

R-111-POTASH

ATS-11-806

30-015-39733

OCD-ARTESIA

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

5 Lease Serial No **65417**
NM-106692

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.
Martha AIK Federal #8H [12538]

9. API Well No.
30-015-39733

10. Field and Pool, or Exploratory
Livingston Ridge, Delaware [39360]

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

Sec. 11-T22S-R31E

12. County or Parish

Eddy

13. State

NM

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

2. Name of Operator

Yates Petroleum Corporation 025575

3a Address

105 South Fourth Street, Artesia, NM 88210

3b Phone No (include area code)

575-748-1471

4. Location of well (Report location clearly and in accordance with any State requirements.)*

At surface

430' FNL & 200' FEL, Surface Hole

At proposed prod. zone

500' FNL & 1650' FWL, Bottom Hole

14. Distance in miles and direction from the nearest town or post office*

25 miles southeast of Malaga, NM

15. Distance from proposed* location to nearest property or lease line, ft.

(Also to nearest drlg unit line, if any)

200'

16. No. of acres in lease

320.00

17. Spacing Unit dedicated to this well

N2NE, NENW

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.

200'

19. Proposed Depth

8280VD & 11506' MD

20. BLM/ BIA Bond No. on file

NATIONWIDE BOND #NMB000434

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3546' GL

22. Approximate date work will start*

ASAP

23. Estimated duration

45 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

[Signature]

Printed Name

Travis Hahn

Date

6/16/2011

Title

Land Regulatory Agent

Approved By (Signature)

/s/ Tony J. Herrell

Name (Printed/ Typed)

/s/ Tony J. Herrell

Date

NOV 21 2011

ACTING STATE DIRECTOR

Office

NM STATE 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.

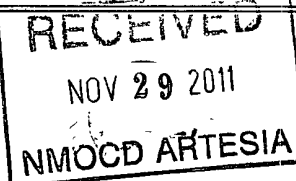
Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

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**

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

Operator Yates, Dot OGRID # 25575
 Well Name & # MARATHA AIC Fed 8H Surface Type (S) (P)
 Location: UL A Sect 11, Twnship 22s, RNG 31e, Sub-surface Type (S) (P)

A. Date C101 rec'd 11/29/2011 C101 reviewed 12/1/2011

B. 1. Check mark, Information is OK on Forms:
 OGRID ☒, BONDING ☒, PROP CODE ☒, WELL # ☒, SIGNATURE ☒
 2. Inactive Well list as of: 12/1/2011 # wells 2355, # Inactive wells 5

a. District Grant APD but see number of inactive wells:
 No letter required ☒; Sent Letter to Operator ☐, to Santa Fe ☐

3. Additional Bonding as of: 12/1/2011

a. District Denial because operator needs addition bonding:
 No Letter required ☒; Sent Letter to Operator ☐, To Santa Fe ☐

b. District Denial because of Inactive well list and Financial Assurance:
 No Letter required ☒; Sent Letter to Operator ☐, To Santa Fe ☐

C. C102 YES ☒, NO ☐, Signature BRUSHY Canyon Livingston Ridge Code 39360

1. Pool BRUSHY Canyon Livingston Ridge
 a. Dedicated acreage 120, What Units A-B-C
 b. SUR. Location Standard 120: Non-Standard Location A-B-C
 c. Well shares acres: Yes ☐, No ☒, # of wells 120 plus this well # 120

2. 2nd. Operator in same acreage, Yes ☐, No ☒
 Agreement Letter ☐, Disagreement letter ☐

3. Intent to Directional Drill Yes ☒, No ☐
 a. Dedicated acreage 120, What Units A-B-C
 b. Bottomhole Location Standard 120, Non-Standard Bottomhole A-B-C

4. Downhole Commingle: Yes ☐, No ☒
 a. Pool #2 120, Code 120, Acres 120
 Pool #3 120, Code 120, Acres 120
 Pool #4 120, Code 120, Acres 120

5. POTASH Area Yes ☐, No ☒

D. Blowout Preventer Yes ☒, No ☐

E. H2S Yes ☒, No ☐

F. C144 Pit Registration Yes ☒, No ☐

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes ☐, No ☒, NSL # 120

2. Non-Standard Proration: Yes ☐, No ☒, NSP # 120

3. Simultaneous Dedication: Yes ☐, No ☒, SD # 120

Number of wells 120 Plus # 120

4. Injection order Yes ☐, No ☒; PMX # 120 or WFX # 120

5. SWD order Yes ☐, NO ☒; SWD # 120

6. DHC from SF 120; DHC-HOB 120; Holding 120

7. OCD Approval Date 12/1/2011

API #30-0 15-39733

8. Reviewers 105

YATES PETROLEUM CORPORATION

Martha AIK Federal #8-H
430' FNL & 200' FEL, Surface Hole
430' FSL & 1650' FWL, Bottom Hole
Section 11 -T22S-R31E
Eddy County, New Mexico

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

Rustler	650'	Brushy Canyon	7150' Oil
Top of Salt	970'	Brushy Canyon Marker	8040' Oil MD
Base of Salt	3980'	Brushy Sand Target	8553' Oil MD
Bell Canyon	4500'	TD	11506' Oil MD
Cherry Canyon	5320' Oil		
Livingston Ridge	6980' Oil		

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

Water: Approx. 0' - 700'

Oil or Gas: Oil Zones: 5320', 6980', 7150', 8040', 8553', 11506'

3. Pressure Control Equipment: 3000 PSI BOPE with a 13.625" opening will be installed on the 13.375 casing and also on the 9 5/8" casing. Pressure tests to 3000 PSI and held for 30 minutes 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:

A. 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.

1. THE PROPOSED CASING AND CEMENTING PROGRAM:

- A. Casing Program: (All New)

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft</u>	<u>Grade</u>	<u>Coupling</u>	<u>Interval</u>	<u>Length</u>
See COA 17 1/2"	13 3/8"	48#	J-55/H40	ST&C	0-700' 725'	700'
12 1/4"	9 5/8"	40#	J-55	LT&C	0-100'	100'
12 1/4"	9 5/8"	36#	K-55	LT&C	100-3300'	3200'
12 1/4"	9 5/8"	40#	J-55	LT&C	3300-4350'	1050'
8 3/4"	5 1/2"	17#	HCP-110	LT&C	0-7800'	7800'
8 1/2"	5 1/2"	17#	L-80	LT&C	7800'-11506'	3706'

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

B. CEMENTING PROGRAM:

Surface Casing: 350 sacks Class C Lite + 2% CaCl₂ (YLD 2.00 WT.12.50). Tail in with 210 sacks Class C + 2% CaCl₂ (WT 14.80, YLD 1.34). Designed with 100% excess. TOC-Surface.

Intermediate Casing: Lead with 1225 sacks Class C Lite + 2% CaCl₂ (YLD 2.00 WT 12.50); tail in with 210 sacks Class C + 2% CaCl₂ (YLD 1.34 WT. 14.80). Designed with 100% excess. TOC-Surface

Production Casing: Cement to be done in three stages, DV tools @ 7400' & 5000'

Stage 1 from 7400'-11506'; cement with 1060 sacks Pecos Valley Lite (YLD 1.83 WT. 13.00). 30%CaCO₃, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. Designed with 100% excess. ~~TOC-6000'~~

Stage 2 from 5000'-7400'; Lead with 530 sacks of Class C Lite (YLD 2.00 WT 12.50) CaCl₂ +2%. Tail with 100 sacks of Pecos Valley Lite (WT 13.00, YLD 1.41), 30%CaCO₃, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. Designed with 100% excess.

Stage 3 from 0'-5000'; Lead with 1200' sacks of Class C Lite (WT 12.50, YLD 2.00) CaCl₂ +2%. Tail with 100 sacks of Pecos Valley Lite (WT 13.00, YLD 1.41) 30%CaCO₃, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. Designed with 100% excess.

Well will be drilled vertically depth to 7803'. Well will be kicked off at approximately 7803' and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 8600' MD (8280' TVD). Hole will then be reduced to 8 1/2" and drilled to 11506' MD (8280' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 443' FNL & 677' FEL, Section 11-22S-31E. Deepest TVD is 8280' in the lateral. NO PILOT HOLE.

5. Mud Program and Auxiliary Equipment:

Interval	Type	Weight	Viscosity	Fluid Loss
0-700' 725	Fresh Water Gel	8.6-9.2	32-34	N/C
700'-4350'	Brine Water	10.0-10.10	28-28	N/C
4350'-6950'	Cut Brine	8.7-9.1	28-28	N/C
6950'-7803'	Cut Brine	8.7-9.1	28-28	<10-15
7803'-11506'	Cut Brine (Lateral Section)	8.7-9.1	28-28	<10-12

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. Mud will be checked hourly by rig personnel.

6. EVALUATION PROGRAM: *See COA*

Samples: 10' Samples from Intermediate casing.
Logging: Platform Express through curve.
CNL/LDT/NGT – through curve to Intermediate casing
CNL/GR – through curve to surface
DLL-MSFL – through curve to surface casing

GHC Sonic-CMR – through curve to surface casing
MWD-GR – Horizontal
Coring: TBD.
DST's: TBD.
Mudlogger: TBD.

7. Abnormal Conditions, Bottom hole pressure and potential hazards:
Anticipated BHP:

From: 0	TO: 700'	Anticipated Max. BHP:	335	PSI
From: 700'	TO: 4350'	Anticipated Max. BHP:	2285	PSI
From: 4350	TO: 8300'	Anticipated Max. BHP:	3920	PSI

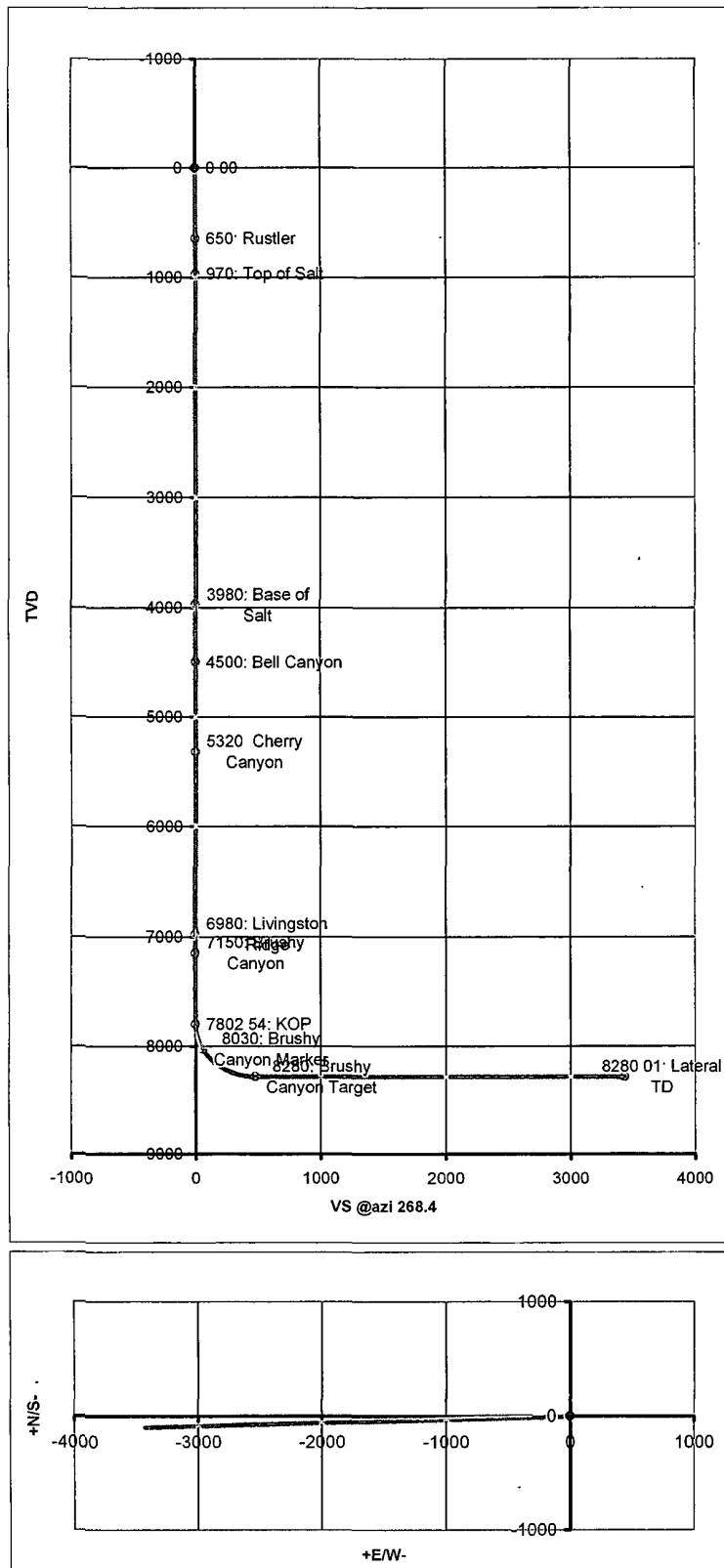
No abnormal pressures or temperatures are anticipated.
Possible water flow below 2800'
H2S may be encountered on this well.

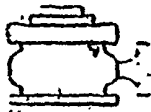
8. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 65 days to drill the well with completion taking another 30 days.

Co: Yates Petroleum Corporation				Units: Feet, °, 7100ft		VS Az: 268.40		Tgt TVD: 8280.00	
Drillers: 0				Elevation:		Tgt Radius: 0.00		Tgt MD: 0.00	
Well Name: Martha AIK Federal #8H				Northing:		Tgt N/S: -95.73		Tgt Displ.: 0.00	
Location: Sect. 11, 22S-31E				Easting:		Tgt E/W: -3430.00		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	650.00	650.00	0.00	360.00	650.00	0.00	0.00	0.00	0.00	0.00	0.00	Rustler
2	970.00	320.00	0.00	360.00	970.00	0.00	0.00	0.00	0.00	0.00	0.00	Top of Salt
3	3980.00	3010.00	0.00	360.00	3980.00	0.00	0.00	0.00	0.00	0.00	0.00	Base of Salt
4	4500.00	520.00	0.00	360.00	4500.00	0.00	0.00	0.00	0.00	0.00	0.00	Bell Canyon
5	5320.00	820.00	0.00	360.00	5320.00	0.00	0.00	0.00	0.00	0.00	0.00	Cherry Canyon
6	6980.00	1660.00	0.00	360.00	6980.00	0.00	0.01	0.00	0.00	0.00	0.00	Livingston Ridge
7	7150.00	170.00	0.00	360.00	7150.00	0.00	0.01	0.00	0.00	0.00	0.00	Brushy Canyon
8	7802.54	7802.54	0.00	268.40	7802.54	0.00	0.01	0.00	0.00	3.44	0.00	KOP
9	7900.00	97.46	11.70	268.40	7899.32	9.91	-0.27	-9.91	12.00	0.00	12.00	
10	8000.00	100.00	23.70	268.40	7994.42	40.25	-1.12	-40.24	12.00	0.00	12.00	
11	8039.63	237.09	28.45	268.40	8030.00	57.66	-1.60	-57.64	12.00	0.00	12.00	Brushy Canyon Marker
12	8100.00	60.37	35.70	268.40	8081.13	89.70	-2.50	-89.67	12.00	0.00	12.00	
13	8200.00	100.00	47.70	268.40	8155.66	156.10	-4.35	-156.04	12.00	0.00	12.00	
14	8300.00	100.00	59.70	268.40	8214.76	236.54	-6.59	-236.45	12.00	0.00	12.00	
15	8400.00	100.00	71.70	268.40	8255.84	327.51	-9.13	-327.38	12.00	0.00	12.00	
16	8500.00	100.00	83.70	268.40	8277.11	425.03	-11.85	-424.87	12.00	0.00	12.00	
17	8552.53	750.00	90.00	268.40	8280.00	477.46	-13.31	-477.28	12.00	0.00	12.00	Brushy Canyon Target
18	11506.41	2953.87	90.00	268.40	8280.01	3431.34	-95.72	-3430.00	0.00	0.00	0.00	Lateral TD





Yates Petroleum Corporation

BOP-3

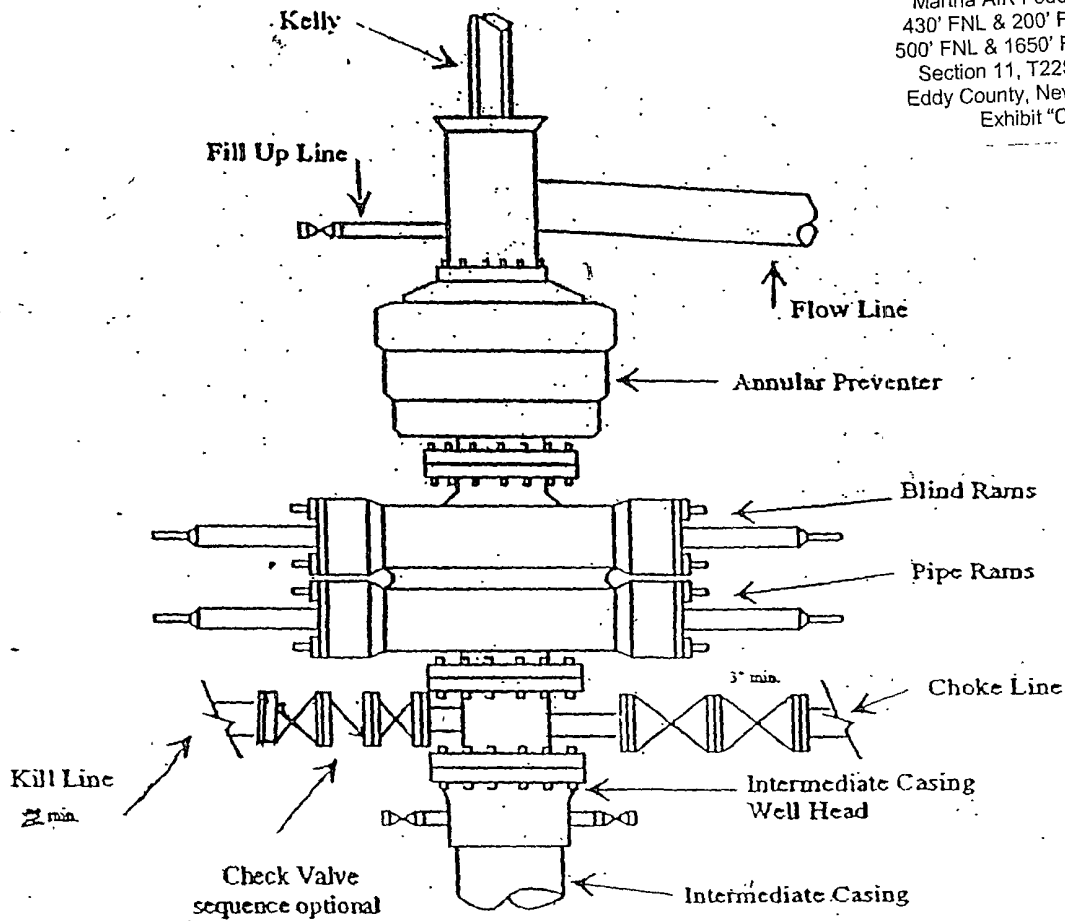
Typical 3,000 psi Pressure System

Schematic

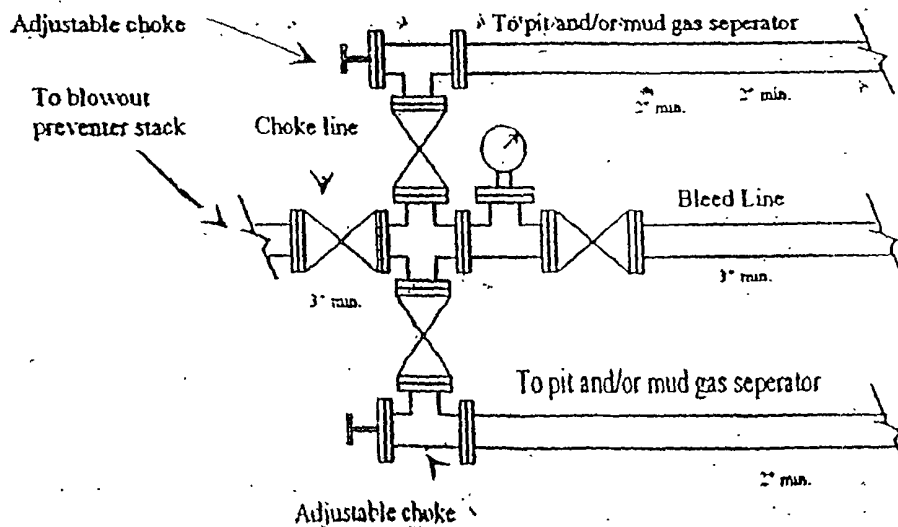
Annular with Double Ram Preventer Stack

Yates Petroleum Corporation

Martha AIK Federal #8H
430' FNL & 200' FEL, SHL
500' FNL & 1650' FWL- BHL
Section 11, T22S-R31E
Eddy County, New Mexico
Exhibit "C"



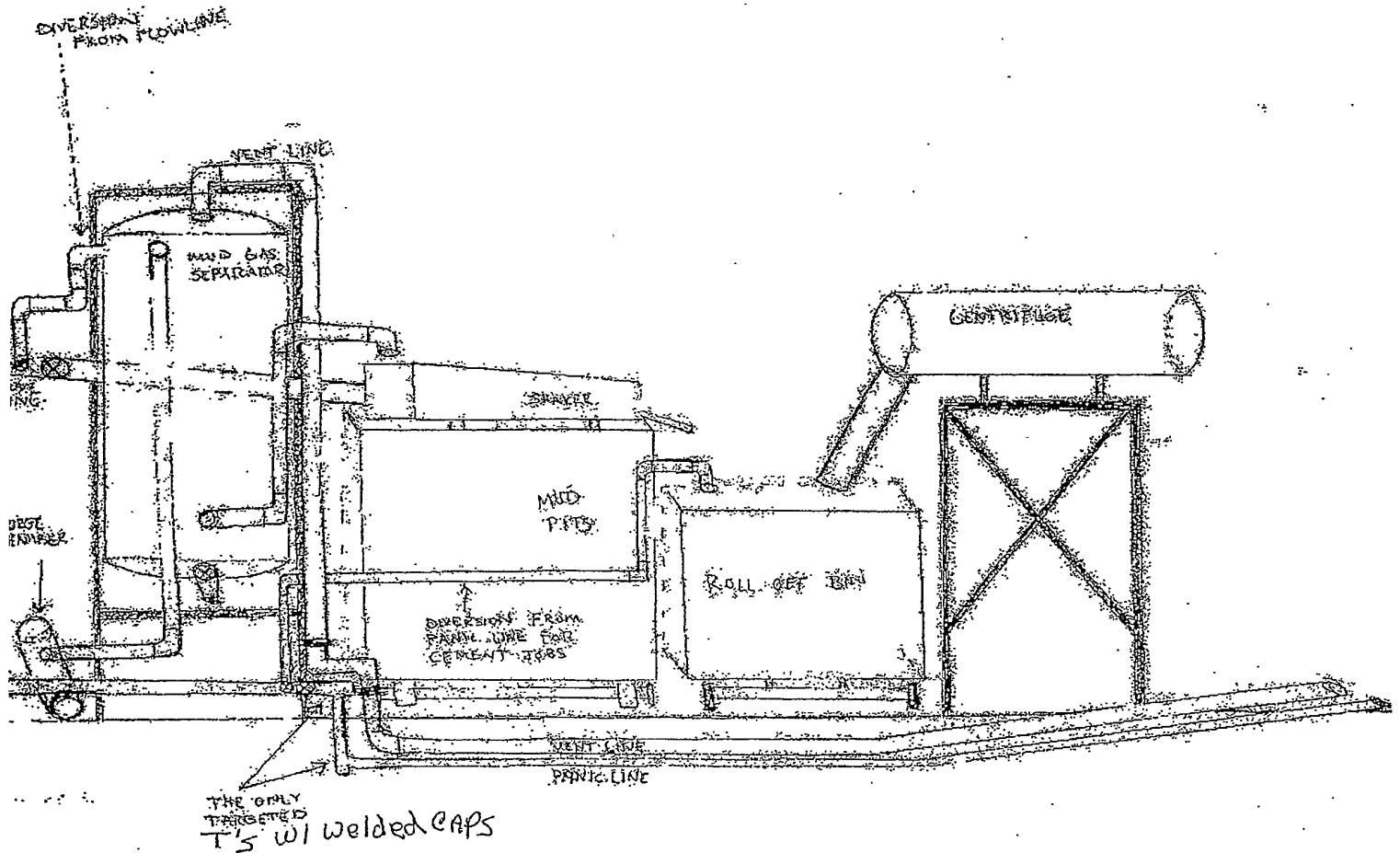
Typical 3,000 psi choke manifold assembly with at least these minimum features

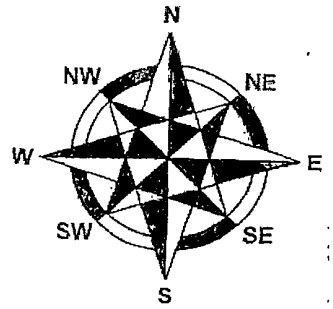


YATES PETROLEUM CORPORATION
Piping from Choke Manifold
to the Closed-Loop Drilling Mud System

Yates Petroleum Corporation

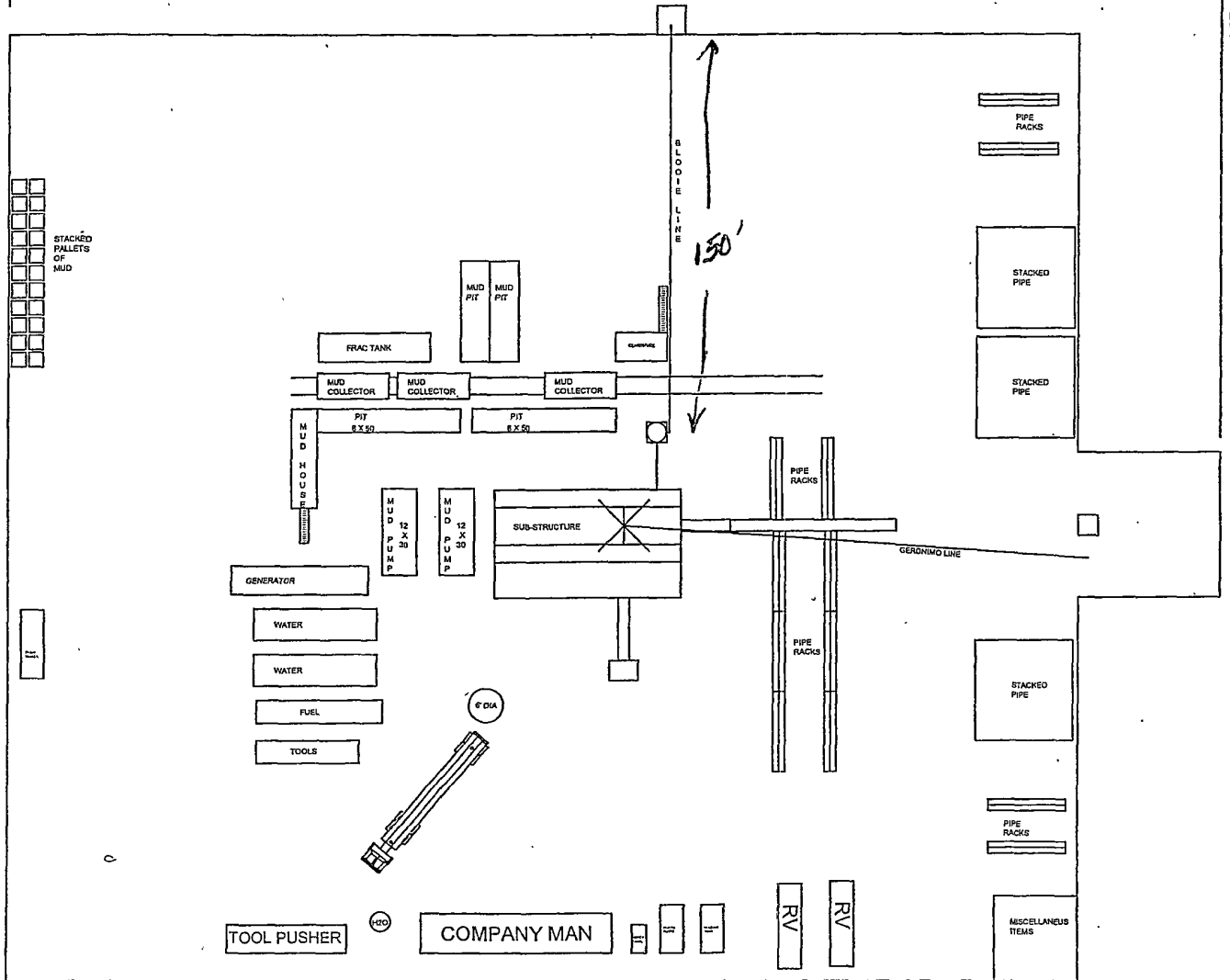
Martha AIK Federal #8H
430' FNL & 200' FEL, SHL
500' FNL & 1650' FWL- BHL
Section 11, T22S-R31E
Eddy County, New Mexico
Exhibit "E"





YATES PETROLEUM CORPORATION

425.00



330.00

150'

375.00

Yates Petroleum Corporation
Martha AIK Federal #11H
430' FNL & 200' FEL-SHL
430' FSL & 1650' FWL-BHL
Section 11, T22S-R31E
Eddy County, New Mexico

PAD LAYOUT
Scale: 1 inch = 60 feet