Form 3160-3
(August 1999)

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070 Farmington, NM

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NM-2337
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☒ Other: CBM ☒ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. CHACO 90
2. Name of Operator DUGAN PRODUCTION CORP. Contact: KURT FAGRELIUS E-Mail: kfagrelius@duganproduction.com	9. API Well No. 30045 32273
3a. Address 709 EAST MURRAY DRIVE FARMINGTON, NM 87401	3b. Phone No. (include area code) Ph: 505.325.1821 Fx: 505.327.4613
	10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface SENW 1850FNL 1850FWL 36.20430 N Lat, 107.43290 W Lon At proposed prod. zone	11. Sec., T., R., M., or Blk. and Survey or Area Sec 6 T24N R8W Mer NMP
14. Distance in miles and direction from nearest town or post office* APPROX. 30 MILES SOUTHEAST OF BLOOMFIELD, 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) 1850'	16. No. of Acres in Lease 962.11 / 17. Spacing Unit dedicated to this well 322.58 N/2
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROX. 3600'	19. Proposed Depth 2050 MD / 20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KB, RT, GL, etc. 6707 GL	22. Approximate date work will start 05/14/2004 / 23. Estimated duration 7-DAYS

SEP 2004

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 Kurt Fagrelius	Name (Printed/Typed) KURT FAGRELIUS	Date 04/05/2004
Title GEOLOGIST		
Approved by (Signature) /s/ Jim Lovato	Name (Printed/Typed)	Date 9-16-04
Title AFM	Office FFO	

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:

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 Coal will be completed from approximately 1885' - 1900'. The interval will be fractured.

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

NMOCD

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

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

SEP 2004

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-32273	71629	BASIN FRUITLAND COAL

4 Property Code	5 Property Name	6 Well Number
3616	CHACO	90

7 OGRID No.	8 Operator Name	9 Elevation
006515	DUGAN PRODUCTION CORPORATION	6707'

10 Surface Location

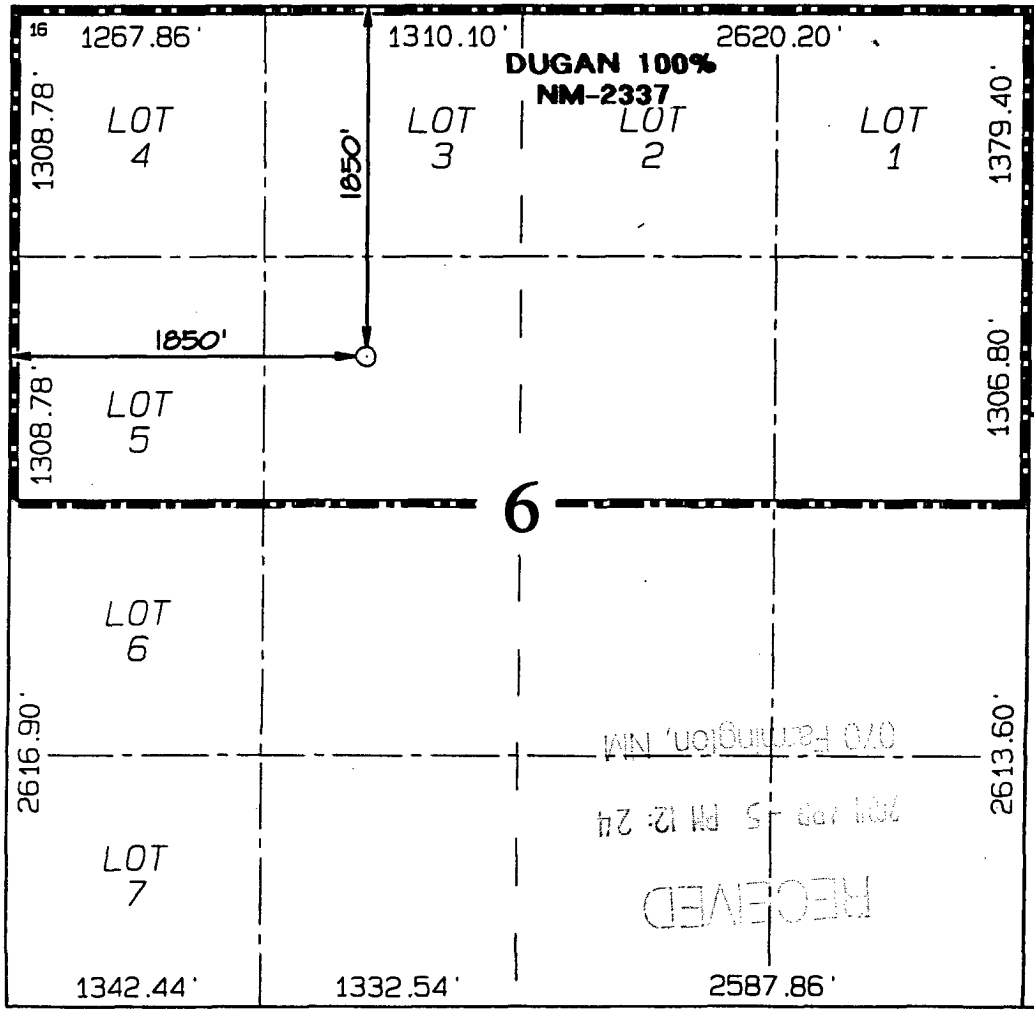
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	6	24N	8W		1850	NORTH	1850	WEST	SAN JUAN

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	13 Joint or Infill	14 Consolidation Code	15 Order No.
322.58 Acres - (N/2)			

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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Kurt Fagrelius
Signature

Kurt Fagrelius
Printed Name

Geologist
Title

4/6/2004
Date

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.

Survey Date: AUGUST 6, 2003

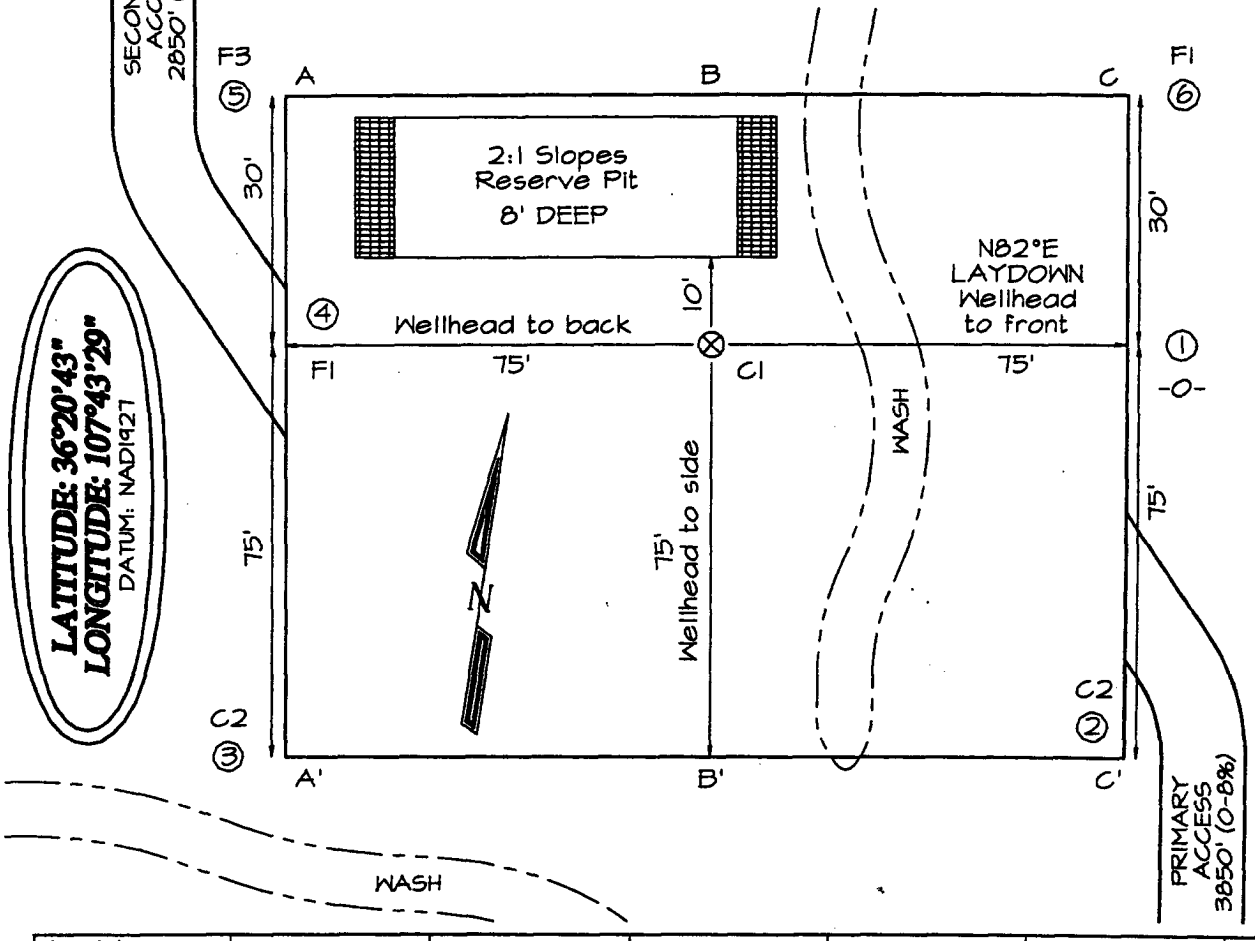
Signature and Seal of Professional Surveyor

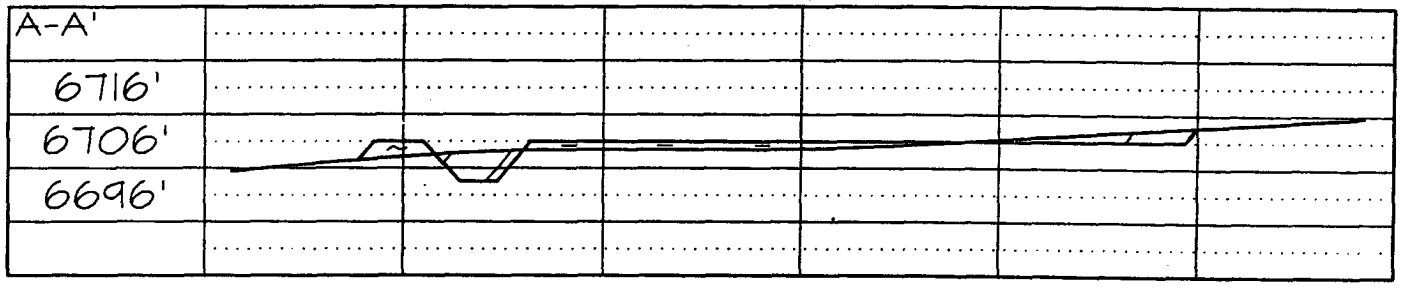
JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

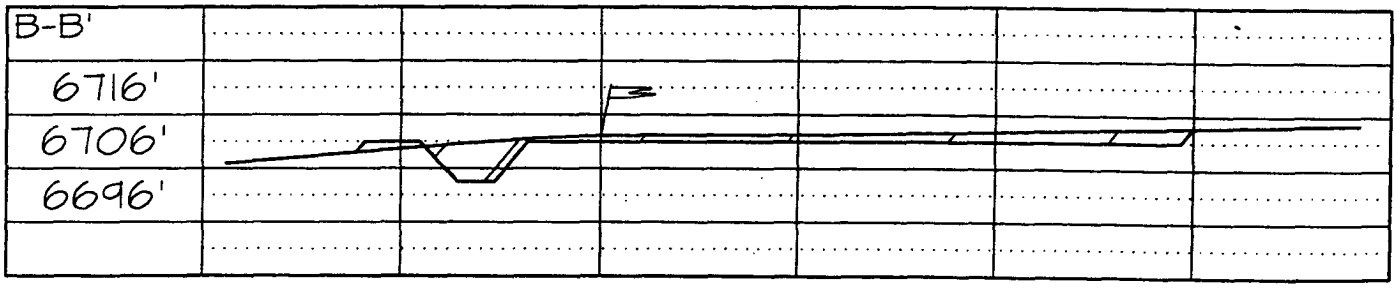
JASON C. EDWARDS
Certificate Number 15269

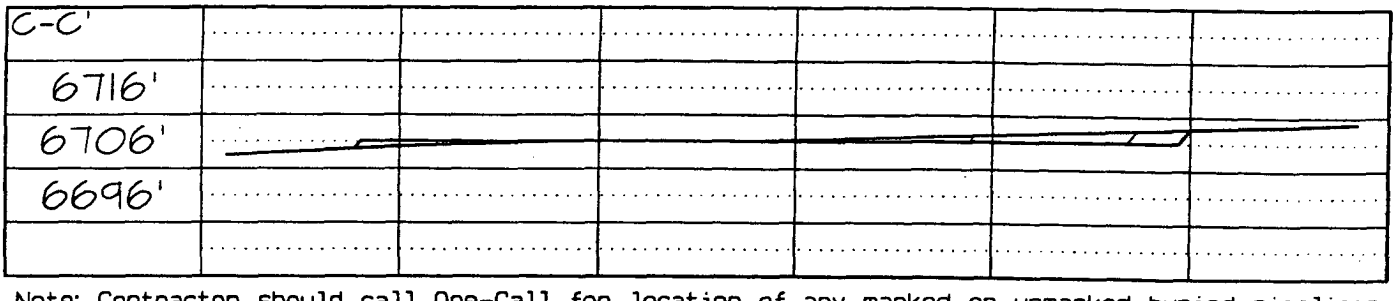
DUGAN PRODUCTION CORPORATION CHACO #90
1850' FNL & 1850' FWL, SECTION 6, T24N, R8W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6707'

PLAT 3.









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

EXHIBIT B
OPERATIONS PLAN
Chaco #90

APPROXIMATE FORMATION TOPS:

Ojo Alamo	1215'
Kirtland	1290'
Fruitland	1550'
Pictured Cliffs	1902'
Total Depth	**2050'**

Catch samples every 10 feet from 1800 feet to total depth.

LOGGING PROGRAM:

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

CASING PROGRAM:

Hole Size	Casing Size	Wt./ft.	Setting Depth	Grade and Condition
9-7/8"	7"	20#	120'	J-55
6-1/4"	4-1/2"	10.5#	2050'	J-55

Plan to drill a 9-7/8" hole and set 120' of 7" OD, 20#, J-55 surface casing. Then plan to drill a 6-1/4" hole to total depth with gel-water mud program to test the Fruitland Coal. 4-1/2", 10.5#, 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 70 cf Class B + 2% $CaCl_2$.
Circulate to surface.

Production Stage-Cement with 210 cf 2%lodense with
¼# celloflake/sx followed by 105 cf Class "B" with
¼# celloflake/sx.
Total cement slurry for production stage is 315 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 7"x4-1/2" casing head, 1000# WP, tested to 2000#.
Huber 4-1/2"x2-7/8" tubing head, 1000# WP, tested to 2000#.

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

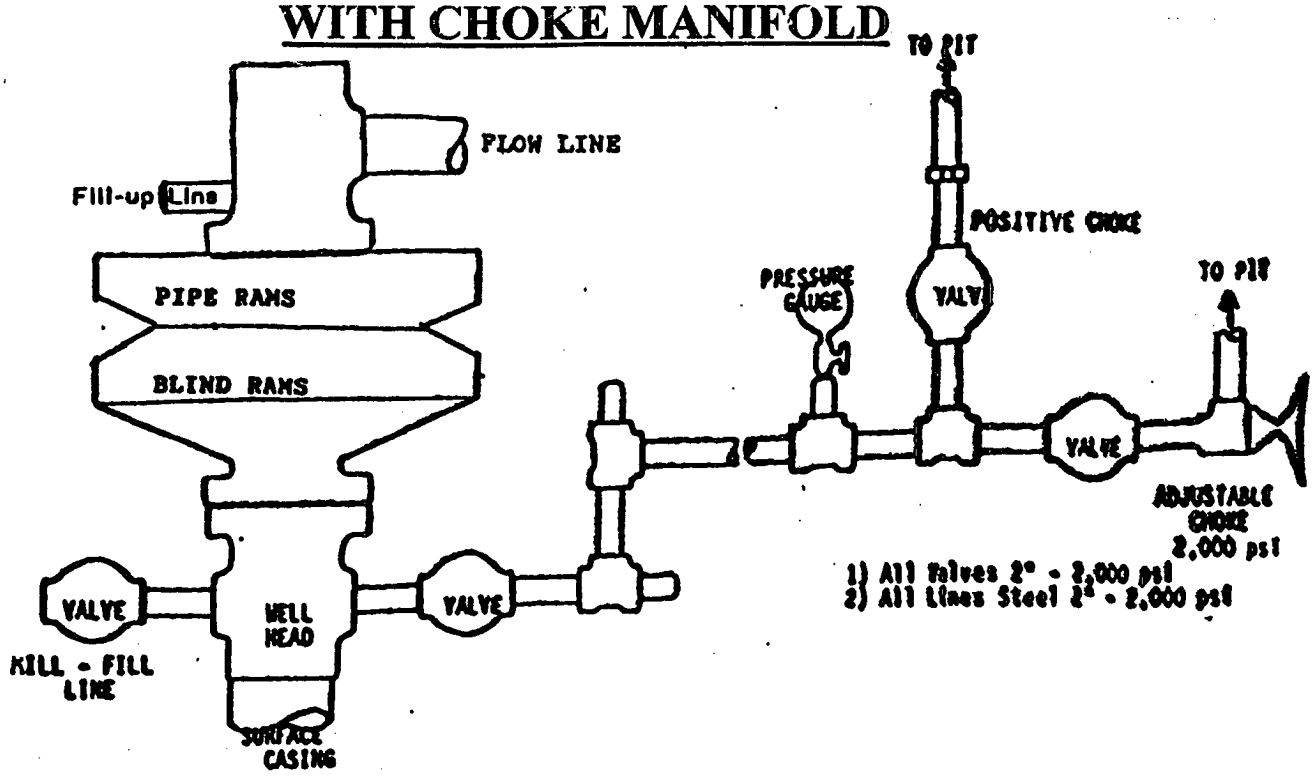
Annular preventer, double ram, or 2 rams with one being blind and one being a pipe ram.
Kill line (2" minimum)
1 kill line valve (2" minimum)
1 choke line valve
2 chokes
Upper kelly cock valve with handle available
Safety valve and subs to fit all drill string connections in use.
Pressure gauge on choke 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)
	Kurt Fagrelius	325-4327 (H)
		320-8248 (M)
	John Alexander	325-6927 (H)
		320-1935 (M)

BOP DIAGRAM WITH CHOKE MANIFOLD

EXHIBIT D.

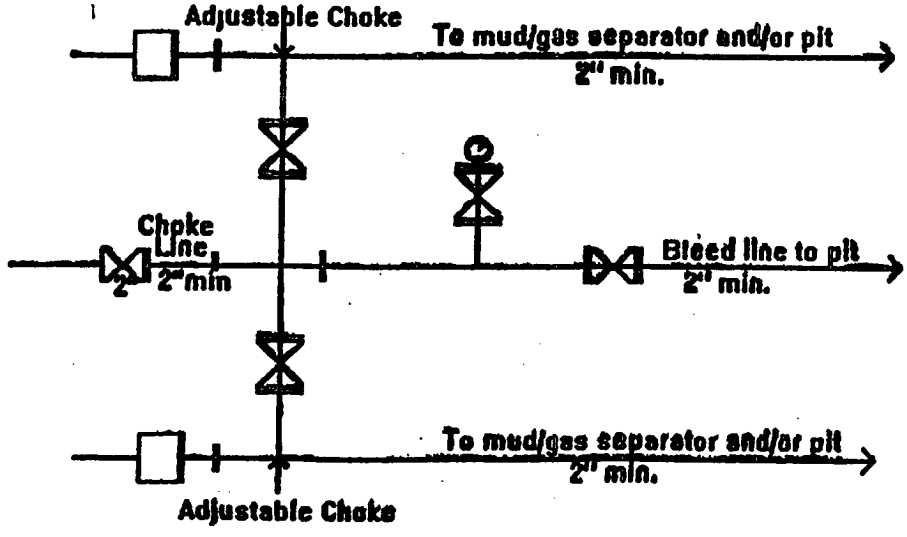


BOP and Related Equipment will include for a 2000 psi system:

2000 PSI DOUBLE RAM BLOWOUT PREVENTER

Kill line (3" 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.

Chaco #90