

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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-10561 |
| 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other: CBM <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone | | 6. If Indian, Allottee or Tribe Name |
| 2. Name of Operator DUGAN PRODUCTION CORP. | | 7. If Unit or CA Agreement, Name and No. |
| Contact: KURT FAGRELIUS E-Mail: kfagrelus@duganproduction.com | | 8. Lease Name and Well No. BIG FIELD 8 |
| 3a. Address 709 EAST MURRAY DRIVE FARMINGTON, NM 87401 | 3b. Phone No. (include area code) Ph: 505.325.1821 Fx: 505.327.4613 | 9. API Well No. 3004532202 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSW 660FSL 790FWL 36.48310 N Lat, 108.18080 W Lon At proposed prod. zone | | 10. Field and Pool, or Exploratory HARPER HILL FRUITLAND SAND PC |
| 14. Distance in miles and direction from nearest town or post office* APPROX. 5-MILES NORTHWEST OF FARMINGTON, NM | | 11. Sec., T., R., M., or Blk. and Survey or Area M Sec 15 T30N R14W Mer NMP SME: BLM |
| 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 1397.16 | 12. County or Parish SAN JUAN |
| 18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROX. 1700' | 19. Proposed Depth 1420 MD | 13. State NM |
| 21. Elevations (Show whether DF, KB, RT, GL, etc.) 5683 GL | 22. Approximate date work will start 03/21/2004 | 17. Spacing Unit dedicated to this well 160.00 SW/4 |
| 23. Estimated duration 6-DAYS | | 20. BLM/BIA Bond No. on file |

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 officer.

| | | |
|---|--|--------------------|
| 25. Signature <i>Kurt Fagrelus</i> | Name (Printed/Typed) KURT FAGRELIUS | Date 02/23/2004 |
| Title GEOLOGIST | | |
| Approved by (Signature) <i>[Signature]</i> | Name (Printed/Typed) | Date |
| Title | Office | APR 22 2004 |

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:

C.O.A.: compliance w/Rule 50

A water based gel-mud will be used to drill surface and production casing hole. Standard 2,000 psi BOP will be used to drill production hole. The Fruitland sandstone and Pictured Cliffs Sandstone will be completed from approximately 1100' - 1290'. The interval will be fractured.

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | | |
|------------------------------------|---|----------------------------|---|
| *API Number 30-045-32202 | | *Pool Code 78160 | *Pool Name HARPER HILL FRUITLAND SAND PICTURED CLIFFS |
| *Property Code 3591 | *Property Name BIG FIELD | | *Well Number 8 |
| *OGRID No. 006515 | *Operator Name DUGAN PRODUCTION CORPORATION | | *Elevation 5683' |

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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| M | 15 | 30N | 14W | | 660 | SOUTH | 790 | 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 160.0 Acres - (SW/4) | ¹³ Joint or Infill | ¹⁴ Consolidation Code | ¹⁵ 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

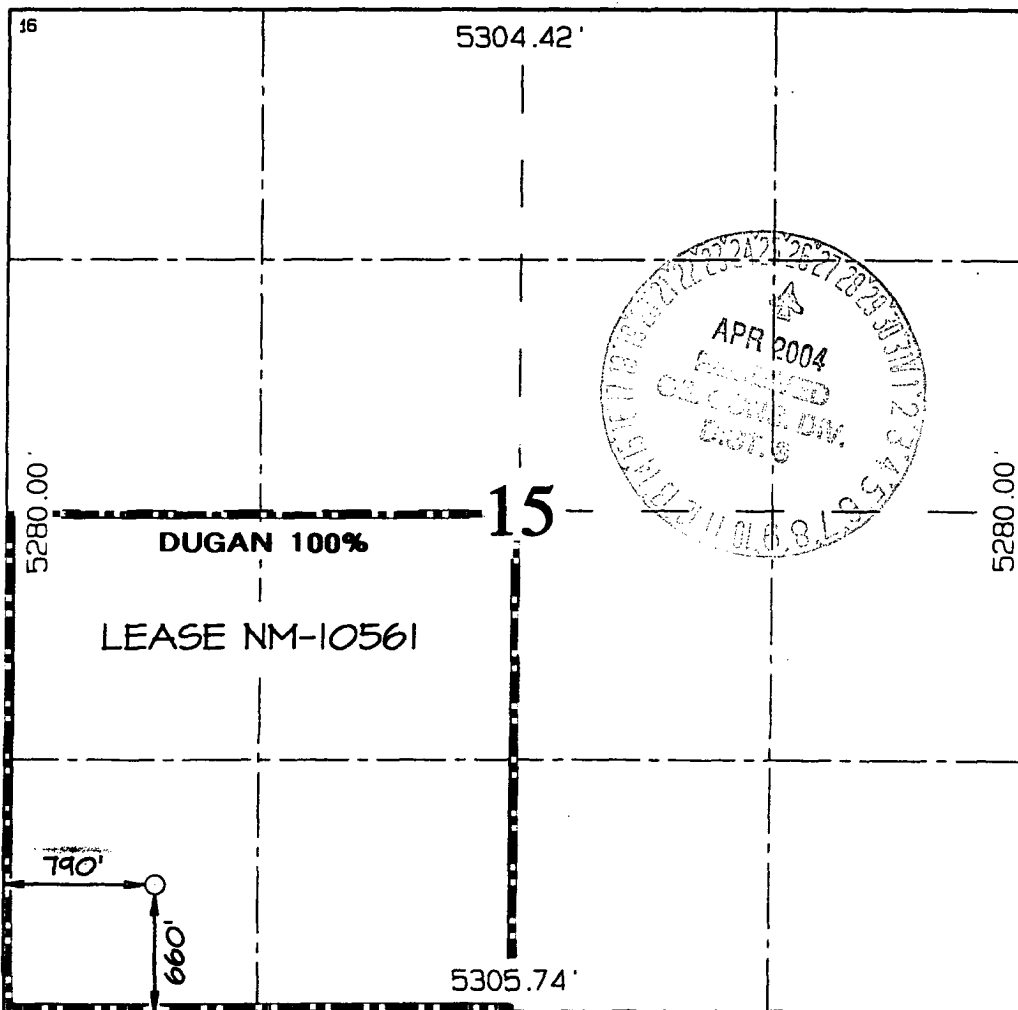

| | |
|--|---|
| <div><p>¹⁶</p></div> | <p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Kurt Fagrelus</i></p> <p>Signature</p> <p>Kurt Fagrelus</p> <p>Printed Name</p> <p>Geologist</p> <p>Title</p> <p>2/23/2004</p> <p>Date</p> |
| | <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Survey Date: NOVEMBER 13, 2003</p> <p>Signature and Seal of Professional Surveyor</p> <div></div> <p><i>JASON C. EDWARDS</i></p> <p>Certificate Number 15269</p> |
| | |
| | |

EXHIBIT B
OPERATIONS PLAN
Big Field #8

APPROXIMATE FORMATION TOPS:

| | | | |
|-----------|---------|--------------------|--------------|
| Kirtland | Surface | Pictured Cliffs | 1270' |
| Fruitland | 845' | Total Depth | 1420' |

Catch samples every 10 feet from 1100 feet to total depth.

LOGGING PROGRAM:

ABHP ~ 600 psi

Run cased-hole GR-CCL-CNL from total depth to surface.

CASING PROGRAM:

| | | | | |
|-------------|-------------|----------------|--------------|------------------|
| Hole | Casing | | Setting | Grade and |
| <u>Size</u> | <u>Size</u> | <u>Wt./ft.</u> | <u>Depth</u> | <u>Condition</u> |
| 12-1/4" | 8-5/8" | 24# | 120' | J-55 |
| 7" | 5-1/2" | 14# | 1420' | J-55 |

Plan to drill a 12-1/4" hole and set 120' of 8-5/8" OD, 24#, J-55 surface casing. Then plan to drill a 7" hole to total depth with gel-water mud program to test the Fruitland sandstone and Pictured Cliffs sandstone. 5-1/2", 14#, J-55 production casing will be run and cemented. Cased hole GR-CCL-CNL log will be run. Productive zone will be perforated and fractured. After frac, the well will be cleaned out and production equipment will be installed.

CEMENTING PROGRAM:

Surface: Cement to surface with 80 cf Class B + 2% CaCl₂.
Circulate to surface.

Production Stage-Cement with 150 cf 2% Lodense with
1/4# celloflake/sx followed by 75 cf Class "B" with
1/4# celloflake/sx.
Total cement slurry for production stage is 225 cf.
Circulate cement to surface.

An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement. An adequate number of casing centralizers will be run through usable water zones to ensure that casing is centralized through these zones. The adequate number of centralizers will be determined based on API standards. Centralizers to impart a swirling action around the casing will be used just below and into the base of the

lowest usable water zone. These devices will assist mud displacement, increase cement bonding potential and create an effective hydraulic seal. A chronological log will be kept which records the pump rate, pump pressure, slurry density, and slurry volume for the cement job. The log will be sent to the BLM after completion of the job.

WELLHEAD EQUIPMENT:

Huber 8-5/8"x5-1/2" casing head, 1000# WP, tested to 2000#.
Huber 5-1/2"x2-7/8" tubing head, 1000# WP, tested to 2000#.

BOP and Related Equipment will include for a 2000 psi system:
(Exhibit D)

Annular preventer, double ram, or 2 rams with one
being blind and one being a pipe ram.
Kill line (2" minimum)
1 kill line valve (2" minimum)
1 choke line valve
2 chokes
Upper kelly cock valve with handle available
Safety valve and subs to fit all drill string
connections in use.
Pressure gauge on choke manifold.
2" minimum choke line.
Fill-up line.

Contacts:

Dugan Prod.Corp. Office & Radio Dispatch: 325-1821

| | |
|------------|--------------|
| Mark Brown | 327-3632 (H) |
| | 320-8247 (M) |

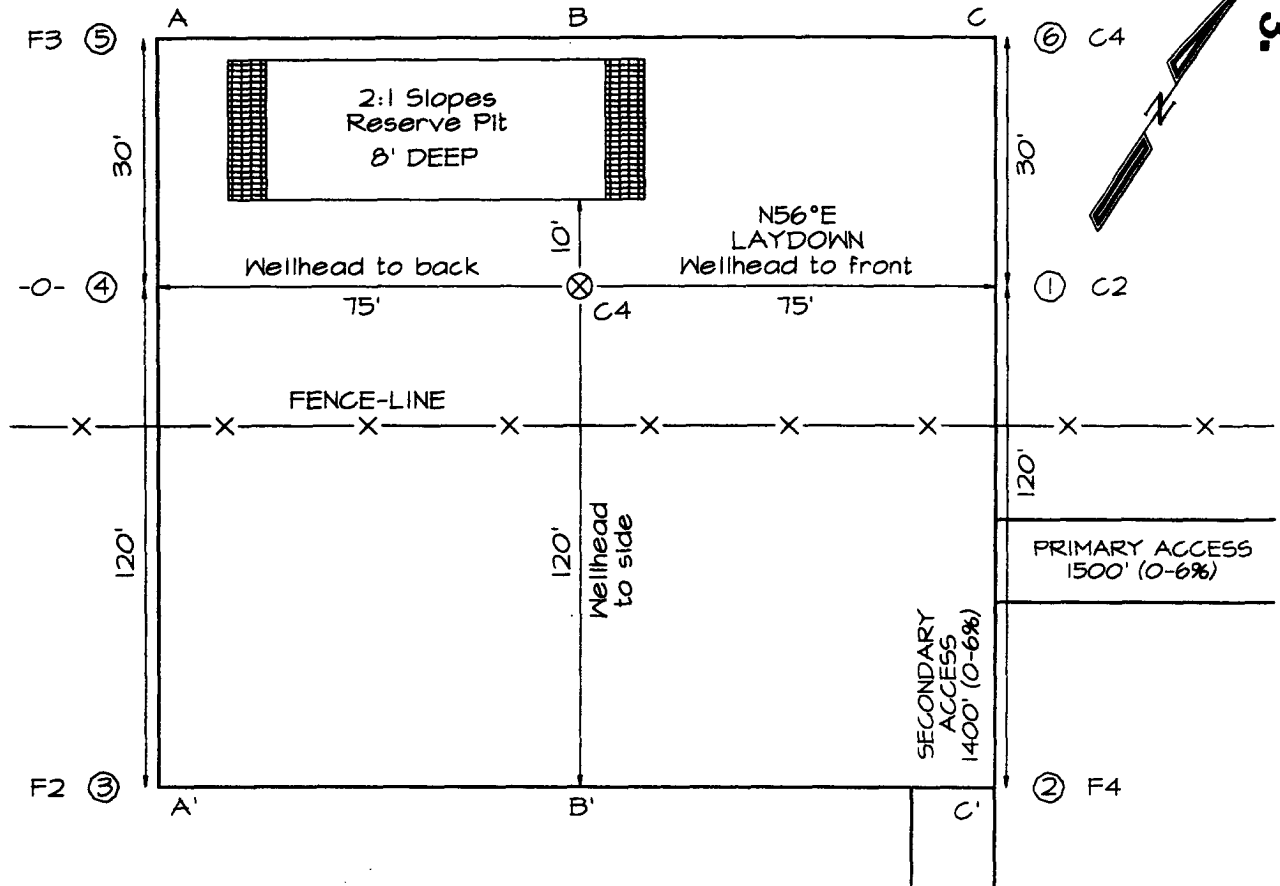
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|---------------|--------------|
| Kurt Fagrelus | 325-4327 (H) |
| | 320-8248 (M) |

| | |
|----------------|--------------|
| John Alexander | 325-6927 (H) |
| | 320-1935 (M) |

PLAT 3.

PLAT NOTE:

SURFACE OWNER
Bureau of Land
Management



| | | | | | | |
|-------|--|--|--|--|--|--|
| A-A' | | | | | | |
| 5689' | | | | | | |
| 5679' | | | | | | |
| 5669' | | | | | | |
| | | | | | | |

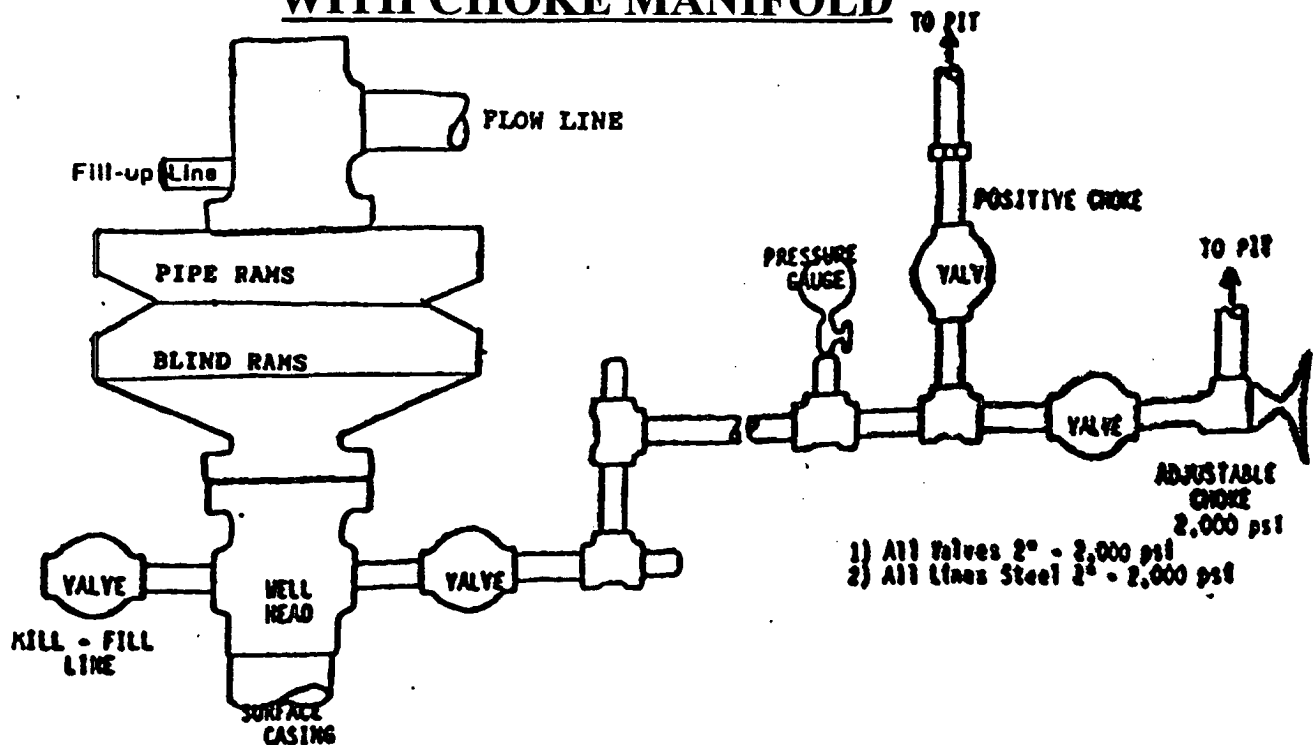
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|-------|--|--|--|--|--|--|--|--|--|--|
| B-B' | | | | | | | | | | |
| 5689' | | | | | | | | | | |
| 5679' | | | | | | | | | | |
| 5669' | | | | | | | | | | |
| | | | | | | | | | | |

| | | | | | | |
|-------|--|--|--|--|--|--|
| C-C' | | | | | | |
| 5689' | | | | | | |
| 5679' | | | | | | |
| 5669' | | | | | | |
| | | | | | | |

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

BOP DIAGRAM WITH CHOKE MANIFOLD

EXHIBIT D.



BOP and Related Equipment will include for a 2000 psi system:

2000 PSI DOUBLE RAM BLOWOUT PREVENTER

Kill line (2" minimum)

1 kill line valve (2" minimum)

1 choke line valve

2 chokes

Upper kelly cock valve with handle available

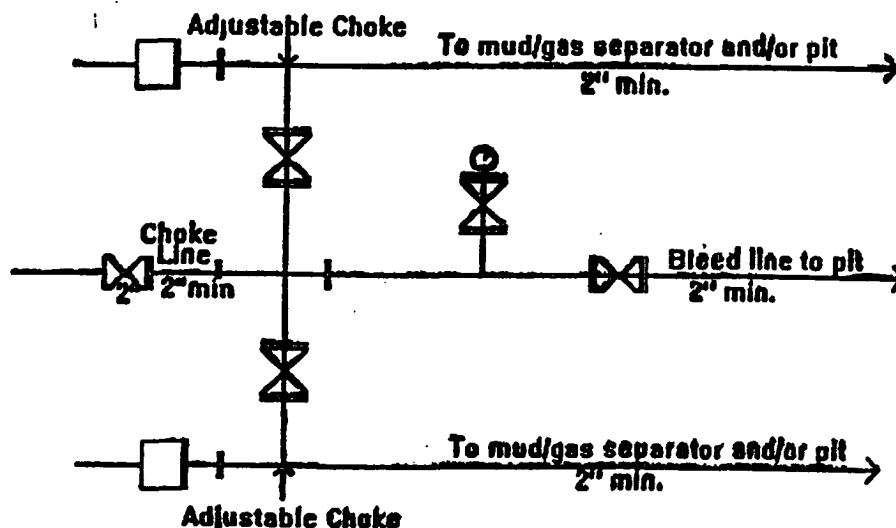
Safety valve and subs to fit all drill string connections in use

Pressure gauge on choke manifold

2" minimum choke line

Fill-up line above the uppermost preventer

BOP equipment will be tested as required in Section III A.1 of Onshore Order 2, plus a 30% safety factor.



2M Choke Manifold Equipment - Configuration May Vary

DUGAN PRODUCTION CORP.

BIG FIELD #8