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Attorneys at Law

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Post Office Box 2265

Santa Fé, New Mexico 87504-2265

April 4, 1989

W. Thomas Kellahin  
Karen Aubrey

Jason Kellahin  
Of Counsel

Telephone 982-4285  
Area Code 505

RECEIVED

APR 4 1989

HAND-DELIVERED

Mr. William J. LeMay  
Oil Conservation Division  
Post Office Box 2088  
Santa Fe, New Mexico 87501

OIL CONSERVATION DIVISION

Case 9658

Re: Application of Parker & Parsley  
for Approval of the Pardue Farms  
"27" Well #8-D for Salt Water  
Disposal, Eddy County, New Mexico

Dear Mr. LeMay:

On behalf of Parker & Parsley Petroleum Company, please find enclosed Division Form C-108 which is an application for approval of the referenced well for salt water disposal.

We would request that this cause be set for hearing on the Examiner's docket now scheduled for April 26, 1989.

We suggest the following for an advertisement for this matter:

Application for Parker & Parsley Petroleum Company for salt water disposal, Eddy County, New Mexico. Applicant in the above styled cause seeks authority to dispose of produced water into the Delaware formation (Bushy Canyon and Cherry Canyon) in the perforated interval from approximately 3,500' to 4,800' in its Pardue Farms "27" #8-D Well located 2,069' FNL and 632' FEL (Unit H) of Section 27, T23S, R28E, NMPM. Applicant further seeks an administrative procedure to increase the surface injection pressure for the well. Said well is located approximately 2 miles Southeast by East of Loving, New Mexico.

By copy of this letter we are forwarding a copy of the Form C-108 to all offset operators within one-half mile and to the owner of the surface.

Very truly yours,



W. Thomas Kellahin

KELLAHIN, KELLAHIN and AUBREY

Mr. William J. LeMay  
April 4, 1989  
Page 2

WTK/rs  
Encl.

cc: Randy Johnson - Parker & Parsley

Certified Mail Return-Receipt Requested:

Mr. Milton Wessels  
P.O. Box 940  
Marble Falls, Texas 77090

HNG Oil Company  
c/o Enron Oil & Gas  
P.O. Box 2267  
Midland, Texas 79702

Amoco Production Company  
P.O. Box 4072  
Odessa, Texas 79760

Mr. Billie Queen  
Route 211 Ash Road  
Loving, New Mexico 86256

Mr. Mike Williams  
Oil Conservation Division  
P.O. Drawer DD  
Artesia, New Mexico 88210  
Original and three copies of letter.

Case 9658

## APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  yes  no
- II. Operator: Parker & Parslev Petroleum Co.  
Address: P. O. Box 3178, Midland, Texas 79702  
Contact party: Randy R. Johnson Phone: 915/683-4768
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project?  yes  no  
If yes, give the Division order number authorizing the project \_\_\_\_\_.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- \* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- \* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: Randy R. Johnson Title Operations Engineer  
Signature: Randy R. Johnson Date: 3-30-89
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. \_\_\_\_\_

## III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

## XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.



PARDUE FARMS "27" #8D

III.

- A. 1. Pardue Farms 27 #8D  
Sec. 27, T-23S, R-28E  
Unit Letter: H, 2069' FNL & 632' FEL
2. 9 5/8", set @ 500', cmtd w/ 500 sx Class "C"  
12 1/4" hole, cmt circulated  
7", set @ 4800', cmtd w/ 800 sx Class "C"  
8 3/4" hole, cmt circulated
3. 3 1/2" Fiberglass tbq set @ +3400'
4. Otis Perma-Latch @ +3400'
- B. 1. Delaware (Bell Canyon & Cherry Canyon)
2. 3500' - 4800'
3. Drilled for injection
4. None
5. Higher Zone - None known  
Lower Zone - Brushy Canyon & Bone Springs

VI.

Pardue Farms 27 #1  
Oil Well  
Spud: 7-30-78 Completed: 4-1-81  
Location: Unit H, 1980' FNL & 990' FEL;  
Sec. 27, 23-S, 28-E  
Depth: 13,100'  
PBSD: 8,000'  
Perfs: 6588 - 7036'

Pardue Farms 27 #2  
Oil Well  
Spud: 3-22-81 Completed: 5-3-81  
Location: Unit B, 1980' FEL & 660' FNL;  
Sec. 27, 23S, 28E  
Depth: 7550'  
PBSD: 7500'  
Perfs: 6252 - 7165'

Pardue Farms 27 #3

Oil Well

Spud: 5-21-81 Completed: 7-8-81

Location: Unit J, 1980' FSL & 1980' FEL;  
Sec. 27, 23-S, 28-E

Depth: 7,550'

PBTD: 7,510'

Perfs: 6261 - 7112'

Pardue Farms 27 #4

Oil Well

Spud: 6-11-81 Completed: 9-25-81

Location: Unit P, 660' FSL & 660' FEL;  
Sec. 27, 23-S, 28-E

Depth: 7300'

PBTD: 6265'

Perfs: 6070 - 6248'

Pardue Farms 27 #7

Oil Well

Spud: 12-14-88 Completed: 1-16-89

Location: Unit A, 560' FNL & 560' FEL;  
Sec. 27, 23-S, 28-E

Depth: 7,508'

PBTD: 6,260'

Perfs: 6040 - 6251'

Pardue Farms 26 #1

Gas Well

Spud: 9-16-78 Completed: 1-7-79

Location: Unit E, 1980' FNL & 660' FWL;  
Sec. 26, 23-S, 28-E

Depth: 13,117'

PBTD: 11,885'

Perfs: 11,758 - 11,782'

Pardue Farms 26 #2

Oil Well

Spud: 10-10-80 Completed: 10-26-80

Location: Unit D, 760' FNL & 990' FWL;  
Sec. 26, 23-S, 28-E

Depth: 7,063'

PBTD: 6,790'

Perfs: 6,406 - 6,676'

Pardue Farms 26 #3  
Oil Well  
Spud: 2-4-81      Completed: 4-30-81  
Location: Unit F, 2980 FNL & 1980 FWL;  
          Sec. 26, 23-S, 28-E  
Depth: 8,000'  
PBD: 7,200'  
Perfs: 6,262 - 7,104'

Flyer #1  
Oil Well  
Spud: 12-30-82      Completed: 1-28-83  
Location: Unit , 1980' FNL & 1980 FWL;  
          Sec. 27, 23-S, 28-E  
Depth: 6,750'  
PBD: 6,698'  
Perfs: 6,356 - 6,374'

VII. 1. Average: 1500 BWPD  
Maximum: 2000 BWPD

2. Closed

3. Average: 1000 psig  
Masimum: 1500 psig

4. Bone Spring and Brushy Canyon, see attachment.

5. See attachment.

VIII. Proposed disposal zone is the Delaware Cherry Canyon and Bell Canyon at a depth of 3500 - 4800'. Lithology is a fine grain quartz sandstone and siltstone interbedded w/ very fine grain gray shales.

The Rustler is the only aquifer overlying the proposed disposal zone. Base of the Rustler is @ 400'.

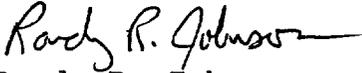
IX. Proposed stimulation: 5000 gals 15% NEFE acid.

X. Logs & test data will be filed when the proposed well is drilled and completed.

XI. None available.

XII. I, Randy R. Johnson, have examined available geologic and engineering data, and find no evidence of open faults or any other hydrologic connection between the disposal zone and any under ground source of drinking water.

Parker & Parsley Petroleum Co.

  
Randy R. Johnson  
Operations Engineer



PLEASE REPLY: 525 S. GRANDVIEW  
 P.O. BOX 2073  
 ODESSA, TX 79760

Parker & Parsley  
 Pardue Farms  
 Station: Hobbs

3-21-89  
 Craig Bailey  
 Waters & Oils

PURPOSE: To analyze the water samples and check the compatibility of the oil samples with each other.

WATER ANALYSIS:	INJECTION FLUID	
	<u>Bone Springs</u>	<u>Brush Canyon</u>
Specific Gravity @ 60°F:	1.186	1.196
pH:	5.94	6.08
<u>RADICALS</u>		
Total Hardness	80,000	88,000
Calcium	28,800	32,800
Magnesium	1,920	1,440
Iron(Dissolved)	38	1
Barium	ND	ND
*Sodium	91,701	87,998
Chlorides	198,000	198,000
Sulfate	282	295
Bicarbonate	312	171
Sulfide	NP	NP
Hydrogen Sulfide	NP	NP
TDS	321,053	320,705
Scaling Tendency:		
CaCO <sub>3</sub> :	Probable	Probable
CaSO <sub>4</sub> :	Possible	Possible

OIL ANALYSIS:

API GRAVITY @ 60°F: 42.0 45.0

There was no emulsion problems observed between the two oil samples at a 50:50 mixture.

\*Sodium is a calculated value to balance the equation.

Lab. Report: 3W-032  
 Analyzed By: David Ellison

Submit to Appropriate District Office  
 State Lease - 6 copies  
 Fee Lease - 5 copies

State of New Mexico  
 Energy, Minerals and Natural Resources Department

Form C-101  
 Revised 1-1-89

**OIL CONSERVATION DIVISION**  
 P.O. Box 2088  
 Santa Fe, New Mexico 87504-2088

**DISTRICT I**  
 P.O. Box 1980, Hobbs, NM 88240

**DISTRICT II**  
 P.O. Drawer DD, Artesia, NM 88210

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

API NO. (assigned by OCD on New Wells)	
5. Indicate Type of Lease	STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No.	

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK					
1a. Type of Work: DRILL <input checked="" type="checkbox"/> RE-ENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>	7. Lease Name or Unit Agreement Name Pardue Farms 27				
b. Type of Well: OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER SWD <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>	8. Well No. 8-D				
2. Name of Operator Parker & Parsley Petroleum Company	9. Pool name or Wildcat Delaware (Bell Canyon)				
3. Address of Operator P. O. Box 3178, Midland, Texas 79702					
4. Well Location Unit Letter <u>H</u> : <u>2069</u> Feet From The <u>North</u> Line and <u>632</u> Feet From The <u>East</u> Line Section <u>27</u> Township <u>23S</u> Range <u>28E</u> NMPM <u>Eddy</u> County					
10. Proposed Depth 4800					
11. Formation Bell Canyon					
12. Rotary or C.T. Rotary					
13. Elevations (Show whether DF, RT, GR, etc.) 3033.1 GR	14. Kind & Status Plug. Bond Blanket-Active				
15. Drilling Contractor Capstarr					
16. Approx. Date Work will start 4-1-89					
17. PROPOSED CASING AND CEMENT PROGRAM					
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12 1/4	9 5/8	36#	500'	500	Surf.
8 3/4	7"	24#	4800'	800	Surf.

BOP's - 500-4800' 10" 3000 psi double ram preventers, nearest resistance approximately 400'.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

SIGNATURE Randy R. Johnson TITLE Operations Engineer DATE 3-27-89  
 TYPE OR PRINT NAME Randy Johnson TELEPHONE NO. 915 683 47

(This space for State Use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

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

State of New Mexico  
 Energy, Minerals and Natural Resources Department

Form C-102  
 Revised 1-1-89

**OIL CONSERVATION DIVISION**

P.O. Box 2088  
 Santa Fe, New Mexico 87504-2088

DISTRICT I  
 P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
 P.O. Drawer DD, Artesia, NM 88210

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

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

All Distances must be from the outer boundaries of the section

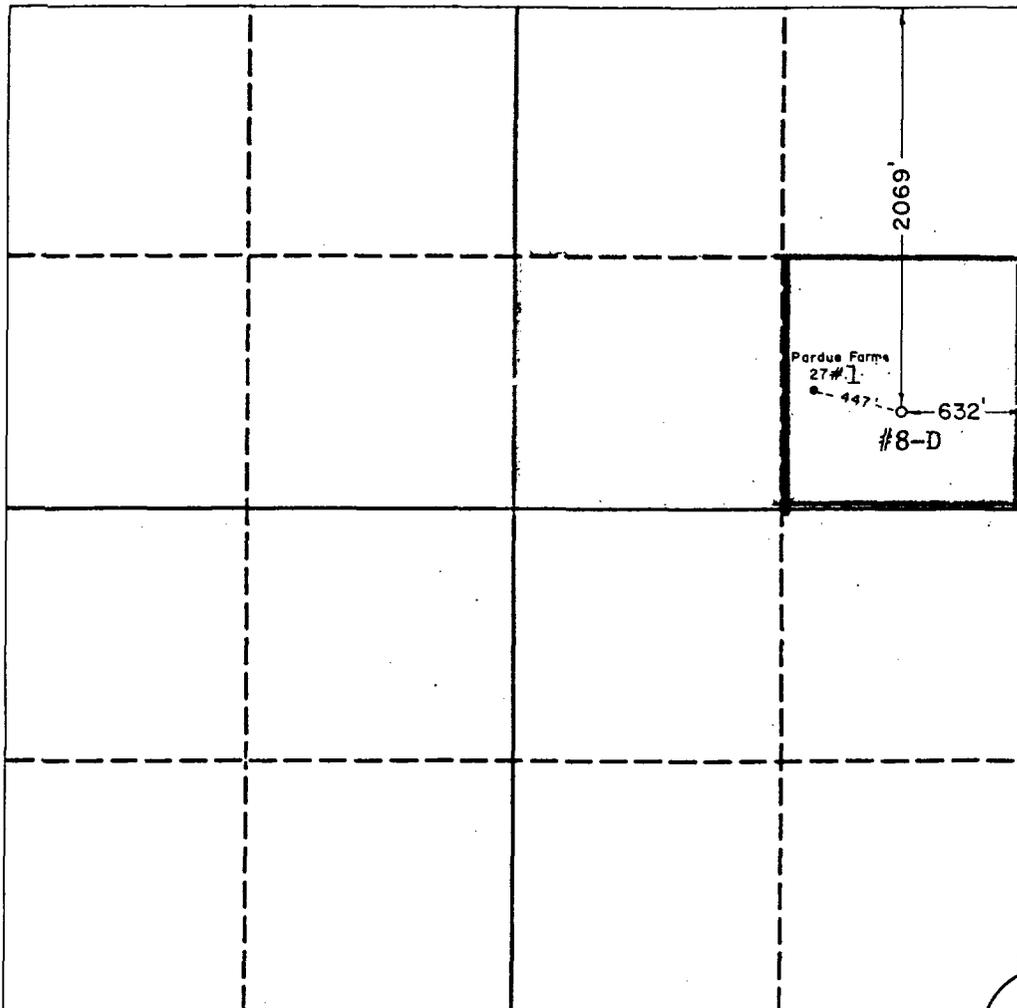
Operator Parker & Parsley		Lease Pardue Farms 27		Well No. 8-D
Unit Letter H	Section 27	Township 23 South	Range 28 East	County Eddy
Actual Footage Location of Well: 2069 feet from the north line and 632 feet from the east line				
Ground level Elev. 3033.1	Producing Formation Bell Canyon	Pool Delaware (Bell Canyon)	Dedicated Acreage: 40 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
 

Yes     No    If answer is "yes" type of consolidation Designation of pooled or unitized area

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



**OPERATOR CERTIFICATION**

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

*Randy K. Johnson*  
 Signature  
 Randy Johnson  
 Printed Name  
 Operations Engineer  
 Position  
 Parker & Parsley Petr. Co.  
 Company  
 3-27-89  
 Date

**SURVEYOR CERTIFICATION**

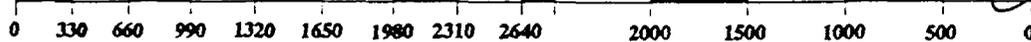
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
 March 21, 1989

Signature & Seal of Professional Surveyor

Certified No. 676 W. WEST 676  
 RONALD J. EIDSON 3239  
 JOHN W. WEST

125630



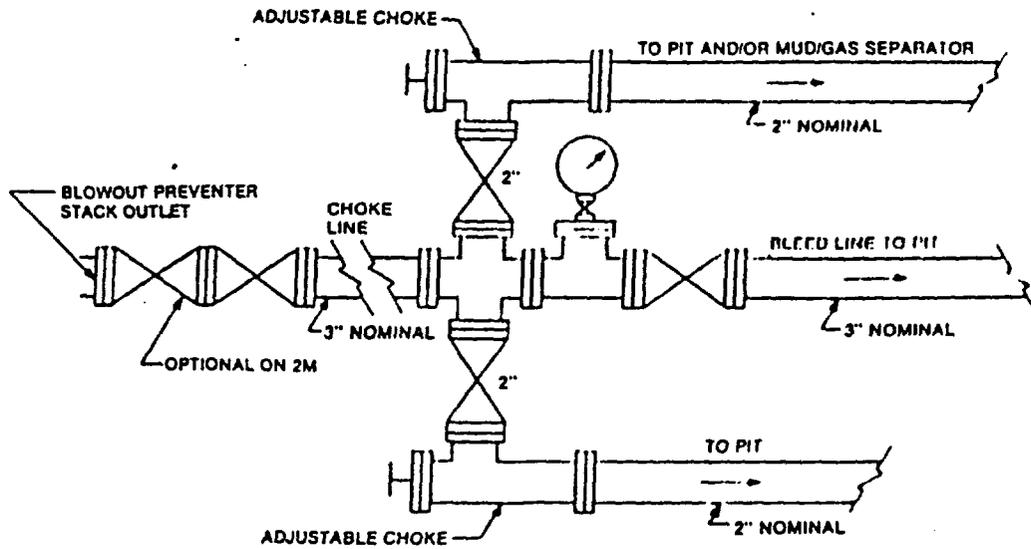


FIGURE K4-1. Typical choke manifold assembly for .3M rated working pressure service — surface installation.

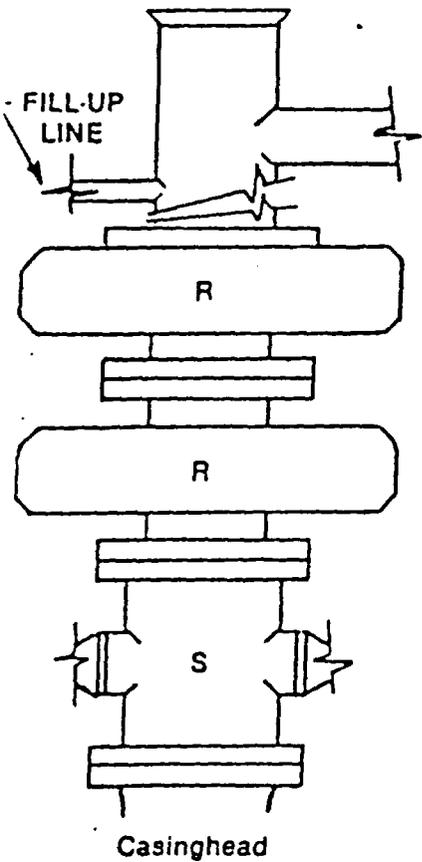


FIGURE K1-1. Recommended IADC Class 2 BOP stack; 3000 psi WP. Either SRd (left) or SA (right) arrangement is acceptable and drilling spool is optional.