

N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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 | | CONFIDENTIAL | 5. Lease Serial No. NMNM13978 |
| 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 CHESAPEAKE OPERATING INC | | Contact: LINDA GOOD E-Mail: lgood@chkenergy.com | 7. If Unit or CA Agreement, Name and No. |
| 3a. Address P O BOX 18496 OKLAHOMA CITY, OK 73154-0496 | | 3b. Phone No. (include area code) Ph: 405.767.4275 Fx: 405.879.9583 | 8. Lease Name and Well No. LEEMAN 12 FEDERAL 6 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNE 1980FNL 1980FEL At proposed prod. zone | | RECEIVED OCT 07 2004 OOD-ARTESIA | 9. API Well No. 30-005-63710 |
| 14. Distance in miles and direction from nearest town or post office* | | | 10. Field and Pool, or Exploratory PECOS SLOPE ; Abo |
| 15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | | 16. No. of Acres in Lease | 11. Sec., T., R., M., or Blk. and Survey or Area Sec 12 T9S R25E Mer NMP SME: BLM |
| 18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. | | 19. Proposed Depth 4550 MD | 12. County or Parish CHAVES |
| 21. Elevations (Show whether DF, KB, RT, GL, etc.) 3677 GL | | 22. Approximate date work will start | 13. State NM |
| | | | 17. Spacing Unit dedicated to this well 160.00 |
| | | | 20. BLM/BIA Bond No. on file |
| | | | 23. Estimated duration |

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 (Electronic Submission) | Name (Printed/Typed) LINDA GOOD | Date 08/25/2004 |
| Title AUTHORIZED REPRESENTATIVE | | |
| Approved by (Signature) /s/LARRY D. BRAY | Name (Printed/Typed) /s/LARRY D. BRAY | Date OCT 05 2004 |
| Title Assistant Field Manager, Lands And Minerals | | |
| Office ROSWELL FIELD OFFICE | | |

Application approval does not warrant or certify 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.

Additional Operator Remarks (see next page)

Electronic Submission #35147 verified by the BLM Well Information System
For CHESAPEAKE OPERATING INC, sent to the Roswell
Committed to AFMSS for processing by LINDA ASKWIG on 08/25/2004 (04LA0283AE)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ****

CEMENT TO COVER ALL OIL,
GAS AND WATER BEARING
ZONES i.e., Gleriera

Additional Operator Remarks:

Chesapeake Operating, Inc. proposed to drill a well to 4550' to test the Abo formation. If productive, casing will be run and the well will be completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Attached please find the Surface Use Plan, Drilling Plan, and attachments as required by Onshore Order No. 1. A general rig plat is attached as Exhibit D. A final rig plat will be submitted prior to spud once a rig is assigned.

Please be advised that Chesapeake Operating, Inc. is considered to be the operator of the above mentioned well. Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

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

Federal Well

WELL API NO.

5. Indicate Type of Lease
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name
Leeman "12" Federal

8. Well Number 6

9. OGRID Number 147179

10. Pool name or Wildcat
Pecos Slope

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
Chesapeake Operating, Inc.

NOV 16 2004

3. Address of Operator P. O. Box 11050
Midland, TX 79702-8050

OCD-ARTESIA

4. Well Location
Unit Letter GA : 1980 feet from the North line and 1980 feet from the East line
Section 12 Township 9S Range 25E NMPM County Chaves

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3669 GR

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Drilling Depth to Groundwater 100+ Distance from nearest fresh water well 1000+ Distance from nearest surface water 1000+

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume 6085 bbls; Construction Material Synthetic

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 ☐

SUBSEQUENT REPORT OF:

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

OTHER: Pit Approval ☒

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.

Chesapeake, respectfully, requests that the attached procedure be approved for the drilling pit for this well. Chesapeake, hereby, agrees to close the pit according to NMOCD guidelines per item #3 in Rule 50.

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 *Brenda Coffman* TITLE Regulatory Analyst DATE 11/15/2004

Type or print name Brenda Coffman E-mail address: bcoffman@chkenergy.com Telephone No. (432)685-4310

For State Use Only

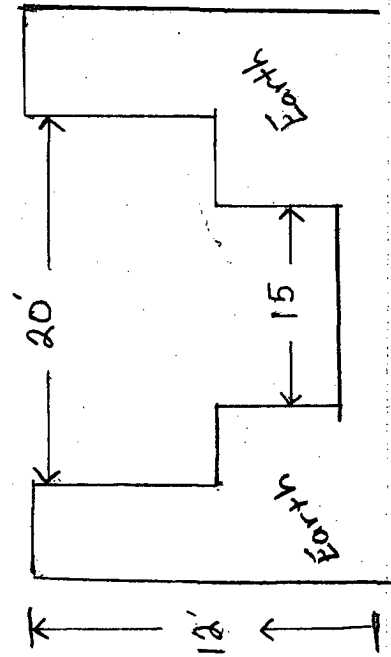
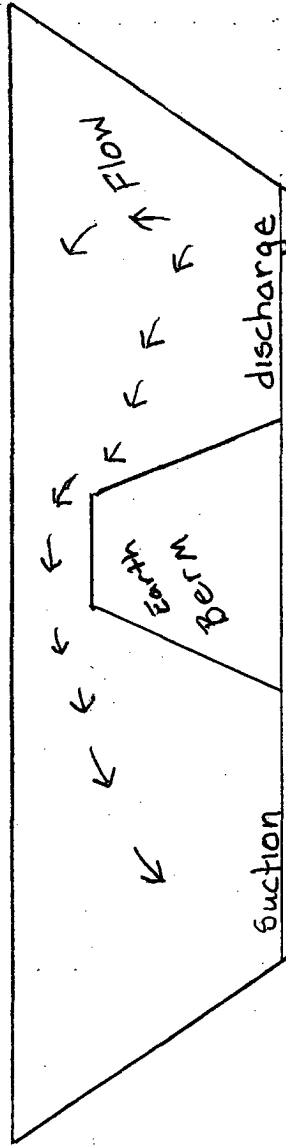
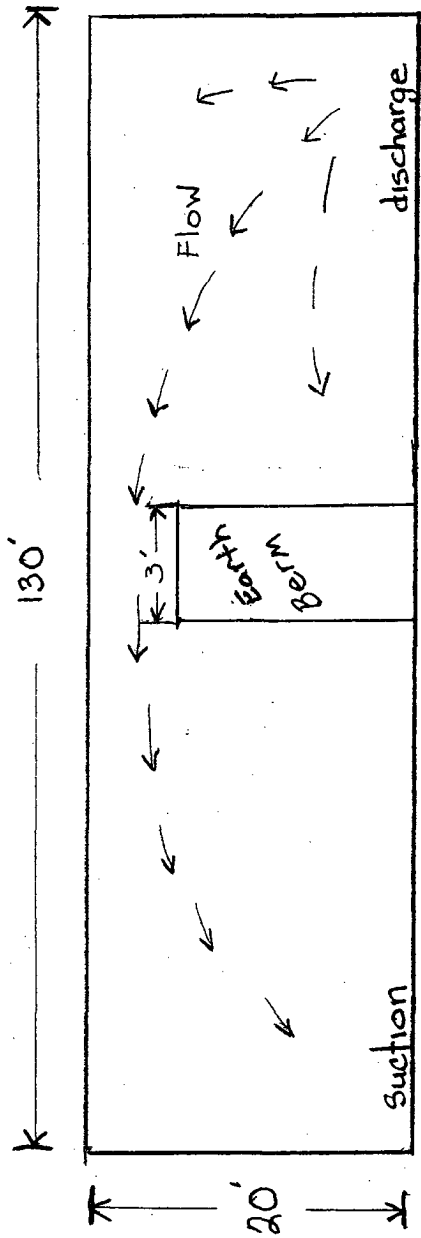
TIM W. GUM
DISTRICT II SUPERVISOR

APPROVED BY: TITLE DATE NOV 24 2004

Conditions of Approval (if any):

Chesapeake Energy

Single Pit



28800 ft³
5129.4 bbls.

12 mil. woven plastic

DISTRICT I
1825 N. French Dr., Hobbs, NM 88240

DISTRICT II
811 South First, Artesia, NM 88210

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised March 17, 1999

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|---------------|--------------------------------------------|--------------------|
| API Number | Pool Code | Pool Name |
| Property Code | Property Name LEEMAN "12" FEDERAL | Well Number 6 |
| OGRID No. | Operator Name CHESAPEAKE OPERATING INC. | Elevation 3669' |

Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| G | 12 | 9 S | 25 E | | 1980 | NORTH | 1980 | EAST | CHAVES |

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 |
|------------------------|-----------------|--------------------|-----------|---------|---------------|------------------|---------------|----------------|--------|
| Dedicated Acres 160 | Joint or Infill | Consolidation Code | Order No. | | | | | | |

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

| | |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Signature Jim Ball Printed Name Senior Landman Title 7/12/04 Date |
| | 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. JULY 1, 2004 Date Surveyed Signature Professional Surveyor 7977 M.O. No. 4411 Certified Gary L. Jones 7977 JLP BASIN SURVEYS |

Exhibit A-1

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

1. EXISTING ROADS

- a. Existing county and lease roads will be used to enter proposed access road.
- b. Location, access and vicinity plats attached hereto. See Exhibit A-1 through A-4.

2. PLANNED ACCESS ROADS

- a. A new access road 1392.4' in length and 14' in travel width with a maximum disturbance area of 30' will be built coming off the existing county road in an easterly direction. See Exhibit A-2. The road will be built in accordance with guidelines set forth in the BLM Onshore Orders.
- b. No turnouts are expected.
- c. In order to level the location, cut and fill will be required. Please see attached Well location and Acreage Dedication Plat -Exhibit A-1 & A-2.
- d. A locking gate will be installed at the site entrance.
- e. Any fences cut will be repaired. Cattle guards will be installed, if needed.
- f. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.
- g. Driving directions: from Roswell, go Northeast on Hwy 70 to mile marker 351, turn South on Magdalena Rd, go past railroad tracks and Ranch house. Turn West, go .5 miles then south 1.5 miles, turn west 1 mile then north .2 miles to location.

3. LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS OF THE PROPOSED LOCATION – see Exhibit B.

4. LOCATION OF PRODUCTION FACILITIES

It is anticipated that production facilities will be located on the well pad as product will be sold at the wellhead and/or tank battery. A 6" steel pipeline will be laid along the lease road and gas meter will be on location. . – See Exhibit C & A-2.

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Leeman 12 Federal 6
1980 FNL 1980 FEL
C SWNE of Section 12-9S-25E
Chaves County, NM

CONFIDENTIAL – TIGHT HOLE

Lease No. NMNM 13978

SURFACE USE PLAN
Page 2

5. LOCATION AND TYPE OF WATER SUPPLY

Water will be obtained from a private water source. Chesapeake Operating, Inc. will ensure all proper notifications and filings are made with the state.

6. CONSTRUCTION MATERIALS

All material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

8. ANCILLARY FACILITIES

None.

9. WELLSITE LAYOUT

The proposed site layout plat is attached showing rig orientation and equipment location. See Exhibit D.

10. PLANS FOR RECLAMATION OF THE SURFACE

The location will be restored to as near as original condition as possible. Reclamation of the surface shall be done in strict compliance with the existing New Mexico Oil Conservation Division regulations.

Backfilling leveling, and contouring are planned as soon as the drilling rig and steel tanks are removed. Wastes and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The rehabilitation will begin after the drilling rig is removed.

11. SURFACE OWNERSHIP

James Cliett
Nalion Living Trust
709-A La Fonda Dr.
Roswell, NM 88201

USA

See
next
page

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Leeman 12 Federal 6
1980 FNL 1980 FEL
C SWNE of Section 12-9S-25E
Chaves County, NM

CONFIDENTIAL – TIGHT HOLE

Lease No. NMNM 13978

SURFACE USE PLAN
Page 2

5. LOCATION AND TYPE OF WATER SUPPLY

Water will be obtained from a private water source. Chesapeake Operating, Inc. will ensure all proper notifications and filings are made with the state.

6. CONSTRUCTION MATERIALS

All material (i.e. shale) will be acquired from private or commercial sources.

7. METHODS FOR HANDLING WASTE DISPOSAL

Note To File, 9/20/04
In conversation with Mike Whitefield
this page is a Typo error. A
reserve pit will be utilized as
planned. R Will

steel tanks. All
ed in a portable
proved sanitary
-toilet and then

orientation and

on as possible.

Reclamation of the surface shall be done in strict compliance with the existing New Mexico Oil Conservation Division regulations.

Backfilling leveling, and contouring are planned as soon as the drilling rig and steel tanks are removed. Wastes and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The rehabilitation will begin after the drilling rig is removed.

11. SURFACE OWNERSHIP

James Cliett
Nalion Living Trust *CUSA*
709-A La Fonda Dr.
Roswell, NM 88201

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Leeman 12 Federal 6
1980 FNL 1980 FEL
C SWNE of Section 12-9S-25E
Chaves County, NM

CONFIDENTIAL – TIGHT HOLE

Lease No. NMNM 13978

SURFACE USE PLAN
Page 3

MINERAL OWNERSHIP

United States of America
Department of Interior
Bureau of Land Management

12. ADDITIONAL INFORMATION (This is presumed info, may need to revise)

A Class III cultural resource inventory report was prepared by Boone Archaeological Services, Carlsbad, New Mexico for the proposed location. A copy of the report has been sent to the BLM office under separate cover and is also attached for reference. See Exhibit E.

13. OPERATOR'S REPRESENTATIVES

Drilling and Completion Operations

Rob Jones
District Manager
P.O. Box 18496
Oklahoma City, OK 73154
405-810-2694 (OFFICE)
405-879-9573 (FAX)
rjones@chkenergy.com

Drilling Engineer

David DeLaO
P.O. Box 18496
Oklahoma City, OK 73154
405-767-4339 (OFFICE)
405-879-9573 (FAX)
405-990-8182 (MOBILE)
ddelao@chkenergy.com

Field Representative

Mike Whitefield
550 West Texas Ave
Midland, TX 79701
432-683-7443 (OFFICE)
432-685-4399 (FAX)
mwhitefield@chkenergy.com

Asset Manager

Andrew McCalmont
P.O. Box 18496
Oklahoma City, OK 73154-0496
405-848-8000 Ext. 852 (OFFICE)
405-879-7930 (FAX)
amccalmont@chkenergy.com

Regulatory Compliance

Linda Good
Regulatory Compliance Analyst
P.O. Box 18496
Oklahoma City, OK 73154
405-767-4275 (OFFICE)
405-879-7953 (FAX)
lgood@chkenergy.com

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Leeman 12 Federal 6
1980 FNL 1980 FEL
C SWNE of Section 12-9S-25E
Chaves County, NM

CONFIDENTIAL – TIGHT HOLE

Lease No. NMNM 13978

SURFACE USE PLAN
Page 4

14. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this surface use plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed will be performed by operator (including contractors and subcontractors) submitting the APD, in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

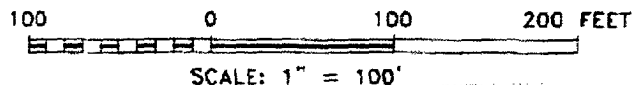
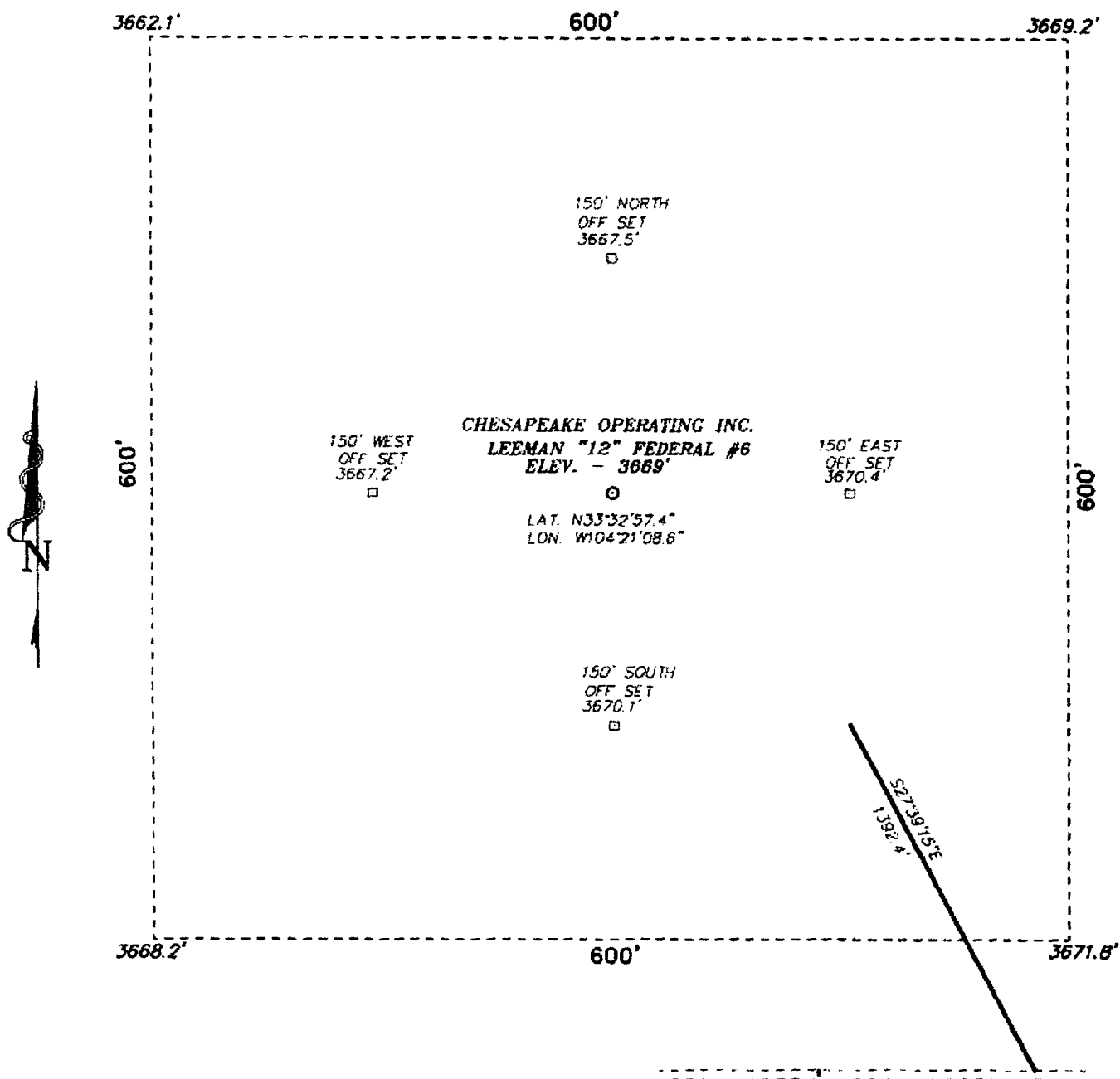
By:

J. Mark R. Lister

Date:

8/25/04

SECTION 12, TOWNSHIP 9 SOUTH, RANGE 25 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF US HWY 70 AND C-52
MAGDALENA RD. GO 2.2 MILES SOUTH PAST RANCH
HOUSE TO LEASE ROAD, GO WEST 0.3 MILES, THEN
1.7 MILES SOUTH PAST DRAW, THEN WEST 1.2 MILES
PAST AGAVE BOOSTER AND WINDMILL TO PROPOSED
ROAD.

CHESAPEAKE OPERATING INC.

REF: LEEMAN "12" FEDERAL #6 / Well Pod Topo

LEEMAN "12" FEDERAL #6 LOCATED 1980' FROM THE
NORTH LINE AND 1980' FROM THE EAST LINE OF
SECTION 12, TOWNSHIP 9 SOUTH, RANGE 25 EAST,
N.M.P.M., CHAVES COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 4411

Drawn By: JAMES PRESLEY

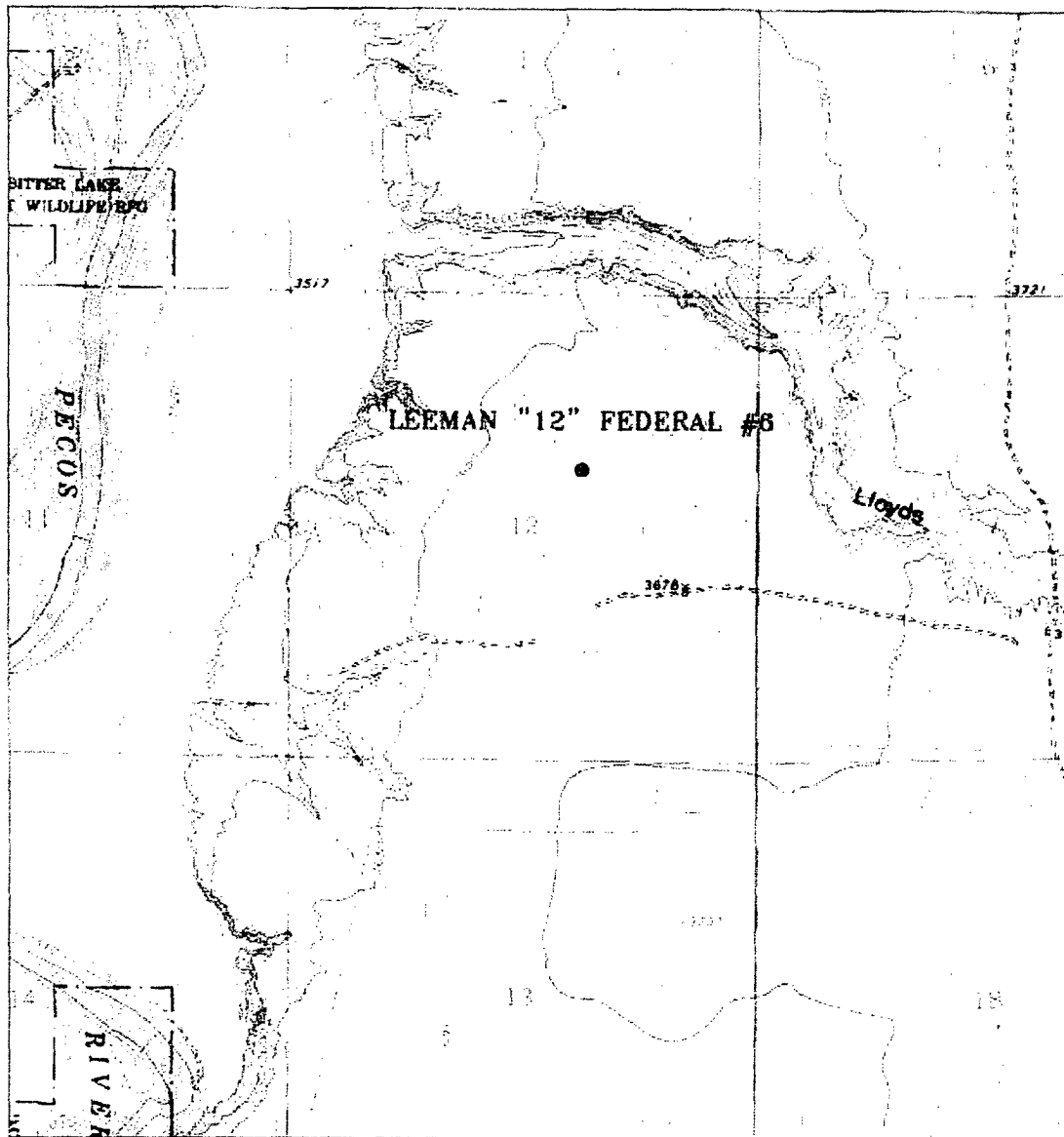
Date: 07/06/04

Disk: JLP #1 - 4411A

Survey Date: 07/01/04

Sheet 1 of 1 Sheets

Exhibit A-2



LEEMAN "12" FEDERAL #6

Located at 1980' FNL and 1980' FEL
 Section 12, Township 9 South, Range 25 East,
 N.M.P.M., Chaves County, New Mexico.

basin
surveys

focused on excellence
 in the oilfield

P.O. Box 1736
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 793-1316 - Office
 (505) 793-3014 - Fax
 basin@surveys.com

Well Number: 44-1-1A-110-9

Survey Date: 07/01/04

Scale: 1" = 200'

Dated: 07/06/04

CHESAPEAKE
OPERATING
INC.

Exhibit A-3

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
Leeman 12 Federal 6
1980 FNL 1980 FEL
C SWNE of Section 12-9S-25E
Chaves County, NM

CONFIDENTIAL – TIGHT HOLE
Lease Contract No. NMNM 13978

DRILLING PROGRAM

Page 1

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

Approval of this application 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.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

| Formation | Depth | Subsea |
|-------------|-------|--------|
| San Andres | 660 | 3027 |
| Glorietta | 1790 | 1897 |
| Tubb | 3220 | 467 |
| Abo | 3970 | -283 |
| Abo B | 4070 | -383 |
| Abo C | 4190 | -503 |
| Abo C Lower | 4280 | -593 |
| Abo D | 4370 | -683 |
| Total Depth | 4550 | -863 |

2. ESTIMATED DEPTH OF WATER, OIL GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

| Substance | Formation | Depth |
|-----------|-----------|--------------|
| Oil/Gas | Abo | 3970 to 4450 |

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT: 3,000# System

Chesapeake Operating, Inc.'s minimum specifications for pressure control equipment are as follows:

I. BOP, Annular, Choke Manifold, Pressure Test

A. Equipment

1. The equipment to be tested includes all of the following that is installed on the well. See Exhibit F1_to_F2.
 - (a) Ram-type and annular preventers,
 - (b) Choke manifolds and valves,
 - (c) Kill lines and valves, and
 - (d) Upper and lower kelly cock valves, inside BOP's and safety valves.

B. Test Frequency

1. All tests should be performed with clear water,
 - (a) when installed,
 - (b) before drilling out each casing string,
 - (c) at any time that there is a repair requiring a pressure seal to be broken in the assembly, and
 - (d) at least once every 30 days while drilling.

C. Test Pressure

1. In some drilling operations, the pressures to be used for low and high-pressure testing of preventers and casing may be different from those given below due to governmental regulations, or approved local practices.
2. If an individual component does not test at the low pressure, **do not**, test to the high pressure and then drop back down to the low pressure.
3. All valves located downstream of a valve being tested must be placed in the open position.
4. All equipment will be tested with an initial "low pressure" test at 250 psi.
5. The subsequent "high pressure" test will be conducted at the rated working pressure of the equipment for all equipment except the annular preventer.
6. The "high pressure" test for the annular preventer will be conducted at 70% of the rated working pressure.
7. A record of all pressures will be made on a pressure-recording chart.

D. Test Duration

1. In each case, the individual components should be monitored for leaks for 5 minutes, with no observable pressure decline, once the test pressure has been applied.

II. Accumulator Performance Test

A. Scope

1. The purpose of this test is to check the capabilities of the BOP control systems, and to detect deficiencies in the hydraulic oil volume and recharge time.

B. Test Frequency

1. The accumulator is to be tested each time the BOP's are tested, or any time a major repair is performed.

C. Minimum Requirements

1. The accumulator should be of sufficient volume to supply 1.5 times the volume to close and hold all BOP equipment in sequence, without recharging and the pump turned off, and have remaining pressures of 200 PSI above the precharge pressure.
2. Minimum precharge pressures for the various accumulator systems per manufacturers recommended specifications are as follows:

| <u>System Operating Pressures</u> | <u>Precharge Pressure</u> |
|-----------------------------------|---------------------------|
| 1,500 PSI | 750 PSI |
| 2,000 PSI | 1,000 PSI |
| 3,000 PSI | 1,000 PSI |

3. Closing times for the Hydril should be less than 20 seconds, and for the ram-type preventers less than 10 seconds.
4. System Recharge time should not exceed 10 minutes.

D. Test Procedure

1. Shut accumulator pumps off and record accumulator pressure.
2. In sequence, close the annular and one set of properly sized pipe rams, and open the HCR valve.
3. Record time to close or open each element and the remaining accumulator pressure after each operation.
4. Record the remaining accumulator pressure at the end of the test sequence. Per the previous requirement, this pressure should not be less than the following pressures:

| <u>System Pressure</u> | <u>Remaining Pressure At Conclusion of</u> <u>Test</u> |
|------------------------|-----------------------------------------------------------|
| 1,500 PSI | 950 PSI |
| 2,000 PSI | 1,200 PSI |
| 3,000 PSI | 1,200 PSI |

5. Turn the accumulator pumps on and record the recharge time. This time should not exceed 10 minutes.
6. Open annular and ram-type preventers. Close HCR valve.

DRILLING PROGRAM

Page 4

7. Place all 4-way control valves in full open or full closed position. Do not leave in neutral position.

4. CASING AND CEMENTING PROGRAM

- a. The proposed casing program will be as follows:

| <u>Purpose</u> | <u>Interval</u> | <u>Hole Size</u> | <u>Casing Size</u> | <u>Weight</u> | <u>Grade</u> | <u>Thread</u> | <u>Condition</u> |
|----------------|-----------------|------------------|--------------------|---------------|--------------|---------------|------------------|
| Surface | 0-1,000' | 11" | 8-5/8" | 24# | J-55 | ST &C | New |
| Production | 0-4,550' | 7-7/8" | 4-1/2" | 11.6# | J-55 | LT &C | New |

- b. Casing design subject to revision based on geologic conditions encountered.
c. The cementing program will be as follows:

| <u>Interval</u> | <u>Type</u> | <u>Amount</u> | <u>Yield</u> | <u>Washout</u> | <u>Excess</u> |
|-----------------|------------------------------------------------------------|----------------|--------------|----------------|---------------|
| Surface | Lead 65:35:6 + 6# Salt + 1/4# Flo-cel Tail: c + 2% CaCl | 300sx 200sx | 2.1 1.3 | 50% | 100% |
| Production | 50 :50 Poz H + additives | 200sx | 1.3 | 20% | 30% |

5. MUD PROGRAM

- a. The proposed circulating mediums to be used in drilling are as follows:

| <u>Interval</u> | <u>Mud Type</u> | <u>Mud Weight</u> | <u>Viscosity</u> | <u>Fluid Loss</u> |
|-----------------|-----------------|-------------------|------------------|-------------------|
| 0-1,000' | Water | 8.4 – 9.0 | 28-40 | NC |
| 1,000' – 4,550' | Cut Brine | 9.4 – 10.0 | 35-46 | 5 - 10 |

A steel pit will be utilized during the drilling of this well. All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conversation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

6. TESTING, LOGGING AND CORING

The anticipated type and amount of testing, logging and coring are as follows:

- a. Drill stem tests are not planned.
b. The logging program will consist of Natural GR, Density, Neutron and Pe from TD to surface casing, then GR and Neutron to surface; Dual Laterolog from TD to surface casing.
c. Cores samples are not planned.

7. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- a. The estimated bottom hole pressures is 900 psi. No abnormal pressures or temperatures are anticipated.
b. Hydrogen sulfide gas is not expected to be encountered.

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : Leeman 12 Federal 6

FIELD : Pecos Slope

RIG : United #23

COUNTY : Chaves

STATE: New Mexico

OPERATION: Drill out below 8-5/8" Casing

| SIZE | PRESSURE | DESCRIPTION |
|-------|---------------------|-------------|
| A | | Flow Line |
| | | |
| B | 11" | 3,000# |
| | | Pipe Rams |
| C | 11" | 3,000# |
| | | Blind Rams |
| D | 11" | 3,000# |
| | | Mud Cross |
| | | |
| | | |
| | | |
| A-Sec | 8-5/8" SOW x 11" 3M | |

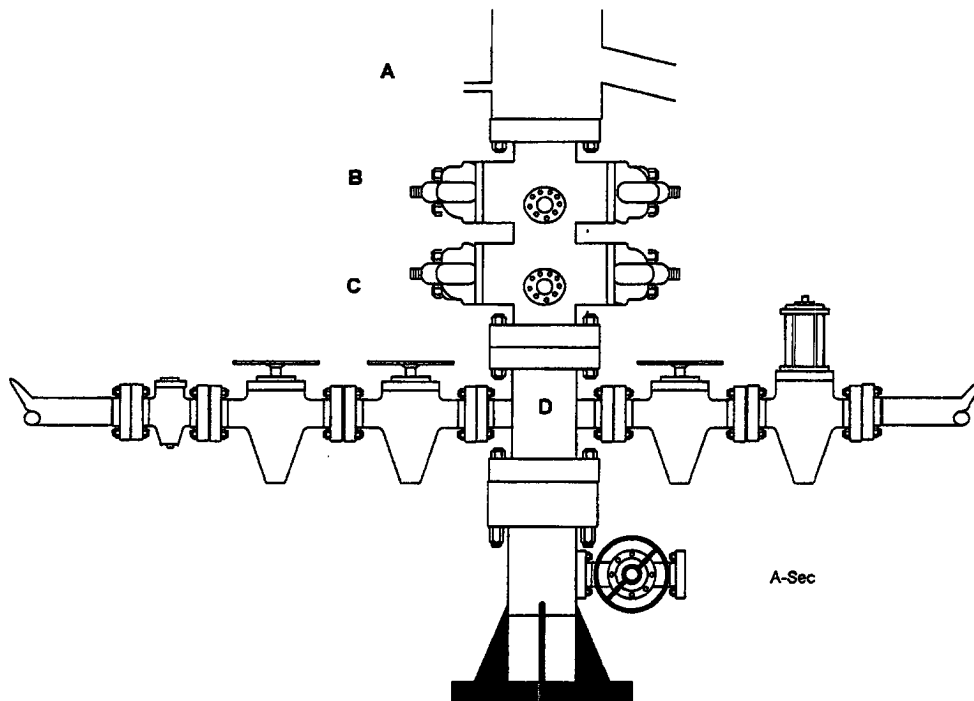


Exhibit F-1

Kill Line

| SIZE | PRESSURE | DESCRIPTION |
|------|----------|-------------|
| 2" | 3,000# | Check Valve |
| 2" | 3,000# | Gate Valve |
| 2" | 3,000# | Gate Valve |
| | | |
| | | |

Choke Line

| SIZE | PRESSURE | DESCRIPTION |
|------|----------|-------------|
| 2" | 3,000# | Gate Valve |
| 2" | 3,000# | HCR Valve |
| | | |
| | | |
| | | |

CHOKE MANIFOLD SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : Leeman 12 Federal 6
FIELD : Pecos Slope
RIG : Unknown
COUNTY : Chaves
OPERATION: 3M CHOKE MANIFOLD

STATE: NM

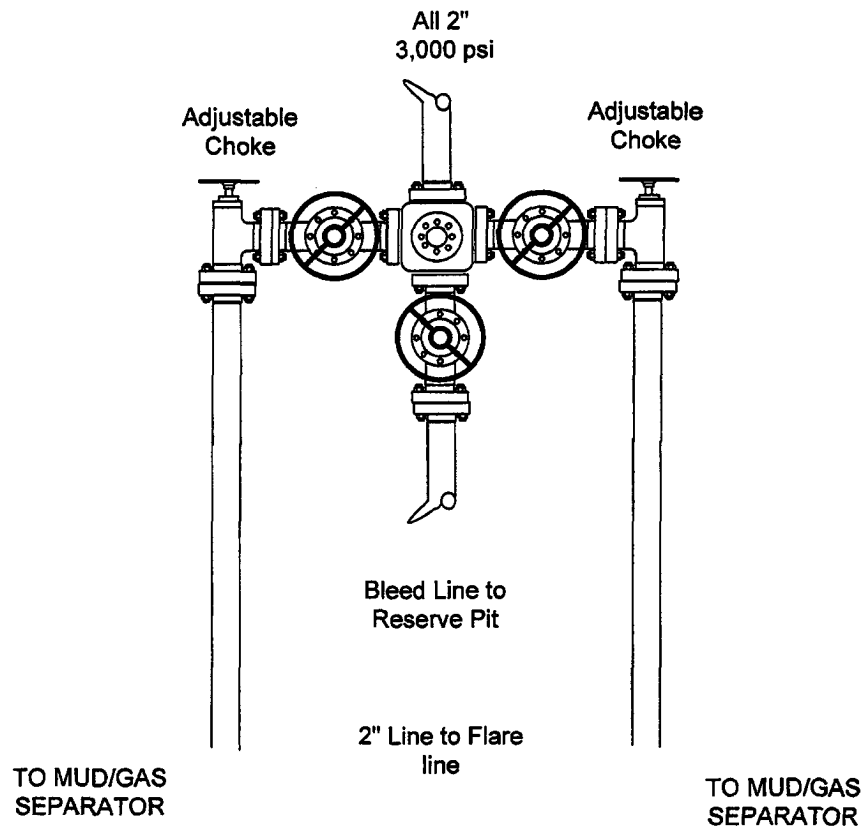


Exhibit F-2

Exhibit D

