

Form 3160-3  
(February 2005)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB NO. 1004-0137  
Expires: March 31, 2007 **EA 11-86**

5. Lease Serial No.

NM-106909

6. If Indian, Allottee or Tribe Name

N/A

7. If Unit or CA Agreement, Name and No.

N/A

8. Lease Name and Well No.

Lechuza "BQC" Federal 1H

9. API Well No.

30-015-33502

10. Field and Pool, or Exploratory

Wildcat

11. Sec., T., R., M., or Blk. And Survey or Area

Section 35-T26S-28E

12. County or Parish

Eddy

13. State

NM

17. Spacing Unit dedicated to this well

N2N2; Sec. 35-26S-328

20. BLM/ BIA Bond No. on file

NATIONWIDE BOND #NMB000434

23. Estimated duration

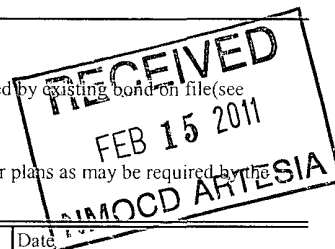
60 days

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 must be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by 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 BLM



25. Signature <i>Clifton May</i>	Name (Printed/ Typed) Clifton May	Date 10/13/2010
Title Land Regulatory Agent		
Approved By (Signature) <i>Is/ Don Peterson</i>	Name (Printed/ Typed)	Date FEB 9 2011
Title FIELD MANAGER		
Office CARLSBAD FIELD OFFICE		

Application approval 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 cc 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 wilfully 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.

\*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Approval Subject to General Requirements  
& Special Stipulations Attached

YATES PETROLEUM CORPORATION  
 Lechuza "BQC" Federal #1H  
 480' FNL and 100' FEL, Sec. 35-26S-28E, Surface Hole Location  
 480' FNL & 330' FWL, Sec. 35-26S-28E, Bottom Hole Location  
 Eddy County, New Mexico  
 Drilling Plans

1. The estimated tops of geologic markers are as follows:

Castille	830'	Bone Springs	6200'-Oil
Base of Salt	1950'	Avalon Shale	6800'-Oil MD 7073'
Delaware	2600'	FBSG	7150'
Cherry Canyon	3500' Oil	TD (Pilot Hole)	7500'
Brushy Canyon	4850'-Oil	TMD (Lateral)	11445'

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: 170'

Oil or Gas: Oil Zones: 3500', 4850', 6200' & 6800'.

3. Pressure Control Equipment: BOPE will be installed on the 13 3/8" and the 9 5/8" casing and rated for 3000# BOP System. Pressure tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.
4. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment, and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when Kelly is not in use.
5. THE PROPOSED CASING AND CEMENTING PROGRAM:

A. Casing Program: All new casing to be used *See COA*

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft</u>	<u>Grade</u>	<u>Coupling</u>	<u>Interval</u>	<u>Length</u>
17 1/2"	13 3/8"	48#	H-40	ST&C	0-400'	400'
12 1/4"	9 5/8"	36#	J-55	LT&C	0- <del>2050</del> 2600	2050'
8 3/4"	5 1/2"	17#	P- 110	LT&C	0'-7100'	7100'
<del>8 7/8"</del>	5 1/2"	17#	L-80	LT&C	7100'-11445'	9346'
<i>7 7/8" - per operator 10/21/10 DW</i>						

Minimum Casing Design Factors: Burst 1.0, Tensile Strength 1.8, Collapse 1.125

- B. CEMENTING PROGRAM:

Surface Casing: Cement with 425 sacks Class C (Yld. 1.34 Wt. 14.80). TOC surface.

*See COA* Intermediate Casing: Lead with 525 sacks of C lite (Yld 1.96 Wt 12.60). Tail in with 200 sacks Class C (YLD 1.34 WT 14.80 YLD). TOC surface

Production Casing: Production cement to be done in two stages with stage tools at 5500'.

Stage One: Cement with 2000 sacks Pecos Valley Lite (Yld. 1.41 Wt. 13.00), TOC 5500'.

Stage Two: Lead with 700 sacks Lite Crete (Yld 2.66 Wt 9.90). Tail in with 100 sacks Pecos Valley Lite (Yld 1.41 Wt 13.00). TOC 1550'.

Pilot hole drilled vertically to 7500'. Well will be plugged back with a 400'-500' kick off plug at approx. 6323'. Kicked off and directionally drilled at 12 degrees per 100' with a 8 3/4" hole to 7100 MD (6800' TVD). If hole conditions dictate, 7" casing will be set. A 6 1/8" hole will then be drilled to 11445' MD (6800 TVD) where 4 1/2" casing will be set and cemented. If 7" casing is not set, then hole size will be reduced to ~~8 1/2"~~ 7 7/8" and drilled to 11445' MD (6800' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 480' FNL & 577' FEL, 35-26S-28E. Deepest TVD in the well is 7500' in the pilot hole. Deepest TVD in the lateral will be 6800'.

See COA

#### 6. MUD PROGRAM AND AUXILIARY EQUIPMENT:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-400'	Fresh Water	8.60-9.20	29-36	N/C
400'-2050'	Brine Water	10.00-10.20	28-30	N/C
2050'-7500'	Cut Brine (Pilot Hole)	8.80-9.20	28-29	N/C
6323'-11445'	Cut Brine (Lateral Section)	8.80-9.30	28-34	<=15

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Rig personnel will check mud hourly.

#### 7. EVALUATION PROGRAM:

See COA

Samples: Thirty foot samples to 3000'. Every 10' from 3000' to TD  
 Logging: Platform Hals; CMR; DSI Sonic  
 Coring: None anticipated  
 DST's: None Anticipated  
 Mudlogging: 2 man mudlogging from 2050'

#### 8. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE, AND POTENTIAL HAZARDS:

Maximum Anticipated BHP:

0'-400'	191 PSI
400'-2050'	1087 PSI
2050'-7500'	3627 PSI

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None Anticipated

Maximum Bottom Hole Temperature: 150 F

#### 9. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 60 days to drill the well with completion taking another 20 days.

**YATES PETROLEUM CORPORATION  
DRILLING PROGNOSIS**

WELL NAME: Lechuza BQC Federal #1H			DATE: 8/17/10		
SURFACE LOCATION:	Section 35	Township: 26S RANGE 28E,	480 FNL &	100 FEL	
BOTTOM HOLE LOCATION:	Section 35	Township: 26S RANGE 28E,	480 FNL &	330 FWL	
ELEVATION:	3,006.5	GL: 2,980	DEVELOP. X	WILDCAT	LEASE NO.: NM-106909

**GEOLOGICAL PROGRAM**

SAMPLES:	EXPECTED TOPS:	DEPTHS	
		Vertical(TVD)	Lateral(MD)
	Castille	830	
	BASE OF SALT	1950	
LOGGING:	DELAWARE	2600	
Platform Express, CMR, DSI Sonic	CHERRY CANYON	3500	
	BRUSHY CANYON	4850	
	BONE SPRINGS	6200	
DST'S:	AVALON SHALE TARGET	6800	7073
	FBSG	7150	
CORING:	TD (Pilot Hole)	7500	
	TD (Lateral)		11445
MUDLOGGING:			
2 man mudlogging from 2050'			

**PILOT HOLE: YES**

**WELLBORE SECTIONS**

SECTION	SIZE(IN)	DEPTH TOP (ftKB)	DEPTH BOTTOM (ftKB)
CONDUCTOR	26	26.5	116.5
SURFACE	17 1/2	116.5	400
INTERMEDIATE	12 1/4	400	2050
PILOT HOLE:	8 3/4	2050	7500
Lateral Section	KOP=6323'		
2nd intermediate	8 3/4	6323	7100
Production	8 1/2	7100	11445

**MUD PROGRAM**

DEPTH (ft)		TYPE	Weight	Vis	WL	% Oil	Chl
From	To						
0	400	Fresh Water	8.6-9.2	29-36			
400	2050	Brine Water	10-10.2	28-30			
2050	7500	Cut Brine (to TD of pilot hole)	8.8-9.2	28-29			
6323	11445	Cut Brine(lateral)	8.8-9.3	28-34	<=15		

**INSTRUCTIONS TO DRILLER**

KEEP LOCATION CLEAN, FILL OUT YPC SAFETY BOOK WEEKLY	
NOTIFY BLM OF SPUD, RESUME DRILLING, BOP TEST, CEMENTING, CASING.	
USE ONLY VENDORS ON YPC'S APPROVED VENDORS LIST FOR THE SERVICES YPC IS RESPONSIBLE FOR	
Pilot hole drilled vertically to 7500'. Well will be plugged back with a 400'-500' kick off, then kicked off at approx. 6323' and directionally drilled at 12 degrees per 100' with a 8 3/4" hole to 7,100' MD (6800' TVD). If hole conditions dictate, 7" casing will be set. A 6 1/8" hole will then be drilled to 11,445' MD (6800' TVD) where 4 1/2" casing will be set and cemented. If 7" is not set, then hole size will be reduced to 8 1/2" and drilled to 11,445' MD (6800' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 480' FNL and 577' FEL, 35-26S-28E. Deepest TVD in the well is 7500' in the pilot hole. Deepest TVD in the lateral will be 6800'.	
<b>H2S IS NOT ANTICIPATED FOR THIS WELL</b>	
PRESSURE CONTROL EQUIPMENT: 3000 PSI SYSTEM N.U. ON 13 3/8" and 9 5/8" CASING	
MAXIMUM ANTICIPATED BHP:	
0 - 400	191 PSI
Depths are TVD 400 - 2050	1087 PSI
2050 - 7500	3627 PSI

CASING DESIGN AND CEMENT PROGRAM					
CASING DESIGN FACTORS:		BURST 1.0 TENSILE 1.8 COLLAPSE 1.125			
CASING DESIGN (TOP TO BOTTOM)					
STRING	INTERVAL(FT)	SIZE (IN)	#S/FT	GRADE	T&C
SURFACE	0 - 400	13 3/8	48	J-55	ST&C
INTERMEDIATE	0 - 2050	9 5/8	36	J-55	LT&C
PRODUCTION	0 - 7100	5 1/2	17	P-110	LT&C
	7100 - 11445	5 1/2	17	L-80	LT&C
CEMENT:					
SURFACE: Cement w/425sx Class C (YLD 1.34 WT 14.8) TOC= Surface					
INTERMEDIATE: lead w/525sx C lite(YLD 1.96WT 12.6) tail w/200sx Class C(YLD 1.34 WT 14.8)TOC=Surface					
PRODUCTION: Production cement to be done in two stages with stage tools at approx. 5500'.					
Stage I from 11,445'-5500': cement w/2000sx Pecos Valley Lite (YLD 1.41 WT 13) TOC=5500'					
Stage II from 5500'-1,550': lead w/700sx Lite Crete (YLD 2.66 Wt. 9.9),					
tail w/100sx Pecos Valley Lite (YLD 1.41 WT 13) TOC=1550'					

### Contingency Casing Design

If hole conditions dictate, 7" casing will be set at 7,100' MD (6,800' TVD). A 6 1/8" hole will then be drilled to 11,445' MD (6,800' TVD) where 4 1/2" casing will be set and cemented with one stage up to dv tool. After completion procedures, the 4 1/2" casing will be cut and pulled at 6200'.

#### 2nd Intermediate

0 ft to 100 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
7 inches	26 #/ft	J-55	LT&C	3670	2750	4590	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
4,320 psi	4,980 psi	367,000 #		415,000 #		6.151	

100 ft to 5,900 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
7 inches	23 #/ft	J-55	LT&C	3130	2350	3910	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
3,270 psi	4,360 psi	313,000 #		366,000 #		6.25	

5,900 ft to 7,100 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
7 inches	26 #/ft	J-55	LT&C	3670	2750	4590	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
4,320 psi	4,980 psi	367,000 #		415,000 #		6.151	

DV tool placed at approx. 5500'.

Stage I: Cemented w/350sx PVL (YLD 1.41 Wt 13) TOC= 5500'

Stage II: Cemented w/565sx Lite Crete (YLD 2.66 Wt 9.9), tail w/100sx PVL (YLD 1.41 Wt 13) TOC= surface

#### Production

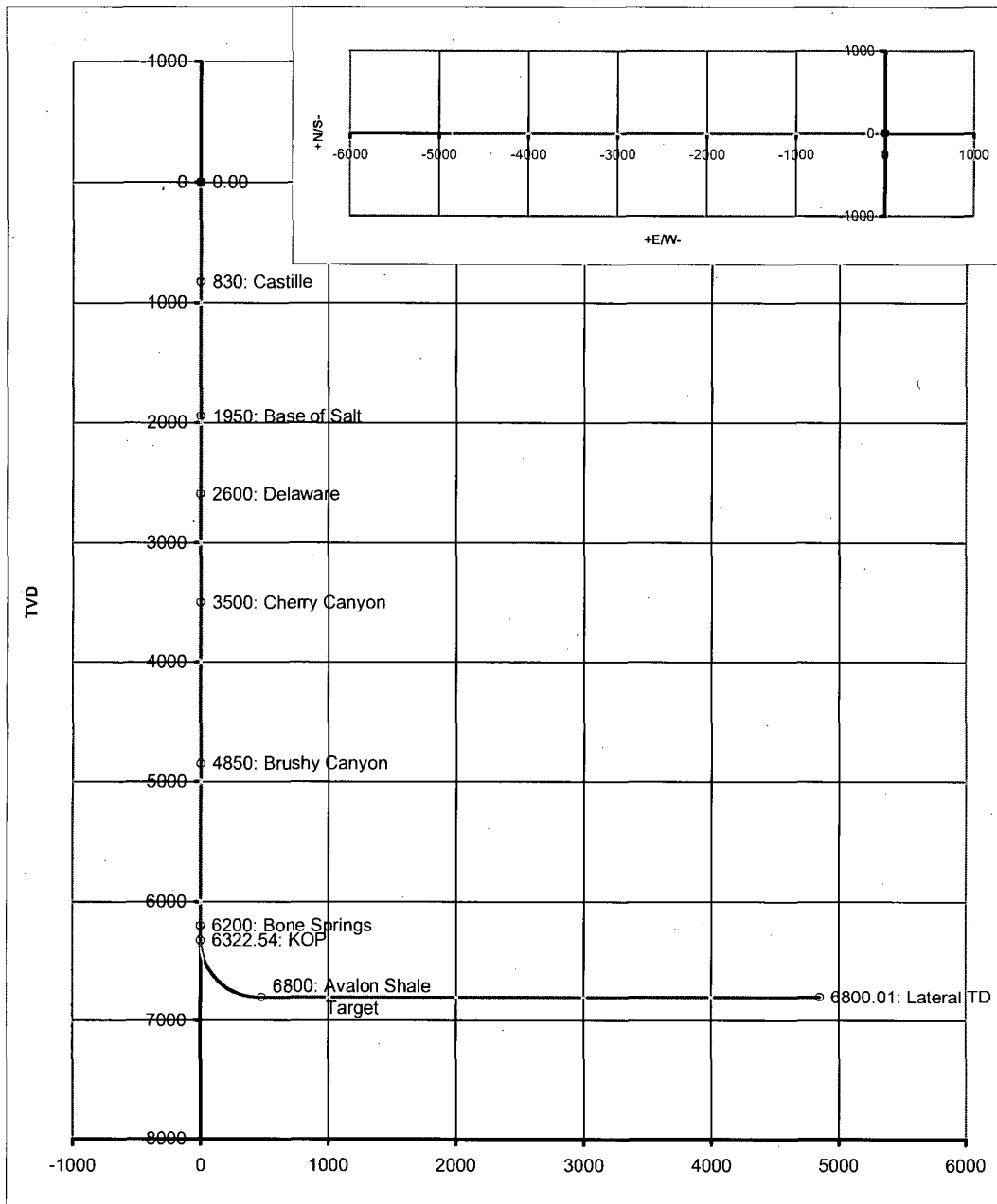
0 ft to 11,445 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
4.5 inches	11.6 #/ft	HCP-110	LT&C	3020	2270	3780	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
8,650 psi	10,690 psi	279,000 #		367,000 #		3.875	

DV tool placed at approx. 6200' and cemented with one stage up to dv tool. After completion procedures, the 4 1/2" casing will be cut and pulled at 6200'.

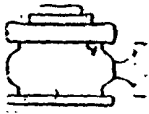
Cemented w/700sx PVL (YLD 1.41 Wt 13) TOC= 6200'

Co: Yates Petroleum Corporation			Units: Feet, ° 7100ft		VS Az: 270.00		Tgt TVD: 6800.00	
Drillers: 0			Elevation:		Tgt Radius: 0.00		Tgt MD: 0.00	
Well Name: Lechuza BQC Federal #1H			Northing:		Tgt N/S: 0.00		Tgt Displ.: 0.00	
Location: 0			Easting:		Tgt E/W: -4850.00		Method: Minimum Curvature	

No.	MD	CL	Inc.	Azi.	TVD	VS	+N/S-	+E/W-	BR	WR	DLS	Comments
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
1	830.00	830.00	0.00	360.00	830.00	0.00	0.00	0.00	0.00	0.00	0.00	Castille
2	1950.00	1120.00	0.00	360.00	1950.00	0.00	0.00	0.00	0.00	0.00	0.00	Base of Salt
3	2600.00	650.00	0.00	360.00	2600.00	0.00	0.00	0.00	0.00	0.00	0.00	Delaware
4	3500.00	900.00	0.00	360.00	3500.00	0.00	0.00	0.00	0.00	0.00	0.00	Cherry Canyon
5	4850.00	1350.00	0.00	360.00	4850.00	0.00	0.00	0.00	0.00	0.00	0.00	Brushy Canyon
6	6200.00	1350.00	0.00	360.00	6200.00	0.00	0.01	0.00	0.00	0.00	0.00	Bone Springs
7	6322.54	6322.54	0.00	270.00	6322.54	0.00	0.01	0.00	0.00	-1.42	0.00	KOP
8	6400.00	77.46	9.30	270.00	6399.66	6.27	0.01	-6.27	12.00	0.00	12.00	
9	6500.00	100.00	21.30	270.00	6495.94	32.60	0.01	-32.60	12.00	0.00	12.00	
10	6600.00	100.00	33.30	270.00	6584.64	78.38	0.01	-78.38	12.00	0.00	12.00	
11	6700.00	100.00	45.30	270.00	6661.89	141.59	0.01	-141.59	12.00	0.00	12.00	
12	6800.00	100.00	57.30	270.00	6724.31	219.49	0.01	-219.49	12.00	0.00	12.00	
13	6900.00	100.00	69.30	270.00	6769.16	308.66	0.01	-308.66	12.00	0.00	12.00	
14	7000.00	100.00	81.30	270.00	6794.50	405.21	0.01	-405.21	12.00	0.00	12.00	
15	7072.53	750.00	90.00	270.00	6800.00	477.46	0.01	-477.46	12.00	0.00	12.00	Avalon Shale Target
16	11445.07	4372.54	90.00	270.00	6800.01	4850.00	0.01	-4850.00	0.00	0.00	0.00	Lateral TD





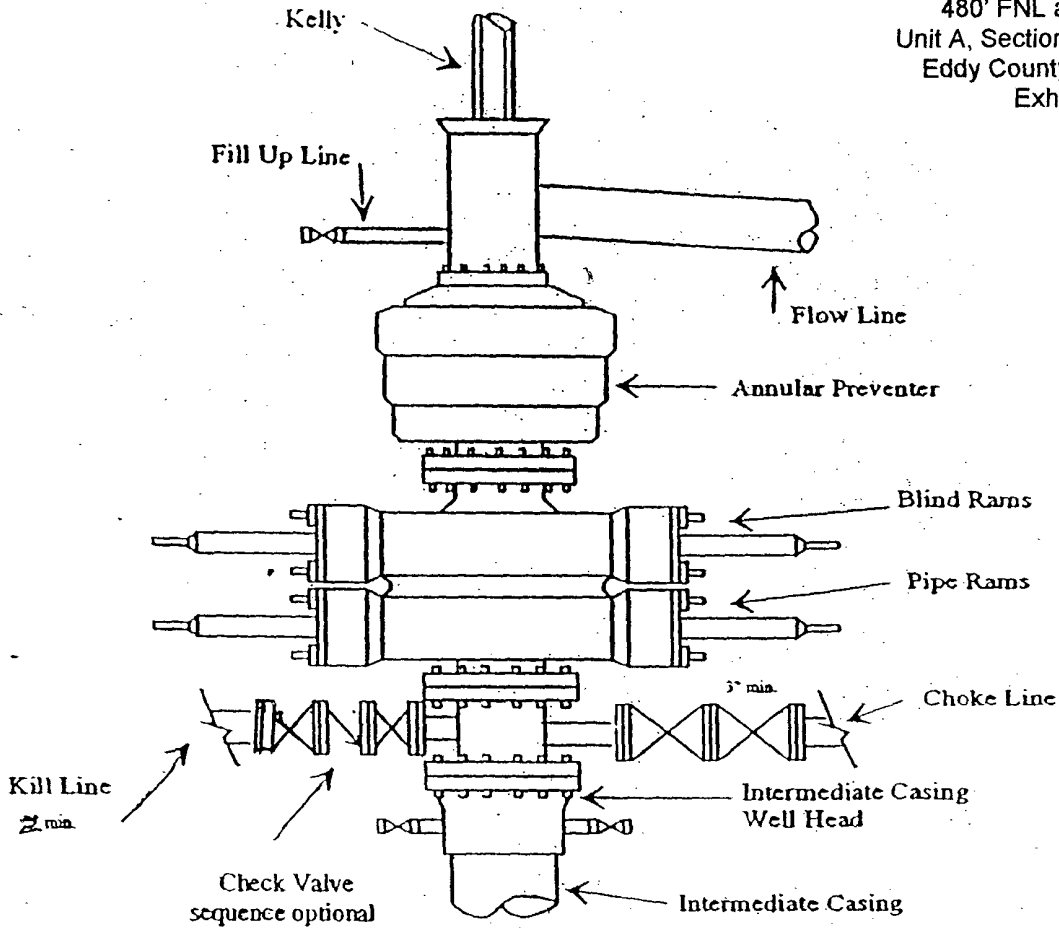


# Yates Petroleum Corporation

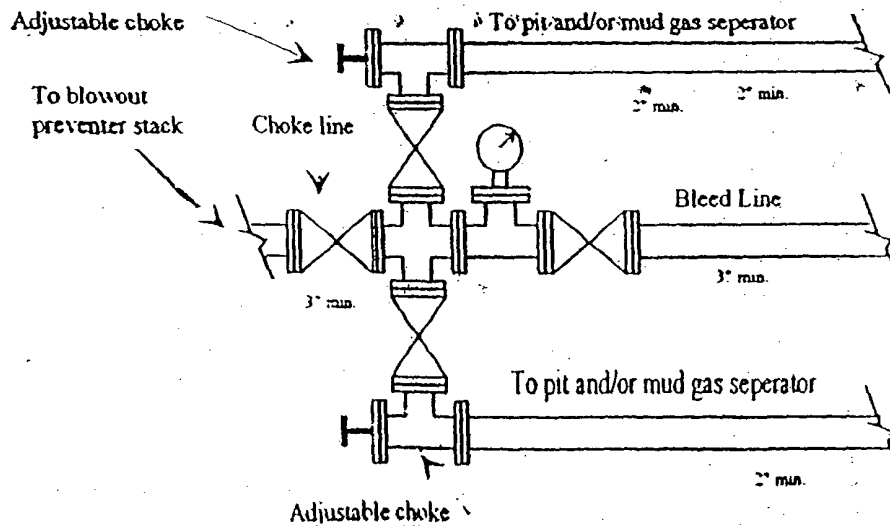
BOP-3

## Typical 3,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack

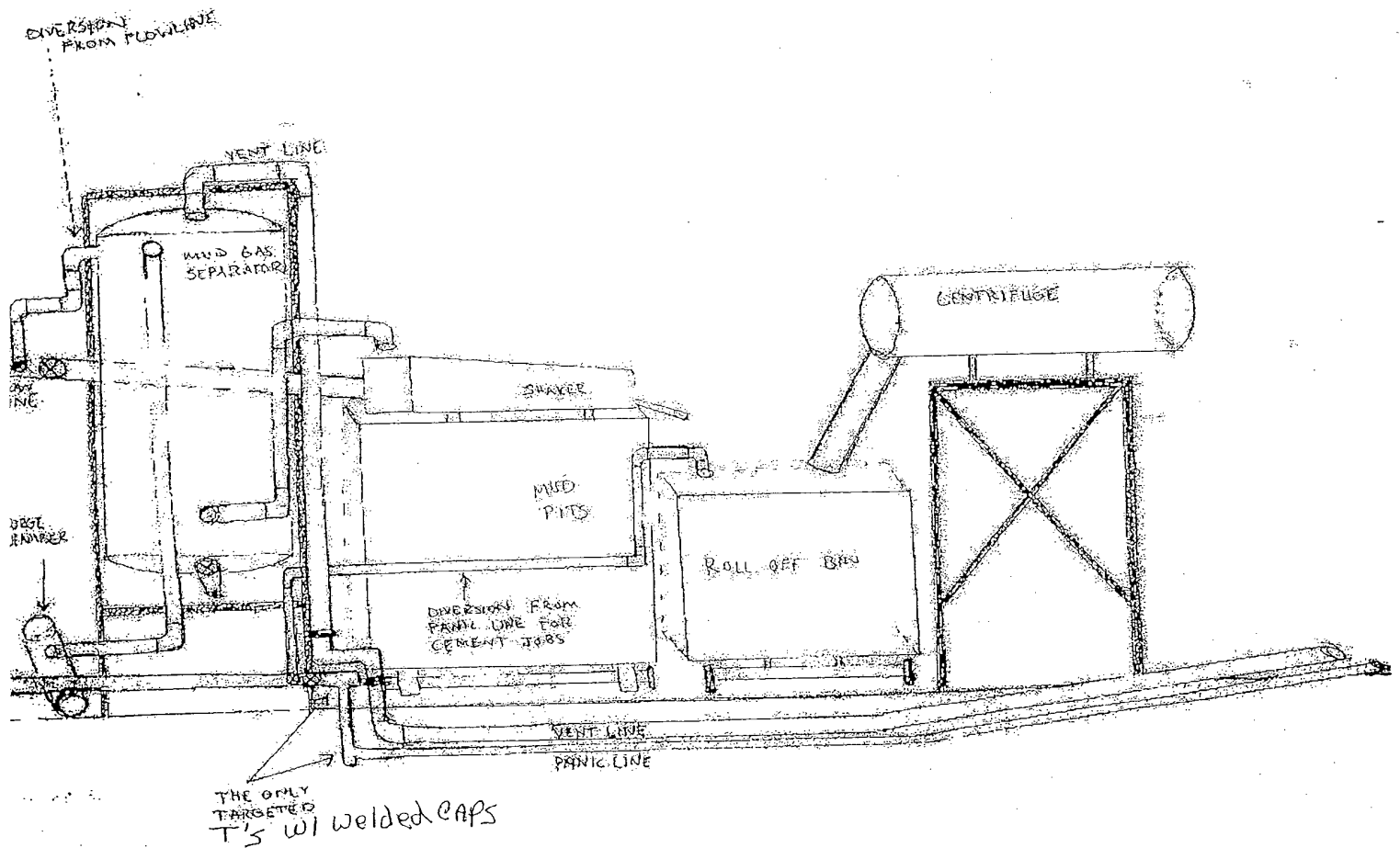
Lechuza BQC Federal #1H  
480' FNL and 100' FEL  
Unit A, Section 35, T26S-R28E  
Eddy County, New Mexico  
Exhibit "B"



## Typical 3,000 psi choke manifold assembly with at least these minimum features



YATES PETROLEUM CORPORATION  
Piping from Choke Manifold  
to the Closed-Loop Drilling Mud System



Lechuza BQC Federal #1H  
480' FNL and 100' FEL  
Unit A, Section 35, T26S-R28E  
Eddy County, New Mexico  
Exhibit "C-1"