

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

2006 AUG 8 PM 4 19  
RECEIVED  
NMSF-078138  
Unit Reporting Number  
NMM-07 9758-OK 070 FARMINGTON NM

1a. Type of Work  
DRILL

5. Lease Number  
NMSF-078138

1b. Type of Well  
GAS

6. If Indian, All. or Tribe

2. Operator  
**BURLINGTON**  
RESOURCES Oil & Gas Company

7. Unit Agreement Name

3. Address & Phone No. of Operator  
PO Box 4289, Farmington, NM 87499  
(505) 326-9700

8. Farm or Lease Name  
Hartman 23

9. Well Number  
#1F

4. Location of Well  
Unit F (SENW), 1480' FNL, 1540' FWL  
Latitude 36° 48.0524'N  
Longitude 107° 57.8140'W

10. Field, Pool, Wildcat  
Basin Dakota

11. Sec., Twn, Rge, Mer. (NMPM)  
Sec. 23, T30N, R11W  
API # 30-045-33887

14. Distance in Miles from Nearest Town  
5.6 miles to Post Office in Aztec, New Mexico

12. County  
San Juan

13. State  
NM

15. Distance from Proposed Location to Nearest Property or Lease Line  
1480'

16. Acres in Lease

17. Acres Assigned to Well  
320 W/2  
319.91

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease  
94' - Hartman Com Unit #6A

19. Proposed Depth  
6997'

20. Rotary or Cable Tools  
Rotary

21. Elevations (DF, FT, GR, Etc.)  
5977' GL

22. Approx. Date Work will Start

23. Proposed Casing and Cementing Program  
See Operations Plan attached

24. Authorized by: Amanda Sanchez  
Regulatory Analyst

Date 8-8-06

PERMIT NO.

APPROVAL DATE

APPROVED BY [Signature]

TITLE AFM

DATE 8/23/06

Archaeological Report attached

Threatened and Endangered Species Report attached

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

Title 18 U.S.C. Section 1001, makes 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 presentations as to any matter within its jurisdiction.

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

NMOC

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

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II  
1301 W. Grand Ave., Artesia, N.M. 88210

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

DISTRICT IV  
1220 South 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

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-045- <b>33887</b>	<sup>2</sup> Pool Code 71599	<sup>3</sup> Pool Name Basin Dakota
<sup>4</sup> Property Code <b>7096</b> <b>7099</b>	<sup>5</sup> Property Name HARTMAN 23	<sup>6</sup> Well Number 1F
<sup>7</sup> GRID No. 14538	<sup>8</sup> Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP	<sup>9</sup> Elevation 5977

<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
F	23	30-N	11-W	2	1480	NORTH	1540	WEST	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
F									

<sup>12</sup> Dedicated Acres DK <b>320.000</b> ac. W2	<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

16

FD 3 1/4" BC 1969 BLM ROYCE, HENRY S ET UX	KRATZKE, LEONARD B.	N 88°40'47" W 2602.19' (M)	FD 3 1/4" BC 1969 BLM
VASALY, ALTA	MAXWELL, HARRY	NEWTON, HS ET UX	
1480'		LAT: 36.80088° N. (NAD 83) LONG: 107.96419° W. (NAD 83) LAT: 36°48.0524' N. (NAD 27) LONG: 107°57.8140' W. (NAD 27)	
1540'			
USA SF-078138			
N 01°05'24" E 2641.37' (M)	LOT 1 39.93	LOT 2 39.86	LOT 3 39.47
			LOT 4 39.39
FD 3 1/4" BC 1969 BLM		USA SF-078138	
		LOT 7 40.14	LOT 6 39.65
HARTMAN, JOSEPH S ET UX			LOT 5 39.43
		HARTMAN, JOSEPH S ET UX	
		LOT 8 39.74	LOT 9 39.52

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.

*Patsy Clugston* 7/20/06  
Signature Date

Patsy Clugston  
Printed Name

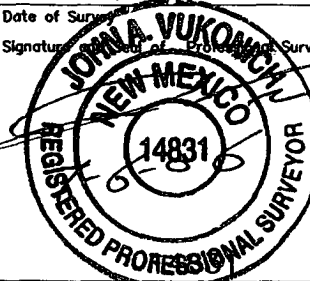
Sr. Regulatory Specialist

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.

JUNE 16, 2006

Date of Survey  
Signature of Professional Surveyor:



Certificate Number

2

Office

Energy, Minerals and Natural Resources

May 27, 2004

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

**OIL CONSERVATION DIVISION**

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-045- 33887

5. Indicate Type of Lease

STATE ☐FEE ☐

6. State Oil &amp; Gas Lease No.

NMSF-078138

7. Lease Name or Unit Agreement Name

Hartman 23

8. Well Number

#1F

9. OGRID Number

14538

10. Pool name or Wildcat

Basin Dakota

**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

BURLINGTON RESOURCES OIL &amp; GAS COMPANY LP

3. Address of Operator

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter F : 1480 feet from the North line and 1540 feet from the West lineSection 23 Township 30N Rng 11W NMPM County San Juan

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

5977'

Pit or Below-grade Tank Application

☐ or Closure ☐Pit type New Drill Depth to Groundwater >100' Distance from nearest fresh water well>1000' Distance from nearest surface water

&gt;200

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 ☐TEMPORARILY ABANDON ☐PULL OR ALTER CASING ☐PLUG AND ABANDON ☐CHANGE PLANS ☐MULTIPLE COMPL ☐**SUBSEQUENT REPORT OF:**REMEDIAL WORK ☐COMMENCE DRILLING OPNS. ☐CASING/CEMENT JOB ☐ALTERING CASING ☐P AND A ☐

OTHER:

New Drill ☒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.

New Drill, Lined:

Burlington Resources proposes to construct a new drilling pit and an associated vent/flare pit. Based on Burlington's interpretation of the Ecosphere's risk ranking criteria, the new drilling pit will be a lined pit as detailed in Burlington's Revised Drilling / Workover Pit Construction / Operation Procedures dated November 11, 2004 on file at the NMOCD office. A portion of the vent/flare pit will be designed to manage fluids and that portion will be lined as per the risk ranking criteria. Burlington Resources anticipates closing these pits according to the Drilling / Workover Pit Closure Procedure dated August 2, 2004 on file at the NMOCD office.

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

TITLE

Regulatory Analyst

DATE

8/7/2006

Type or print name

Amanda Sanchez

E-mail address:

asanchez@br-inc.com

Telephone No.

505-326-9891

**For State Use Only**

APPROVED BY

TITLE

DEPUTY OIL &amp; GAS INSPECTOR, DIST. 3

DATE

AUG 28 2006

Conditions of Approval (if any):

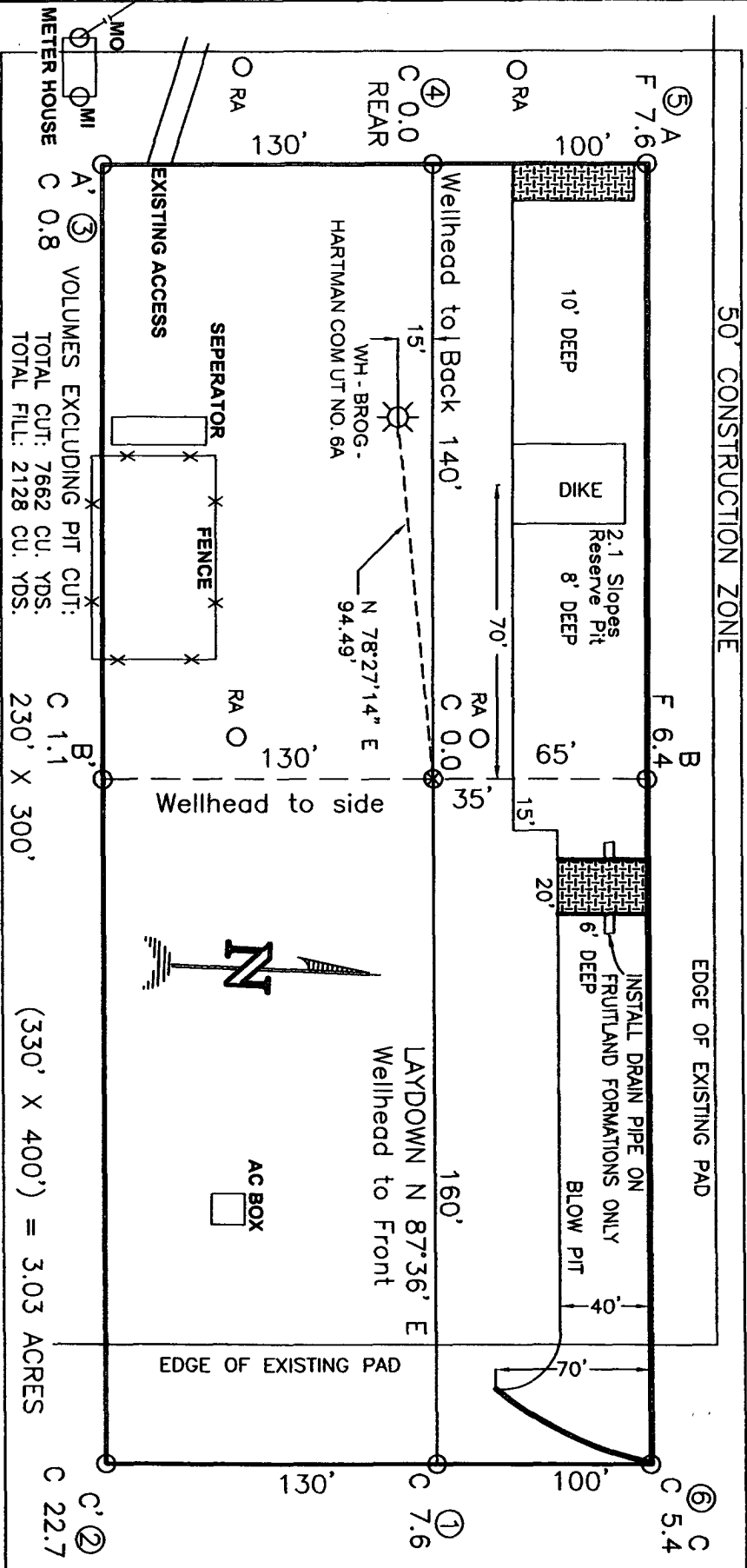
**HARTMAN 23 No. 1F, 1480 FNL 1540 FWL**

**SECTION 23, T-30-N, R-11-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO**

**GROUND ELEVATION: 5977, DATE: JUNE 16, 2006**

NAD 83  
LAT. = 36.80088° N  
LONG. = 107.96419° W

NAD 27  
LAT. = 36°48.0524' N  
LONG. = 107°57.8140 W



RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).  
OVERFLOW PIPE HALFWAY BETWEEN TOP AND BOTTOM AND TO EXTEND OVER PLASTIC LINER AND INTO BLOW PIT.

**NOTE:** DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

NOTE: ESTIMATED VOLUMES CALCULATED BY AVERAGE  
END AREA AT CROSS-SECTION SHOWN

NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.



**Daggett Enterprises, Inc.**  
Surveying and Oil Field Services  
P. O. Box 15068 • Farmington, NM 87401  
Phone (505) 326-1772 • Fax (505) 326-6019  
NEW MEXICO U.S. 14831

Drawn by: A.G.  
Route: BR643

DATE: 06/27/06

# BURLINGTON RESOURCES OIL & GAS COMPANY LP

HARTMAN 23 No. 1F, 1480 FNL 1540 FWL

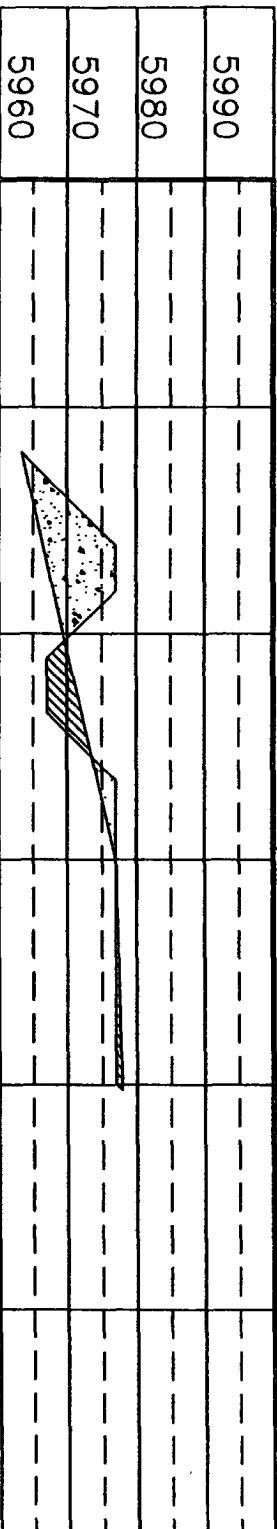
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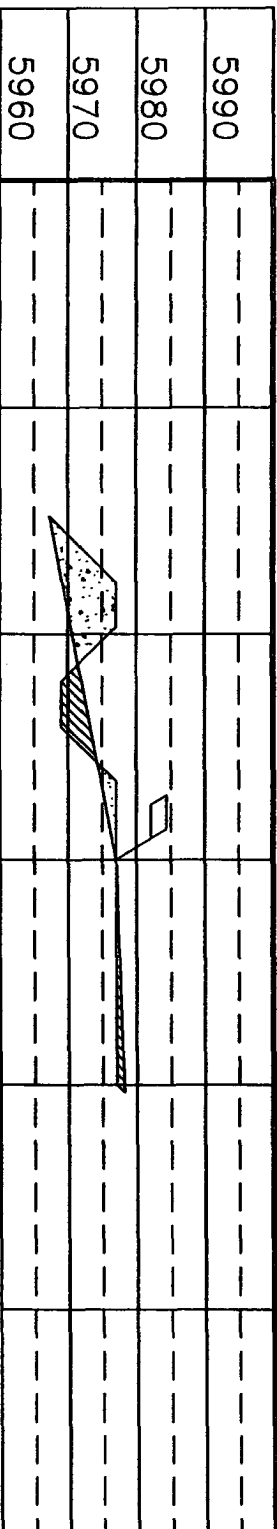
ELEV. A-A'

C/L



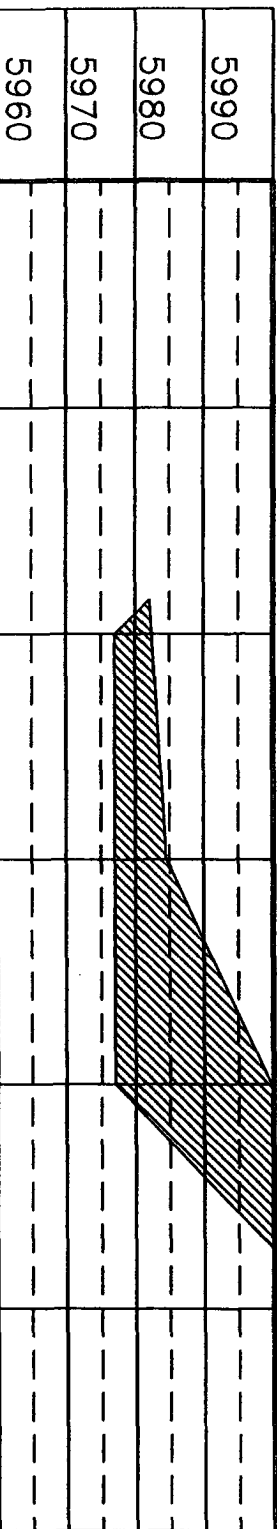
ELEV. B-B'

C/L



ELEV. C-C'

C/L



NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.



Daggett Enterprises, Inc.

Surveying and Oil Field Services

P. O. Box 15068 • Farmington, NM 87401

Phone (505) 326-1772 • Fax (505) 326-6019

NEW MEXICO U.S. 14831

DESIGN BY: A.G.

DATE: 06/27/06

REVISION BY:

## OPERATIONS PLAN

Well Name: HARTMAN 23 1F  
Location: 1480' FNL & 1540' FWL, Section 23 T30N R11W  
San Juan County, New Mexico  
  
Formation: Basin Dakota  
Elevation: 5977' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1078'	
Ojo Alamo	1078'	1133'	aquifer
Kirtland	1133'	2111'	gas
Fruitland	2111'	2396'	gas
Pictured Cliffs	2396'	2555'	gas
Lewis	2555'	3153'	
Huerfanito Bentonite	3153'		
Chacra	3400'	4116'	gas
Massive Cliff House	4116'	4205'	gas
Menefee	4205'	4709'	gas
Massive Point Lookout	4709'	5097'	gas
Mancos Shale	5097'	5926'	
Upper Gallup	5926'	6693'	gas
Greenhorn	6693'	6748'	gas
Graneros	6748'	6807'	gas
Two Wells	6807'	6879'	gas
Paguate	6879'	6932'	gas
Cubero	6932'	6987'	gas
Encinal	6987'	6997'	gas
Total Depth:	6997'		gas

### Logging Program:

#### Mud Logs/Coring/DST

Mud logs - none  
Coring - none  
DST - none  
Open hole - none  
Cased hole - Gamma Ray, CBL - surface to TD

### Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0 - <del>120'</del> 200	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
120' - 2655'	LSND	8.4 - 9.0	30 - 60	no control
2655' - 6997'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

C. HARRADEN/ August 9, 2006 *CH*

BURLINGTON RESOURCES/ Hartman 23 #1F APD  
STIPULATION/CONDITION OF APPROVAL

This well is located within a 'vulnerable area'. In order to protect the integrity of the fresh water alluvium aquifer, a minimum surface csg. depth of 200' is stipulated as a condition of approval for this APD.

**Casing Program (as listed, the equivalent, or better):**

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt.</u>	<u>Grade</u>
12 1/4"	0' - 120' <sup>200</sup>	9 5/8"	32.3#	H-40
8 3/4"	0' - 2655'	7"	20#	J-55
6 1/4"	0' - 6997'	4 1/2"	10.5#	J-55

**Tubing Program:**

<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 6997'	2 3/8"	4.7#	J-55

**BOP Specifications, Wellhead and Tests:**

Surface to Intermediate TD -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, BOPE and casing will be tested to 600 psi for 30 minutes.

Intermediate TD to Total Depth -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, BOPE and casing will be tested to 1500 psi for 30 minutes.

Surface to Total Depth -

2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

**Completion Operations -**

7 1/16" 2000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 2000 psi for 15 minutes.

**Wellhead -**

9 5/8" x 7" x 4 1/2" x 2 3/8" x 2000 psi tree assembly.

**General -**

- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- BOP pit level drill will be conducted weekly for each drill crew.
- All BOP tests & drills will be recorded in daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

Cementing:

## 9 5/8" surface casing -

**Pre-Set Drilled** - Cement with 2.15% Type I, II cement with 20% flyash mixed at 14.5 ppg, 1.61 cu ft per sack yield. (6.8 cu ft per sack yield, bring cement to surface) Wait on cement for 24 hours for pre-set holes before pressure testing or drilling out from under surface.

**Conventionally Drilled** - Cement with 2.15% Type III cement with 0.25 pps Celloflake, 2% CaCl<sub>2</sub>, 1.61 cu ft of slurry, 200% excess, bring cement to surface) Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Wait on cement appropriate time until cement achieves 250 psi compressive strength at 60 degrees F. prior to nipple up of BOPE. Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

## 7" intermediate casing -

Lead with 220 sacks Premium Lite cement with 3% calcium chloride, 0.25 pps Celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate. Tail w/90 sacks Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss (124 cu ft 50% excess to circulate to surface). WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL or a temperature survey will be run to determine TOC. Test casing to 1500 psi for 30 minutes.

## 7" intermediate casing alternative two stage -

Stage collar set 300' above the top of the Fruitland. First stage: Lead w/31 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss. Tail w/90 sxs Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss. Second stage: 189 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (592 cu ft - 50% excess to circulate to surface).

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom, to the base of the Ojo Alamo @ 2111'. Two turbolating centralizers at the base of the Ojo Alamo @ 2111'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

## 4 1/2" Production Casing -

Pump 284 sxs Premium Lite HS FM w/0.25 pps celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% fluid loss, 6% gel, 7 pps CSE (563 cu.ft., 30% excess to achieve 100' overlap in 4-1/2" x 7" annulus). WOC a minimum of 18 hrs prior to completing.



Cementing: Continued

Cement float collar stacked on top of float shoe.

Note: If open hole logs are run, cement volumes will be based on 25% excess over caliper volumes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. The liner hanger will have a rubber packoff.

- If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.

Special Drilling Operations (Air/Mist Drilling):

The following equipment will be operational while air/mist drilling:

- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
- Engines will have spark arresters or water cooled exhaust.
- The rotating head will be properly lubricated and maintained.
- A float valve will be utilized above the bit.
- Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

Additional Information:

- This will be a Dakota only producing well.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 psi
Dakota	2000 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The West half of Section 23 is dedicated to the Dakota formation.
- This gas is dedicated.

  
Drilling Engineer

8/8/06  
Date

