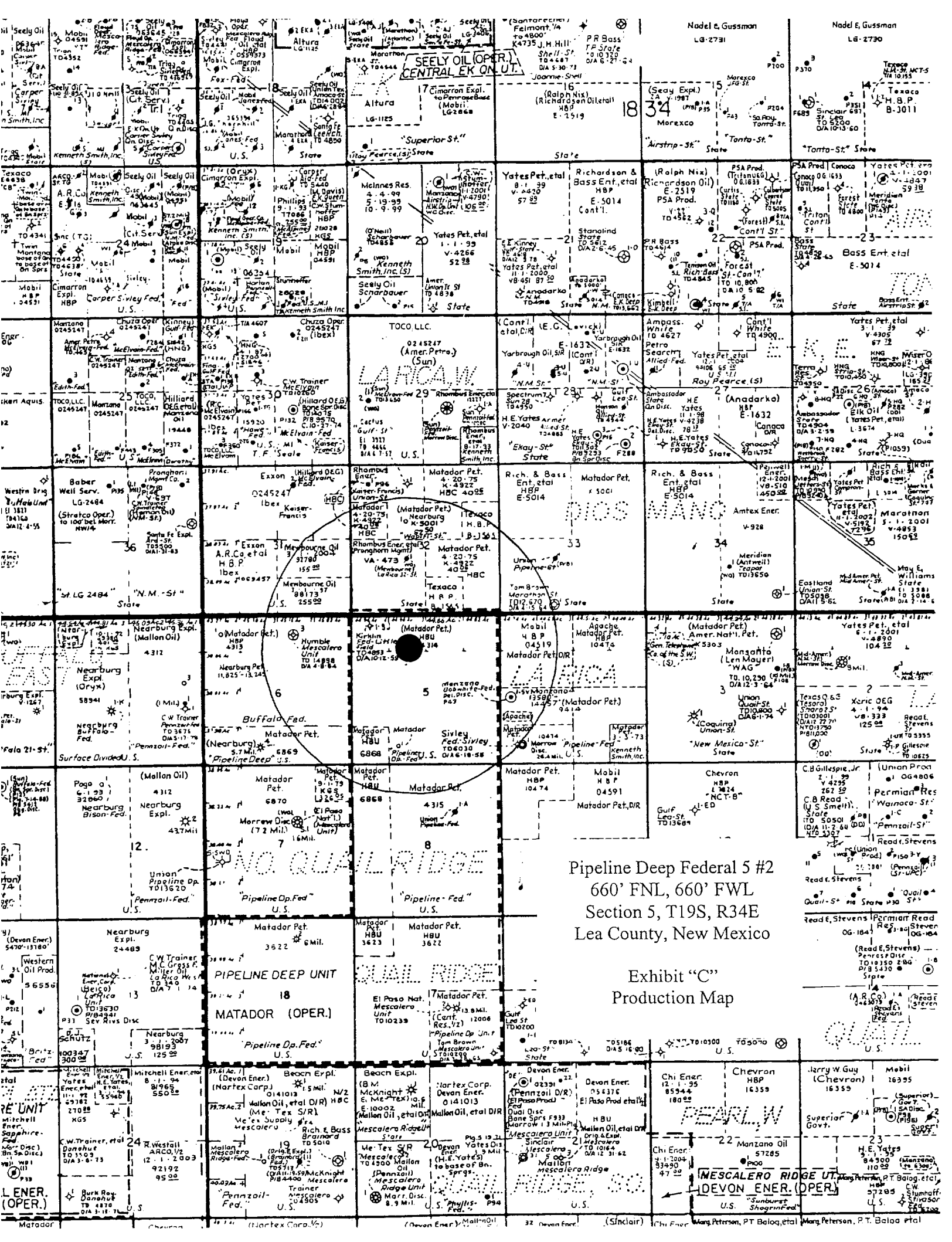
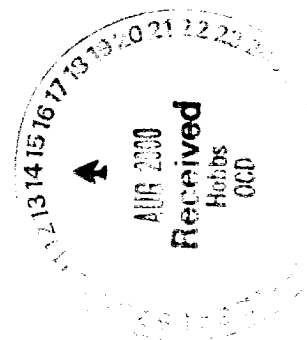






MINIMUM BLOWOUT PREVENTER REQUIREMENTS
5,000 psi Working Pressure

5 MWP

Pipeline Deep Federal 5 #2
660' FNL, 660' FWL
Section 5, T19S, R34E
Lea County, New Mexico

Exhibit "D"

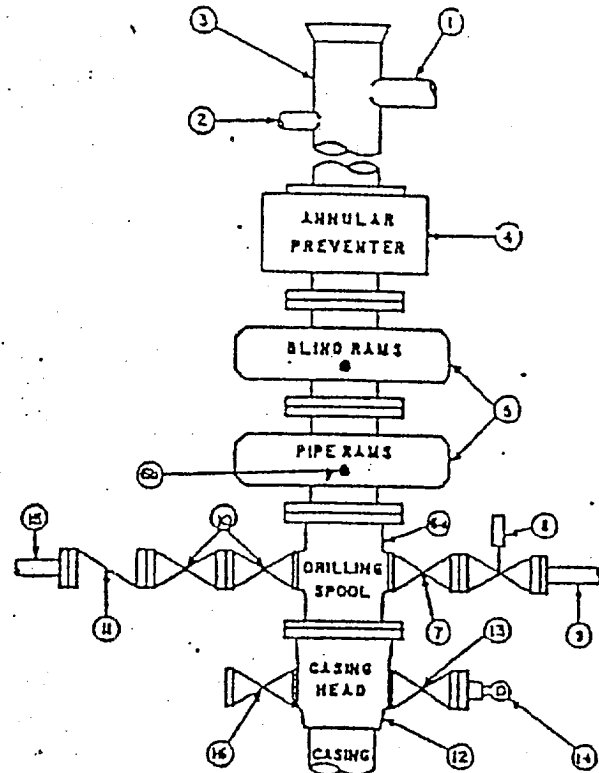
STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate ☐ Plug ☐	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate ☐ Plug ☐	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate ☐ Plug ☐	1-13/16"	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL

16	Flanged valve	1-13/16"	
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CONFIGURATION A



CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 5,000 psi, minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers position.
4. Kelly equipped with Kelly cock.
5. Inside blowout preventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

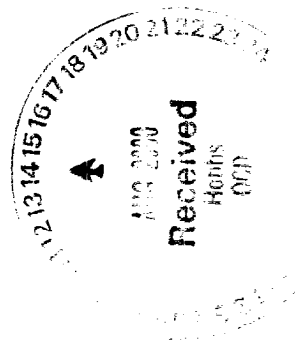
GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke boxes. Replaceable parts for adjustable chokes, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.

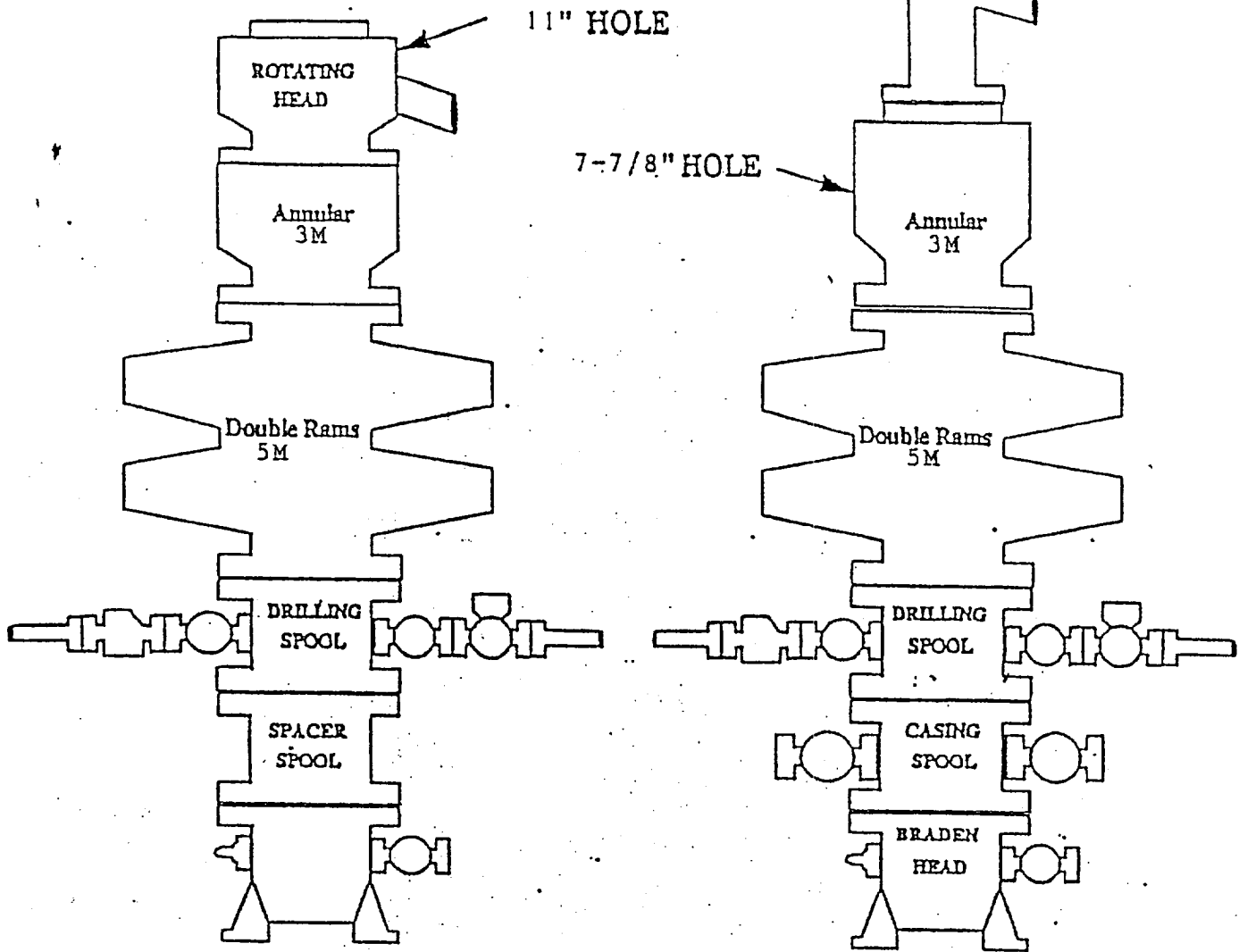
7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (5000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.

MEC TO FURNISH:

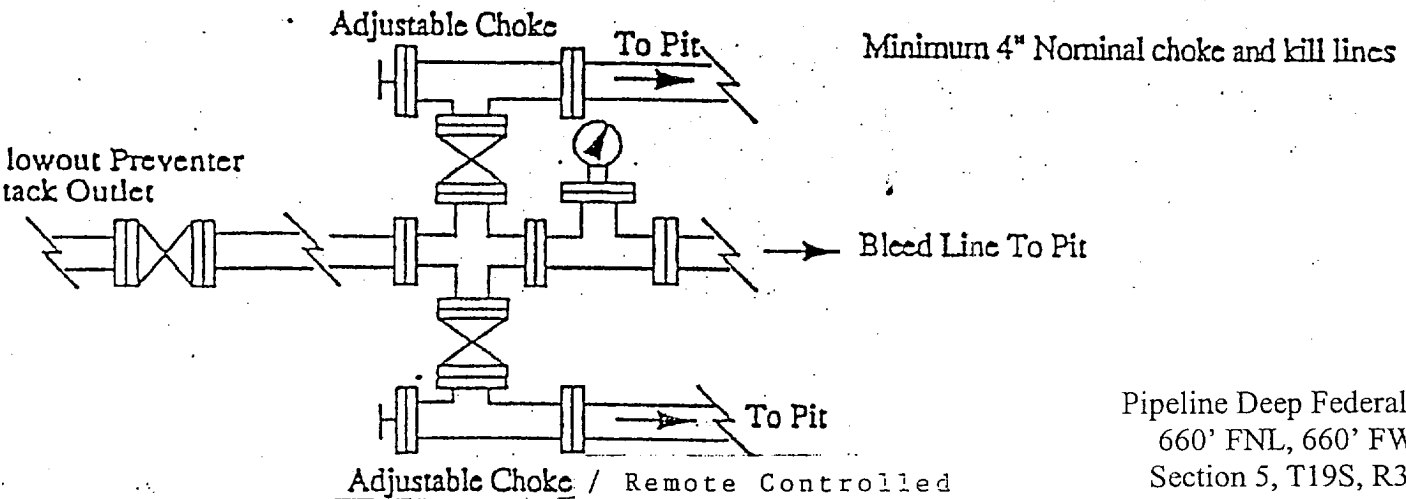
1. Bradenhead or casinghead and side valves.



BOP SCHEMATIC

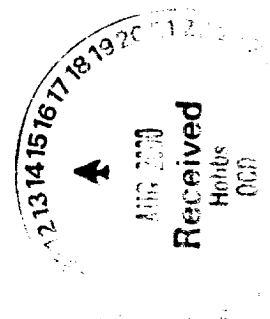


Choke Manifold Requirement (5000 psi WP)



Pipeline Deep Federal 5 #2
660' FNL, 660' FWL
Section 5, T19S, R34E
Lea County, New Mexico

Exhibit "E"



MINIMUM CHOKE MANIFOLD

10,000, 5,000 and 10,000 PSI Working Pressure

3 MWP - 5 MWP - 10 MWP

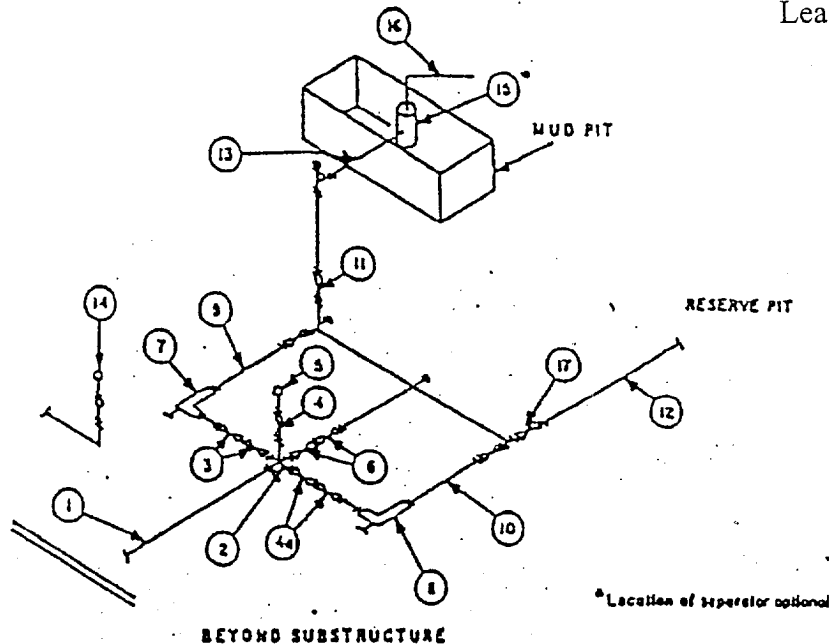
Pipeline Deep Federal 5 #2

660' FNL, 660' FWL

Section 5, T19S, R34E

Lea County, New Mexico

Exhibit "F"



MINIMUM REQUIREMENTS										
No.		3,000 MWP			5,000 MWP			10,000 MWP		
		I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING
1	Line from drilling spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3"x3"x3"x2"			3,000			5,000			
	Cross 3"x3"x3"x1"									10,000
3	Valves (1) Gate ☐ Plug ☐ (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate ☐ Plug ☐ (2)	1-13/16"		3,000	1-13/16"		5,000	1-13/16"		10,000
4a	Valves (1)	2-1/16"		3,000	2-1/16"		5,000	3-1/8"		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Gate ☐ Plug ☐ (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		3"	10,000
11	Valves Gate ☐ Plug ☐ (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
12	Lines		3"	1,000		3"	1,000		3"	2,000
13	Lines		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound standpipe pressure gauge			3,000			5,000			10,000
15	Gas Separator		2'x5'			2'x5'			2'x5'	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valves Gate ☐ Plug ☐ (2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000

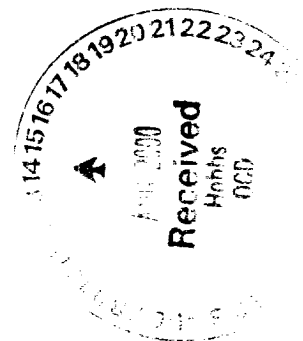
(1) Only one required in Class III.

(2) Gate valves only shall be used for Class 10M.

(3) Remote operated hydraulic chokes required on 5,000 psi and 10,000 psi for drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

- All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
- All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
- All lines shall be securely anchored.
- Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
- Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
- Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90° bends using bull plugged tees.
- Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the well.



WELL PLAN OUTLINE

Well Name: Pipeline Deep Federal 5 #2

County: Lea

State: NM

Location: 660' FNL-660' FWL

Est KB:

TD 13,750

Sec 5, T19S, R34E

GL: 3851'

Depth	Formation Top & Type	Drilling Problems	Type of Formation Evaluation	Hole Size	Casing Size-Depth	Frac Grad	Form Press Grad	(ppg) Mud Wt & Type	Days
	Sand & Red Bed @ 300'		0-300'	17-1/2"	13-3/8" 48# H-40 @ 425' w/ cmt to surface			8.3-8.8 Fresh wtr	1
1000	Andydrite/Salt		500' surveys to TD						
2000				11"				8.8-10.2 Cut Brine	
3000		Possible Deviation & washout							
	Yates 3341 (+530)								
	Seven Rivers 3761 (+110)								
4000			Logging unit 4000' to TD						
5000					8-5/8" 32# J-55 @ 4000 w/ cmt to surf				
	Delaware 5521 (-1850)								10
6000									
7000				7-7/8"				8.5-9.0 Cut Brine	
	Bone Spring 7781 (-3910)								
8000			Maximum deviation 5 degrees						
9000									20
	1st Bone Spg 9436 (-5565)								
	2nd Bone Spg 9636 (-5765)								
10000									
	3rd Bone Spg 10501 (-6630)								
	Wolfcamp SH 10666 (-6795)								
	Wolfcamp CH 10716 (-6845)								
11000									30
	Cisco 11796 (-7925)								
12000	Canyon 12131 (-8260)								
	Strawn 12226 (-8355)								
	Atoka 12486 (-8615)								
	Atoka SM 12811 (-8940)								
13000	Mid Morr Clas 13191 (-9320)								
								9.0-9.8 Polymer-Gel WL<10	
	Low Morrow 13481 (-9610)				5-1/2" 17# L-80 & S-95 @ 13,750 w/ cmt to 9,000'				40
14000	TD 13750 (-9879)								

