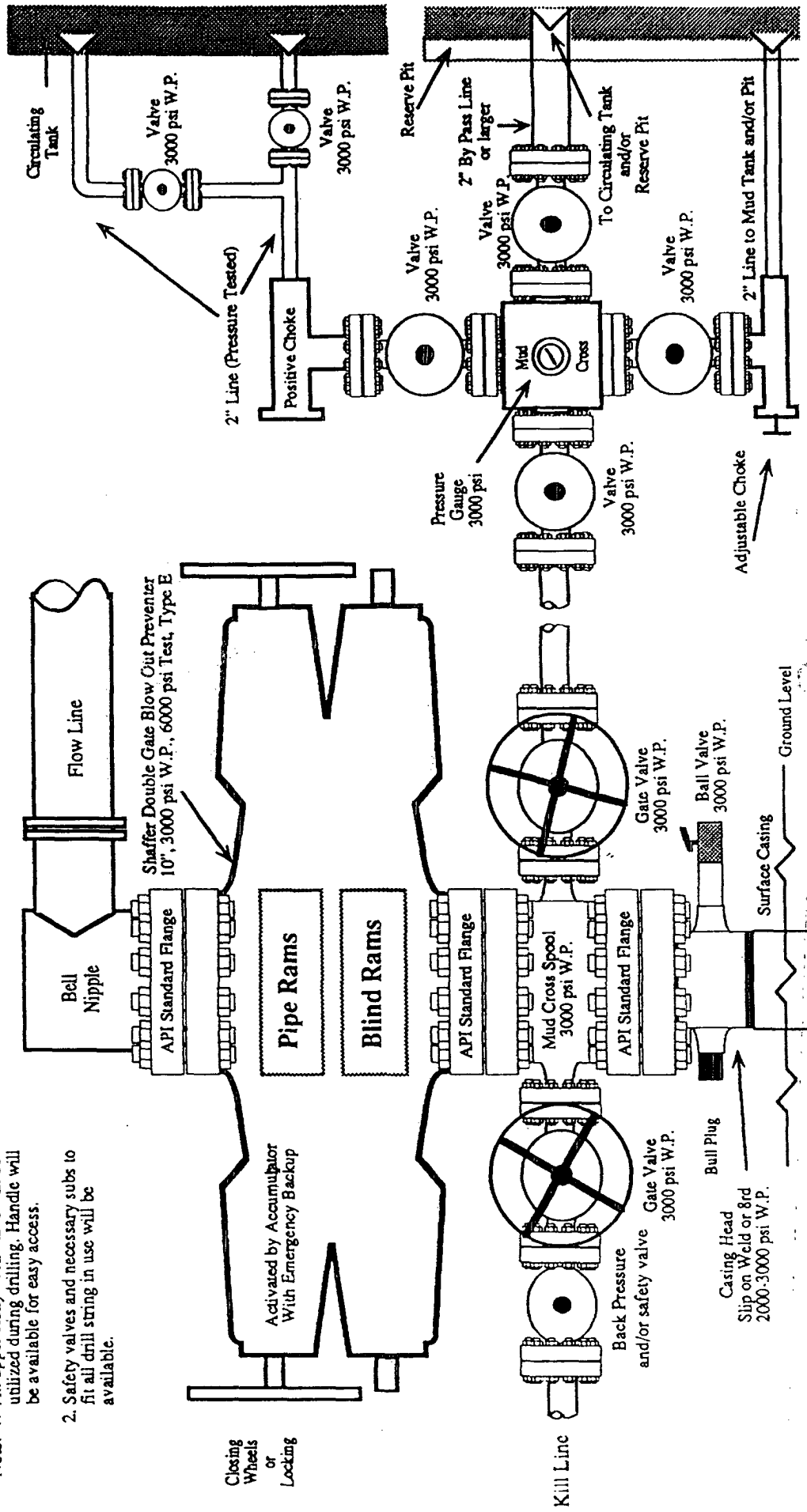
*Joint* Centralizers will be installed on the middle of the shoe joint and every other centralizer thereafter.

Production casing will be cemented to the surface in 2 stages with a stage tool set @  $\approx 3,500'$ . Centralizers will be installed on the middle of the shoe joint and on every joint thereafter (total  $\approx 25$  centralizers). Thread lock the guide shoe, bottom of float collar, and bottom of stage tool only. Use API casing dope.

# 2,000 PSI BOP SYSTEM

Note: 1. An upper Kelly cock valve will be utilized during drilling. Handle will be available for easy access.

2. Safety valves and necessary subs to fit all drill string in use will be available.



Note: This equipment is designed to meet requirements for a 2-M rating standard per 43 CFR part 3160 (amended). Proper operation and testing of equipment will be carried out per standard. 2,000 psi equipment can be substituted in the drawing to meet minimum requirements per standard.

Elm Ridge Exploration Company, LLC  
Bisti Gallup 18 #2  
990' FNL & 2310' FEL  
Sec. 18, T. 25 N., R. 12 W.  
San Juan County, New Mexico

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First stage volume will be  $\approx 625$  cubic feet consisting of  $\approx 150$  sacks of Halliburton light with 65/35 poz mix + 1/4 pound per sack cellophane + 2%  $\text{CaCl}_2$  (yield = 1.87 cubic feet per sack, weight = 12.7 pounds per gallon) followed by  $\approx 292$  sacks Class B with 2%  $\text{CaCl}_2$  (yield = 1.18 cubic feet per sack, weight = 15.2 pounds per gallon). Volume = >100% excess, but caliper logs will be used to determine actual volume needed.

Second stage volume will be  $\approx 1,215$  cubic feet consisting of  $\approx 618$  sacks of Halliburton light with 65/35 poz mix + 1/4 pound per sack cellophane + 2%  $\text{CaCl}_2$  (yield = 1.87 cubic feet per sack, weight = 12.7 pounds per gallon) followed by  $\approx 50$  sacks of Class B with 2%  $\text{CaCl}_2$  (yield = 1.18 cubic feet per sack, weight = 15.2 pounds per gallon). Volume = >100% excess, but caliper logs will be used to determine actual volume needed.

#### 5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>ppg</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
0' - 350'	Fresh water gel chem	9.0	50	NC	9
350' - TD	Fresh water gel chem	9.0	38-50	6.0	9

Enough material to maintain mud properties, control lost circulation, and contain a blowout will be at the well site while drilling. Mud will be checked hourly by rig personnel. Material to soak up possible oil or fuel spills will be on site.

#### 6. CORES, TESTS, & LOGS

No cores or drill stem tests are planned. DIL/GR logs will be run from TD to surface. CNL/FDC logs may be run over selected segments. Samples will be collected every  $\approx 10'$  through the Gallup. Samples will be collected every  $\approx 30'$  elsewhere.



Elm Ridge Exploration Company, LLC  
Bisti Gallup 18 #2  
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San Juan County, New Mexico

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7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, or hydrogen sulfide are expected. Maximum expected bottom hole pressure will be  $\leq 2,280$  psi.

8. OTHER INFORMATION

The anticipated spud date is December 10, 2006. It is expected it will take 1 week to drill and 2 weeks to complete the well.